SIEMENS

Data sheet 3RV2011-1CA10



Circuit breaker size S00 for motor protection, CLASS 10 A-release 1.8...2.5 A N-release 33 A screw terminal Standard switching capacity

| December 2011 December 3 | product brand name | SIRIUS | |
|--|--|----------------------|--|
| Seneral technical data | product designation | Circuit breaker | |
| 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 maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 3 800 V 24. W 68V 400 V 6 kV 400 V 400 V 400 V 400 V 5 kV 400 V 400 V 5 kV 5 kV 400 V 5 kV 5 kV 6 kV 400 V 5 kV 5 kV | design of the product | For motor protection | |
| size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch extension auxiliary switch • 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 maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during operation 10 95 % Main circuit number of poles for main current circuit 3 | product type designation | 3RV2 | |
| 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 maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of the main contacts typical • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient temperature during operation • ambient temperature during storage • ambient temperature during operation Main circuit number of poles for main current circuit Sou. S0 Yes 680 V 2.4 W 680 V 400 V 400 V 400 V 400 V 25g / 11 ms 100 000 20 | General technical data | | |
| product extension auxiliary switch power loss [M] 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 maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and suxiliary circuit • between main and suxiliary circuit • of the main contacts typical • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during poperation temperature compensation 100 000 200 m 200 m elemperature compensation -20 +60 °C relative humidity during operation -20 +60 °C | size of the circuit-breaker | S00 | |
| 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 surge voltage resistance rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • of the main contacts (by ical • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport temperature compensation -20 +60 °C relative humidity during operation -20 +60 °C relative humidity during operation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | size of contactor can be combined company-specific | S00, S0 | |
| 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 maximum permissible voltage for safe isolation in networks with grounded star point between main and auxiliary circuit betwe | product extension auxiliary switch | 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 asurge voltage resistance rated value between main and auxiliary circuit between main auxiliary circuit between main and auxiliary circuit between main auxiliary circuit between main and a | power loss [W] for rated value of the current | | |
| insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • both resistance acc. to IEC 60068-2-27 shock resistance acc. to IEC 60068-2-27 e of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C • ambient temperature during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | at AC in hot operating state | 7.25 W | |
| value surge voltage resistance rated value maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • obetween main and auxiliary circuit • of the main contacts typical • of auxiliary contacts typical • bo 000 • of auxiliary contacts typical • bo 000 • contineate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • 50 +60 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 20 +60 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 20 +60 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C • ambient temperature during transport • 50 +80 °C | at AC in hot operating state per pole | 2.4 W | |
| maximum permissible voltage for safe isolation in networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit 400 V shock resistance acc. to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical 100 000 electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport -50 +80 °C -ambient temperature during transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | 0 0 1 | 690 V | |
| networks with grounded star point • between main and auxiliary circuit • between main and auxiliary circuit • between main and auxiliary circuit 400 V shock resistance acc. to IEC 60068-2-27 prechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport • ambient temperature during transport • ambient temperature during transport • 50 +80 °C • ambient temperature during operation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | surge voltage resistance rated value | 6 kV | |
| between main and auxiliary circuit shock resistance acc. to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum one ambient temperature during operation one ambient temperature during storage one ambient temperature during storage one ambient temperature during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 3 | | | |
| shock resistance acc. to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation ambient temperature during storage ambient temperature during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 25g / 11 ms 100 000 100 000 EX II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 2 000 m 2 000 m 2 000 m - 20 +60 °C - 50 +80 °C - 60 °C - 10 +80 °C | between main and auxiliary circuit | 400 V | |
| mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical low 000 electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation ambient temperature during storage ambient temperature during transport ambient temperature during transport temperature compensation relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | between main and auxiliary circuit | 400 V | |
| of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum o ambient temperature during operation o ambient temperature during storage o ambient temperature during transport temperature compensation relative humidity during operation number of poles for main current circuit 100 000 Ex II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 200 m 2 000 m 3 000 | shock resistance acc. to IEC 60068-2-27 | 25g / 11 ms | |
| of auxiliary contacts typical electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum o ambient temperature during operation o ambient temperature during storage o ambient temperature during transport temperature compensation relative humidity during operation 100 000 EX II (2) GD DMT 02 ATEX F 001 Q ATEX F 001 2 000 m 3 | mechanical service life (switching cycles) | | |
| electrical endurance (switching cycles) typical type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 100 000 Ex II (2) GD DMT 02 ATEX F 001 DMT 02 ATEX F 001 2 000 m - 20 +60 °C - 20 +60 °C - 20 +60 °C - 20 +60 °C - 20 +80 °C - 20 +60 °C | of the main contacts typical | 100 000 | |
| type of protection according to ATEX directive 2014/34/EU certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum 2 000 m • ambient temperature during operation -20 +60 °C • ambient temperature during storage -50 +80 °C • ambient temperature during transport -50 +80 °C temperature compensation -20 +60 °C relative humidity during operation -20 +60 °C relative humidity during operation 3 | of auxiliary contacts typical | 100 000 | |
| certificate of suitability according to ATEX directive 2014/34/EU reference code acc. to IEC 81346-2 Q Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature 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 | electrical endurance (switching cycles) typical | 100 000 | |
| reference code acc. to IEC 81346-2 Ambient conditions installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature 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 | | Ex II (2) GD | |
| installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during storage • ambient temperature during transport • 50 +80 °C • ambient temperature 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 | | DMT 02 ATEX F 001 | |
| installation altitude at height above sea level maximum • ambient temperature during operation • ambient temperature during storage • ambient temperature during transport • ambient temperature 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 | reference code acc. to IEC 81346-2 | Q | |
| ambient temperature during operation ambient temperature during storage ambient temperature during transport ambient temperature 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 | Ambient conditions | | |
| ambient temperature during storage ambient temperature during transport ambient temperature during storage ambie | installation altitude at height above sea level maximum | 2 000 m | |
| ambient temperature during transport -50 +80 °C temperature compensation relative humidity during operation Main circuit number of poles for main current circuit 3 | ambient temperature during operation | -20 +60 °C | |
| temperature compensation -20 +60 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | ambient temperature during storage | -50 +80 °C | |
| relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 | ambient temperature during transport | -50 +80 °C | |
| Main circuit number of poles for main current circuit 3 | temperature compensation | -20 +60 °C | |
| number of poles for main current circuit 3 | relative humidity during operation | 10 95 % | |
| · | Main circuit | | |
| adjustable current response value current of the 1.8 2.5 A | number of poles for main current circuit | 3 | |
| | adjustable current response value current of the | 1.8 2.5 A | |

| current-dependent overload release | |
|---|--|
| operating voltage rated value | 690 V |
| operating voltage at AC-3 rated value maximum | 690 V |
| operating frequency rated value | 50 60 Hz |
| operational current rated value | 2.5 A |
| operational current at AC-3 at 400 V rated value | 2.5 A |
| operating power at AC-3 | |
| at 230 V rated value | 370 W |
| at 400 V rated value | 750 W |
| at 500 V rated value | 1 100 W |
| at 690 V rated value at 690 V rated value | 1 500 W |
| operating frequency at AC-3 maximum | 15 1/h |
| | 13 1/11 |
| 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 |
| breaking capacity operating short-circuit current (lcs) at AC | |
| at 240 V rated value | 100 kA |
| at 400 V rated value | 100 kA |
| at 500 V rated value at 500 V rated value | 100 kA |
| at 690 V rated value at 690 V rated value | 10 kA |
| | 10 104 |
| breaking capacity maximum short-circuit current (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 | 10 kA |
| response value current of instantaneous short-circuit trip unit | 33 A |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor | |
| at 480 V rated value | 2.5 A |
| at 600 V rated value | 2.5 A |
| yielded mechanical performance [hp] | |
| for single-phase AC motor | |
| — at 230 V rated value | 0.167 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 0.5 hp |
| — at 220/230 V rated value | 0.5 hp |
| — at 460/480 V rated value | 1 hp |
| — at 575/600 V rated value | 1.5 hp |
| Short-circuit protection | 1.0 110 |
| | Voc |
| product function short circuit protection | Yes |
| design of the short-circuit trip design of the fuse link for IT network for short-circuit | magnetic |
| protection of the main circuit | -1 /-O OF A |
| • at 400 V | gL/gG 25 A |
| • at 500 V | gL/gG 25 A |
| ● at 690 V | gL/gG 20 A |
| Installation/ mounting/ dimensions | |
| mounting position | any |
| fastening method | screw and snap-on mounting onto 35 mm standard mounting rail |



| | according to DIN EN 60715 |
|---|-------------------------------------|
| height | 97 mm |
| width | 45 mm |
| depth | 97 mm |
| required spacing | |
| 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 | |
| product function removable terminal for auxiliary and control circuit | No |
| 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 (0,75 2,5 mm²), 2x 4 mm² |
| finely stranded with core end processing | 2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²) |
| at AWG cables for main contacts | 2x (18 14), 2x 12 |
| tightening torque for main contacts with screw-type terminals | 0.8 1.2 N·m |
| design of screwdriver shaft | Diameter 5 to 6 mm |
| size of the screwdriver tip | Pozidriv 2 |
| design of the thread of the connection screw | |
| • for main contacts | M3 |
| 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 | 50 % |
| with high demand rate acc. to SN 31920 | 50 % |
| failure rate [FIT] | |
| with low demand rate acc. to SN 31920 | 50 FIT |
| | |



10 y T1 value for proof test interval or service life acc. to **IEC 61508** protection class IP on the front acc. to IEC 60529 touch protection on the front acc. 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 hazardous locations













Declaration of Conformity

Test Certificates

Marine / Shipping



Miscellaneous

Type Test Certificates/Test Report

Special Test Certificate





Marine / Shipping

other











Confirmation

other

Railway



Confirmation

Vibration and Shock

Further information

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=3RV2011-1CA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2011-1CA10

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

https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1CA10

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

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2011-1CA10\&lang=en}}$

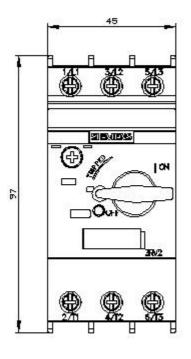
Characteristic: Tripping characteristics, I2t, Let-through current

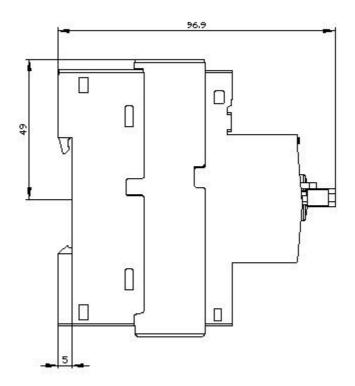
https://support.industry.siemens.com/cs/ww/en/ps/3RV2011-1CA10/char

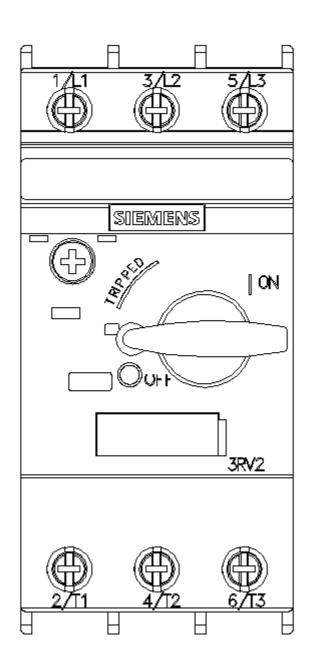
Further characteristics (e.g. electrical endurance, switching frequency)

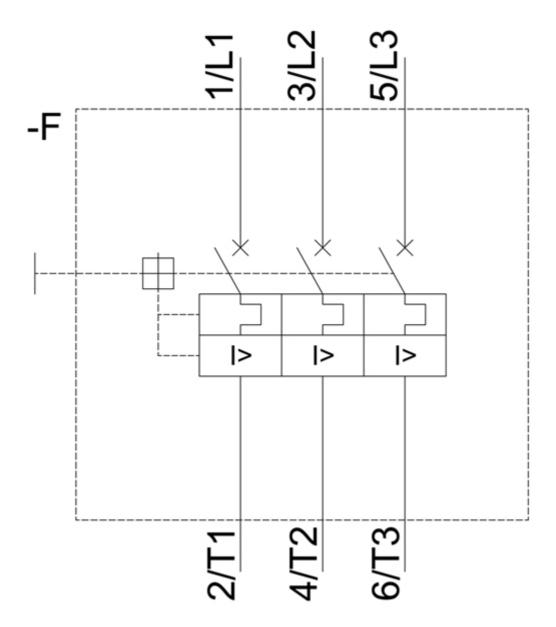
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2011-1CA10&objecttype=14&gridview=view1











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