# FLT-SEC-T1+T2-1S-350/25-FM - Type 1+2 special combined lightning current and surge arrester

2905466

https://www.phoenixcontact.com/us/products/2905466

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Plug-in lightning and surge arrester combination, in accordance with Type 1+2/Class I+II, for 1-phase power supply networks, with separate N and PE (L1, PE, N).

## Your advantages

- Surge protection family for universal use with optimum energy coordination from the lightning current arrester to the device protection
- Easy to maintain due to consistently pluggable protection modules
- Excellent level of information provided by mechanical/visual status indicator and remote indication contact
- Optimum protective effect in the event of high-energy lightning currents, thanks to spark gap technology with low residual voltage characteristic
- Maximum protection against dynamic overvoltages for sensitive devices, thanks to direct coordination with varistor arresters connected in parallel

## Commercial data

| | |
|---|---|
| Item number | 2905466 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL01 |
| Product key | CL1241 |
| GTIN | 4046356950169 |
| Weight per piece (including packing) | 654.3 g |
| Weight per piece (excluding packing) | 631.5 g |
| Customs tariff number | 85363030 |
| Country of origin | DE |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Arrester combination |
| Product family | SEC Family |
| IEC test classification | I + II |
| | T1 + T2 |
| EN type | T1 + T2 |
| IEC power supply system | TN-S |
| | TT |
| Type | DIN rail module, two-section, divisible |
| Number of positions | 2 |
| Surge protection fault message | Optical, remote indicator contact |
| Number of ports | One |

### Insulation characteristics

| | |
|---|---|
| Overvoltage category | III |
| Pollution degree | 2 |

## Electrical properties

| | |
|---|---|
| Nominal frequency $f_N$ | 50 Hz (60 Hz) |

### Indicator/remote signaling

| | |
|---|---|
| Connection name | Remote fault indicator contact |
| Switching function | Changeover contact |
| Operating voltage | 12 V AC ... 250 V AC |
| | 125 V DC (200 mA DC) |
| Operating current | 10 mA AC ... 1 A AC |
| | 1 A DC (30 V DC) |

## Connection data

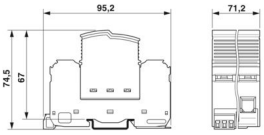
| | |
|---|---|
| Connection method | Screw connection |
| Screw thread | M5 |
| Tightening torque | 4.5 Nm |
| Stripping length | 18 mm |
| Conductor cross-section flexible | 2.5 mm² ... 35 mm² |
| Conductor cross-section rigid | 2.5 mm² ... 35 mm² |
| Conductor cross-section AWG | 13 ... 2 |
| Connection method | Fork-type cable lug |
| Conductor cross-section flexible | 1.5 mm² ... 16 mm² |

### Remote fault indicator contact

| | |
|---|---|
| Connection method | Plug-in/screw connection via COMBICON |

| | |
|---|---|
| Screw thread | M2 |
| Tightening torque | 0.25 Nm |
| Stripping length | 7 mm |
| Conductor cross-section flexible | 0.14 mm² ... 1.5 mm² |
| Conductor cross-section rigid | 0.14 mm² ... 1.5 mm² |
| Conductor cross-section AWG | 28 ... 16 |

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Width | 71.2 mm |
| Height | 95.2 mm |
| Depth | 74.5 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 4 HP |

## Material specifications

| | |
|---|---|
| Color (Male connector) | light gray (RAL 7035) |
| Color (Base element) | gray (RAL 7042) |
| Flammability rating according to UL 94 | V-0 |
| CTI value of material | 600 |
| Insulating material | PA6.6-FR 20% GF |
| | PBT-FR |
| Material group | I |
| Housing material | PA 6.6-FR 20 % GF |
| | PBT-FR |

## Mechanical properties

Mechanical data

| | |
|---|---|
| Open side panel | No |

## Protective circuit

| | |
|---|---|
| Mode of protection | L-N |
| | L-PE |
| | N-PE |
| Direction of action | 1L-N & N-PE |
| Nominal voltage $U_N$ | 240 V AC (TN-S) |
| | 240 V AC (TT) |
| Nominal frequency $f_N$ | 50 Hz (60 Hz) |
| Maximum continuous operating voltage $U_C$ | 350 V AC |

| | |
|---|---|
| Rated load current $I_L$ | 125 A (< 55 °C) |
| Protective conductor current $I_{PE}$ | ≤ 0.01 mA |
| Operating effective current $I_C$ at $U_N$ | ≤ 0.01 mA |
| Nominal discharge current $I_n$ (8/20) µs (L-N) | 25 kA |
| Nominal discharge current $I_n$ (8/20) µs (L-PE) | 25 kA |
| Nominal discharge current $I_n$ (8/20) µs (N-PE) | 100 kA |
| Impulse discharge current (10/350) µs (L-N), charge | 12.5 As |
| Impulse discharge current (10/350) µs (L-N), specific energy | 160 kJ/Ω |
| Impulse discharge current (10/350) µs (L-N), peak current value $I_{imp}$ | 25 kA |
| Impulse discharge current (10/350) µs (L-PE), charge | 12.5 As |
| Impulse discharge current (10/350) µs (L-PE), specific energy | 160 kJ/Ω |
| Impulse discharge current (10/350) µs (L-PE), peak current value $I_{imp}$ | 25 kA |
| Impulse discharge current (10/350) µs (N-PE), charge | 50 As |
| Impulse discharge current (10/350) µs (N-PE), specific energy | 2500 kJ/Ω |
| Impulse discharge current (10/350) µs (N-PE), peak current value $I_{imp}$ | 100 kA |
| Follow current quenching capacity $I_{fi}$ (L-N) | 25 kA (264 V AC) |
| | 3 kA (350 V AC) |
| Follow current interrupt rating $I_{fi}$ (N-PE) | 100 A (350 V AC) |
| Short-circuit current rating $I_{SCCR}$ | 25 kA (264 V AC) |
| | 3 kA (350 V AC) |
| Voltage protection level $U_p$ (L-N) | ≤ 1.5 kV |
| Voltage protection level $U_p$ (L-PE) | ≤ 2.2 kV |
| Voltage protection level $U_p$ (N-PE) | ≤ 1.5 kV |
| Residual voltage $U_{res}$ (L-N) | ≤ 1.5 kV (at $I_n$) |
| | ≤ 1.2 kV (at 10 kA) |
| | ≤ 1 kV (at 5 kA) |
| | ≤ 0.9 kV (at 3 kA) |
| Residual voltage $U_{res}$ (L-PE) | ≤ 2.2 kV (at $I_n$) |
| | ≤ 2 kV (at 10 kA) |
| | ≤ 1.8 kV (at 5 kA) |
| | ≤ 1.6 kV (at 3 kA) |
| Residual voltage $U_{res}$ (N-PE) | ≤ 1.5 kV (at $I_n$) |
| | ≤ 1 kV (at 10 kA) |
| | ≤ 0.9 kV (at 5 kA) |
| | ≤ 0.8 kV (at 3 kA) |
| TOV behavior at $U_T$ (L-N) | 415 V AC (5 s / withstand mode) |
| | 457 V AC (120 min / safe failure mode) |
| TOV behavior at $U_T$ (N-PE) | 1200 V AC (200 ms / withstand mode) |
| Response time $t_A$ (L-N) | ≤ 25 ns |
| Response time $t_A$ (L-PE) | ≤ 100 ns |

| | |
|---|---|
| Response time $t_A$ (N-PE) | ≤ 100 ns |
| Max. backup fuse with V-type through wiring | 125 A (gG) |
| Max. backup fuse with branch wiring | 315 A (gG) |

Additional technical data

| | |
|---|---|
| Maximum discharge current $I_{max}$ (8/20) µs | 100 kA |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 (only when all terminal points are used) |
| Ambient temperature (operation) | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Altitude | ≤ 2000 m (amsl) |
| Permissible humidity (operation) | 5 % ... 95 % |
| Shock (operation) | 30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation) | 5g (5 - 500 Hz/2.5 h/X, Y, Z) |

## Approvals

UL specifications

| | |
|---|---|
| Maximum continuous operating voltage MCOV (L-N) | 264 V AC |
| Maximum continuous operating voltage MCOV (L-G) | 264 V AC |
| Maximum continuous operating voltage MCOV (N-G) | 350 V AC |
| Short-circuit current rating (SCCR) | 50 kA |
| Voltage protection rating VPR (L-N) | 1200 V |
| Voltage protection rating VPR (L-G) | 1500 V |
| Voltage protection rating VPR (N-G) | 1200 V |
| Nominal discharge current $I_n$ | 20 kA |
| Mode of protection | L-N |
| | L-G |
| | N-G |
| Nominal voltage | 240 V AC |
| Rated load current $I_L$ | 50 A |
| Power distribution system | Single phase |
| Nominal frequency | 50/60 Hz |
| SPD Type | 2CA |

UL indicator/remote signaling

| | |
|---|---|
| Operating voltage | 125 V AC |
| AC operating current | 1 A AC |

UL connection data

| | |
|---|---|
| Tightening torque | 40 $lb_f$-in. |
| Conductor cross-section AWG | 3 ... 2 |

## Standards and regulations

| | |
|---|---|
| Standards/specifications | IEC 61643-11 |
| Note | 2011 |

EN 61643-11

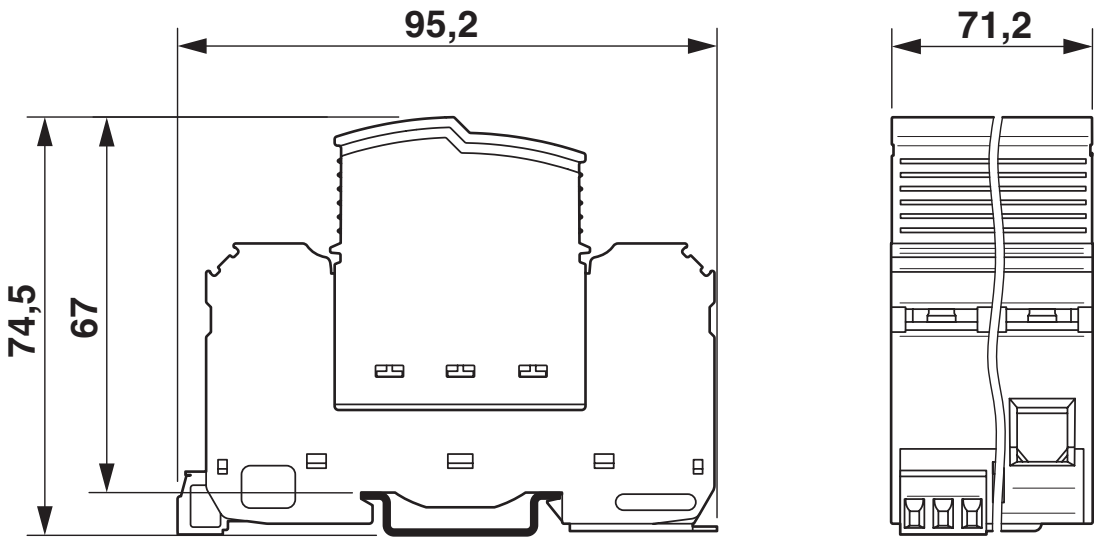
| | |
|---|---|
| Standards/specifications | EN 61643-11 |
| Note | 2012 |

## Mounting

| | |
|---|---|
| Mounting type | DIN rail: 35 mm |

## Drawings

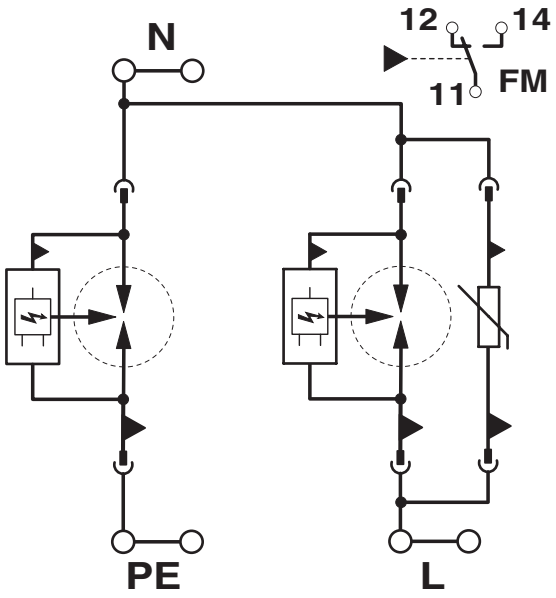
Dimensional drawing



Product drawing



Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2905466

**cUL Recognized**
Approval ID: FILE E 330181

**UL Recognized**
Approval ID: FILE E 330181

**IECEE CB Scheme**
Approval ID: NL-58252

**CCA**
Approval ID: NTR-NL 7736

**UAE-RoHS**
Approval ID: 23-10-88887

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27171204 |
| ECLASS-15.0 | 27171204 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001457 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39121600 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c) |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | 8090eb22-576d-4dd7-bd5b-ae38816cb202 |


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