## **SIEMENS**

Data sheet 3RV2431-4WA10



Circuit breaker size S2 for transformer protection A-release 42...52 A N-release 1025 A screw terminal Standard switching capacity

| product designation Circuit breaker  design of the product product type designation 3RV2  Size of the circuit-breaker S2 size of contactor can be combined company-specific product extension auxiliary switch Yes  power loss [W] for rated value of the current  • at AC in hot operating state per pole 8.2 W  • at AC in hot operating state per pole 8.2 W  insulation voltage with degree of pollution 3 at AC rated value 6 kV  surge voltage resistance rated value 6 kV  shock resistance according to IEC 60068-2-27 25g /11 ms Sinus  mechanical service life (operating cycles)  • of the main contacts typical 50 000  • drawlilary contacts typical 50 000  electrical endurance (operating cycles) typical 50 000  substance Prohibitance (Date) 10/15/2014  Ambient conditions  installation altitude at height above sea level maximum 2000 m  ambient temperature 4 during operation 2000 - 50 +60 °C  • during storage 50 +60 °C  • during transport 50 +80 °C  • during current circuit 3 adjustable current response value current of the current-dependent voerload release  operating voltage  • rated value 20 690 V  • at AC-3 rated value maximum 690 V  | product brand name                                      | SIRIUS            |
|--|---|-------------------|
| design of the product product type designation 3RV2  Ceneral technical data  size of the circuit-breaker \$2 size of contactor can be combined company-specific \$2 product extension auxiliary switch Yes  power loss [W] for rated value of the current  • at AC in hot operating state 24.5 W  • at AC in hot operating state per pole 8.2 W  insulation voltage with degree of pollution 3 at AC rated value 680 V  surge voltage resistance rated value 6kV  shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus  mechanical service life (operating cycles)  • of the main contacts typical 50 000  electrical endurance (operating cycles) typical 50 000  reference code according to IEC 81346-2 Q  Substance Prohibitance (Date) 10/15/2014  Ambient conditions  installation altitude at height above sea level maximum 2 000 m  ambient temperature  • during operation -20 +60 °C  • during transport 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  • rated value 20 690 V  |   |                   |
| Separate technical data  | . •   |                   |
| size of the circuit-breaker  size of contactor can be combined company-specific  product extension auxiliary switch  power loss [W] for rated value of the current  • at AC in hot operating state  • at AC in hot operating state per pole  insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  shock resistance according to IEC 60068-2-7  mechanical service life (operating cycles)  • of the main contacts typical  • of auxiliary contacts typical  electrical endurance (operating cycles) typical for ference code according to IEC 81346-2  Qusubstance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation  • during storage  • during transport  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  20 690 V   | · ·   |                   |
| size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch Power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60088-2-27  mechanical service life (operating cycles) • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts (operating cycles) typical feference code according to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value   |   | SILVE             |
| size of contactor can be combined company-specific product extension auxiliary switch  power loss [W] for rated value of the current  • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus  mechanical service life (operating cycles) • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014  Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation  relative humidity during operation  adjustable current response value current of the current-dependent overload release operating voltage • rated value  rated value  rated value  2 0 690 V   |   | 00                |
| product extension auxiliary switch  power loss [W] for rated value of the current  • at AC in hot operating state 24.5 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 Sinus  mechanical service life (operating cycles)  • of the main contacts typical 50 000  electrical endurance (operating cycles) typical 50 000  reference code according to IEC 81346-2 Q  Substance Prohibitance (Date) 10/15/2014  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  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  operating voltage  • rated value 20 690 V   |   |                   |
| power loss [W] for rated value of the current  • at AC in hot operating state • at AC in hot operating state per pole 8.2 W insulation voltage with degree of pollution 3 at AC rated value 690 V  surge voltage resistance rated value 56 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus  mechanical service life (operating cycles) • of the main contacts typical 50 000 • of auxiliary contacts typical 50 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum 2 000 m  ambient temperature • during operation • during storage • during storage • during transport relative humidity during operation  number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value 24.5 W  8.2 W |   |                   |
| at AC in hot operating state at AC in hot operating state per pole surge voltage resistance rated value shock resistance according to IEC 60068-2-27  mechanical service life (operating cycles)  of the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical electrical endurance (operating cycles) typical substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature olduring operation olduring storage olduring storage olduring transport relative humidity during operation  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage or rated value  24.5 W 8.2   | ·   | Yes               |
| at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus  mechanical service life (operating cycles)  of the main contacts typical of auxiliary contacts typical of auxiliary contacts typical so 000 electrical endurance (operating cycles) typical substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature olduring operation olduring storage olduring storage olduring transport relative humidity during operation  multiput during operation 10 95 %  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage or rated value  8 2 W  6 80 V  8 82 W  6 80 V  8 80 C  8 90 V  |   | 04.5 W            |
| insulation voltage with degree of pollution 3 at AC rated value  surge voltage resistance rated value  shock resistance according to IEC 60068-2-27  mechanical service life (operating cycles)  of the main contacts typical  of auxiliary contacts typical  electrical endurance (operating cycles) typical  substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  olduring operation  during operation  olduring storage  olduring transport  relative humidity during operation  multiput of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  rated value  68V  86V  50 000  6 000   |   |                   |
| surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms Sinus  mechanical service life (operating cycles)  • of the main contacts typical 50 000  • of auxiliary contacts typical 50 000  electrical endurance (operating cycles) typical 50 000  reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014  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  operating voltage  • rated value 20 690 V  |   |                   |
| shock resistance according to IEC 60068-2-27  mechanical service life (operating cycles)  of the main contacts typical of auxiliary contacts typical electrical endurance (operating cycles) typical so 000  electrical endurance (operating cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation during storage during transport elduring transport relative humidity during operation  Main circuit  number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value  25g / 11 ms Sinus  50 000  50 000  1000  1015/2014  10/15/2014   |   |                   |
| mechanical service life (operating cycles)  of the main contacts typical of auxilliary contacts typical so 000 electrical endurance (operating cycles) typical so 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/15/2014  Ambient conditions installation altitude at height above sea level maximum ambient temperature of during operation during storage of during transport relative humidity during operation  Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value  50 000  000  10/15/2014  2000 m 20 |   |                   |
| of the main contacts typical     of auxiliary contacts typical     electrical endurance (operating cycles) typical     reference code according to IEC 81346-2     Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature     ouring operation     during storage     during transport     relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage     rated value      so 000  10/15/2014  Ambient conditions  10/15/2014  Ambient conditions  2 000 m  2 000 m  2 000 m  2 000 m  3 000  4 000 C  - 50 +60 °C  - 50 +80 °C  - 60 +80 °C  - 70 +80 °C  - 70 +80 °C  - 70 +80 °C  - 80 +80 °C  -   |   | 25g / 11 ms Sinus |
| of auxiliary contacts typical     electrical endurance (operating cycles) typical     reference code according to IEC 81346-2     Q Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature     ouring operation     during storage     during transport     relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage     rated value  o during contacts typical     50 000  10/15/2014  Ambient conditions  2 000 m  3 000 m  4 000 °C  5 000 · +80 °C  5 000 · +80 °C  4 000 · -50 · · · +80 °C  4 000 · · · · · · · · · · · · · · · · ·   |   |                   |
| electrical endurance (operating cycles) typical  reference code according to IEC 81346-2  Q  Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation  • during storage  • during transport  relative humidity during operation  mumber of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  50 000  0  0  10/15/2014  Ambient conditions  10/15/2014  20 00 m  | <ul> <li>of the main contacts typical</li> </ul>        | 50 000            |
| reference code according to IEC 81346-2  Substance Prohibitance (Date)  Ambient conditions installation altitude at height above sea level maximum  ambient temperature  • during operation • during storage • during transport relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage • rated value  Q  10/15/2014  Au/15/2014  2 000 m  2 000 m  -20 +60 °C  -50 +80 °C  -50 +80 °C  10 95 %  Main circuit  3  42 52 A   | of auxiliary contacts typical                           | 50 000            |
| Substance Prohibitance (Date)  Ambient conditions  installation altitude at height above sea level maximum  ambient temperature  • during operation  • during storage  • during transport  relative humidity during operation  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  10/15/2014  10/15/2014  2000 m   | electrical endurance (operating cycles) typical         | 50 000            |
| installation altitude at height above sea level maximum  ambient temperature  during operation during storage during transport relative humidity during operation  mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release  operating voltage rated value  remainded the instance of the current of the c | reference code according to IEC 81346-2                 | Q                 |
| installation altitude at height above sea level maximum  ambient temperature  • during operation  • during storage  • during transport  -50 +80 °C  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  2 000 m  2 000         | Substance Prohibitance (Date)                           | 10/15/2014        |
| ambient temperature  • during operation  • during storage  • during transport  -50 +80 °C  • during transport  relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  -20 +60 °C  -50 +80 °C  10 95 %  42 52 A  | Ambient conditions                                      |                   |
| <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> <li>50 +80 °C</li> <li>relative humidity during operation</li> <li>10 95 %</li> </ul> Main circuit <ul> <li>number of poles for main current circuit</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>operating voltage</li> <li>rated value</li> <li>20 690 V</li> </ul>  | installation altitude at height above sea level maximum | 2 000 m           |
| • during storage     • during transport     • during transport     • during transport     • during transport     • 250 +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  operating voltage     • rated value     20 690 V   | ambient temperature                                     |                   |
|  | <ul> <li>during operation</li> </ul>                    | -20 +60 °C        |
| relative humidity during operation  10 95 %  Main circuit  number of poles for main current circuit  adjustable current response value current of the current-dependent overload release  operating voltage  • rated value  10 95 %  42 52 A  20 690 V   | during storage  | -50 +80 °C        |
| Main circuit  number of poles for main current circuit  adjustable current response value current of the current- dependent overload release  operating voltage  • rated value  20 690 V   | during transport  | -50 +80 °C        |
| number of poles for main current circuit  adjustable current response value current of the current- dependent overload release  operating voltage  • rated value  3  42 52 A  20 690 V   | relative humidity during operation                      | 10 95 %           |
| adjustable current response value current of the current- dependent overload release  operating voltage  • rated value  42 52 A  20 690 V  | Main circuit  |                   |
| dependent overload release  operating voltage  ● rated value  20 690 V   | number of poles for main current circuit                | 3                 |
| • rated value 20 690 V   |   | 42 52 A           |
|  | operating voltage                                       |                   |
| • at AC-3 rated value maximum 690 V  | • rated value   | 20 690 V          |
|  | • at AC-3 rated value maximum                           | 690 V             |
| • at AC-3e rated value maximum 690 V   | at AC-3e rated value maximum                            | 690 V             |
| operating frequency rated value 50 60 Hz   | operating frequency rated value                         | 50 60 Hz          |
| operational current rated value 52 A   | operational current rated value                         | 52 A              |
| operational current  | operational current                                     |                   |
| • at AC-3 at 400 V rated value 52 A  | • at AC-3 at 400 V rated value                          | 52 A              |
| • at AC-3e at 400 V rated value 52 A   | • at AC-3e at 400 V rated value                         | 52 A              |

| operating power   |  |
|---|--|
| • at AC-3   |  |
| — at 230 V rated value  | 15 kW  |
| — at 400 V rated value  | 22 kW  |
| — at 500 V rated value  | 30 kW  |
| — at 690 V rated value  | 45 kW  |
| • at AC-3e  |  |
| — at 230 V rated value  | 15 kW  |
| — at 400 V rated value  | 22 kW  |
| — at 500 V rated value  | 30 kW  |
| — at 690 V rated value  | 45 kW  |
| operating frequency   | AE Alb   |
| <ul><li>at AC-3 maximum</li><li>at AC-3e maximum</li></ul>                        | 15 1/h<br>15 1/h   |
| Auxiliary circuit   | 13 1/11  |
| number of NC contacts for auxiliary contacts                                      | 0  |
|   | 0  |
| number of NO contacts for auxiliary contacts  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  | 65 kA  |
| at AC at 500 V rated value  | 8 kA   |
| • at AC at 690 V rated value  | 4 kA   |
| operating short-circuit current breaking capacity (Ics) at AC                     |  |
| at 240 V rated value  | 100 kA   |
| • at 400 V rated value  | 30 kA  |
| • at 500 V rated value  | 4 kA   |
| at 690 V rated value  | 2 kA   |
| response value current of instantaneous short-circuit trip unit                   | 1 025 A  |
| UL/CSA ratings  |  |
| full-load current (FLA) for 3-phase AC motor                                      |  |
| • at 480 V rated value  | 52 A   |
| at 600 V rated value  | 52 A   |
| yielded mechanical performance [hp]   |  |
| <ul> <li>for single-phase AC motor</li> </ul>                                     |  |
| — at 110/120 V rated value  | 5 hp   |
| — at 230 V rated value  | 10 hp  |
| • for 3-phase AC motor  | AT ha  |
| — at 200/208 V rated value  | 15 hp  |
| — at 220/230 V rated value  | 20 hp  |
| — at 460/480 V rated value  | 40 hp  |
| — at 575/600 V rated value  | 50 hp  |
| Short-circuit protection  | Von  |
| product function short circuit protection   | Yes  |
| design of the short-circuit trip Installation/ mounting/ dimensions               | magnetic   |
| mounting position   | any  |
| fastening method  | any screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| height  | 140 mm   |
| width   | 55 mm  |
| depth   | 149 mm   |
| required spacing  |  |
| with side-by-side mounting at the side  | 0 mm   |
| • for grounded parts at 400 V   |  |
| — downwards   | 50 mm  |
| aomina ao   |  |

| — upwards  | 50 mm   |
|--|---|
| — at the side  | 10 mm   |
| • for live parts at 400 V  |   |
| — downwards  | 50 mm   |
| — upwards  | 50 mm   |
| — at the side  | 10 mm   |
| • for grounded parts at 500 V  |   |
| — downwards  | 50 mm   |
| — upwards  | 50 mm   |
| — at the side  | 10 mm   |
| • for live parts at 500 V  |   |
| — downwards  | 50 mm   |
| — upwards  | 50 mm   |
| — at the side  | 10 mm   |
| • for grounded parts at 690 V  | 10 11111  |
| — downwards  | 50 mm   |
|  | 50 mm   |
| — upwards  |   |
| — backwards  | 0 mm  |
| — at the side  | 10 mm   |
| — forwards   | 0 mm  |
| for live parts at 690 V  |   |
| — downwards  | 50 mm   |
| — upwards  | 50 mm   |
| — backwards  | 0 mm  |
| — at the side  | 10 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  |   |
| <ul> <li>solid or stranded</li> </ul>  | 2x (1 35 mm²), 1x (1 50 mm²)                            |
| <ul> <li>finely stranded with core end processing</li> </ul>   | 2x (1 25 mm²), 1x (1 35 mm²)                            |
| <ul> <li>at AWG cables for main contacts</li> </ul>  | 2x (18 2), 1x (18 1)                                    |
| tightening torque  |   |
| <ul> <li>for main contacts with screw-type terminals</li> </ul>  | 3 4.5 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  | M6  |
| Safety related data  |   |
| B10 value  |   |
|  | 5 000   |
| with high demand rate according to SN 31920  proportion of dangerous failures                                | 0 000   |
|  | EQ 0/   |
| with low demand rate according to SN 31920      with high demand rate according to SN 31920                  | 50 %  |
| with high demand rate according to SN 31920  failure rate [SIT]  | 50 %  |
| failure rate [FIT]   | TA 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  |
|  | IP20  |
| protection class IP on the front according to IEC 60529  |   |
| protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529 | finger-safe, for vertical contact from the front        |
|  | finger-safe, for vertical contact from the front Handle |
| touch protection on the front according to IEC 60529   |   |



Confirmation





<u>KC</u>



**Declaration of Conformity** 

**Test Certificates** 

Marine / Shipping





Type Test Certificates/Test Report

Special Test Certific-<u>ate</u>





Marine / Shipping







Confirmation

other



Railway

Confirmation Vibration and Shock

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RV2431-4WA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2431-4WA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2431-4WA10

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

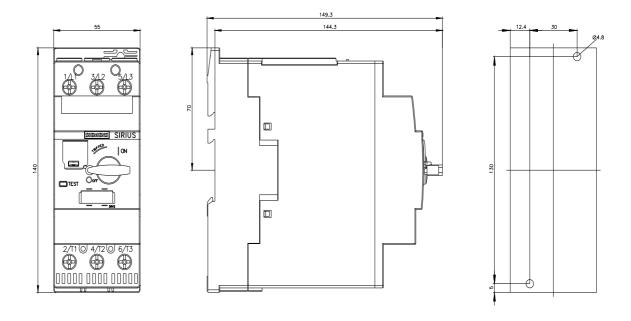
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RV2431-4WA10&lang=en

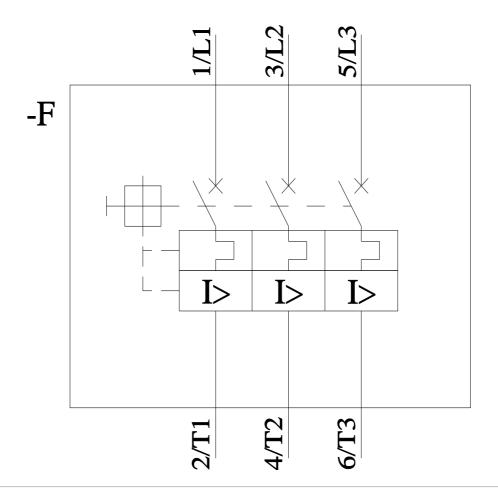
Characteristic: Tripping characteristics, I2t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2431-4WA10/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2431-4WA10&objecttype=14&gridview=view1





last modified: 11/21/2022 🖸

