# VAL-SEC-T2-120DC-P - Type 2 surge protection plug

2907878

https://www.phoenixcontact.com/us/products/2907878

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Replacement plug for surge protective devices from the VALVETRAB SEC product range for DC power sources.

## 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
- Extremely narrow design, just 12 mm per position
- Varistor arrester with a low leakage current

## Commercial data

| | |
|---|---|
| Item number | 2907878 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | CL01 |
| Product key | CL1353 |
| GTIN | 4055626245034 |
| Weight per piece (including packing) | 53.2 g |
| Weight per piece (excluding packing) | 53.2 g |
| Customs tariff number | 85363090 |
| Country of origin | DE |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Replacement plug |
| Product family | SEC Family |
| IEC test classification | II |
| | T2 |
| EN type | T2 |
| IEC power supply system | DC |
| Type | Male |
| Number of positions | 1 |
| Surge protection fault message | optical |

Insulation characteristics

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

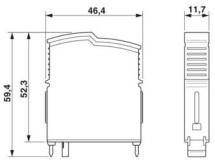
## Electrical properties

| | |
|---|---|
| Nominal voltage $U_N$ | 100 V DC ... 120 V DC |

## Connection data

| | |
|---|---|
| Connection method | pluggable |

## Dimensions

| | |
|---|---|
| Dimensional drawing |   |
| Width | 11.7 mm |
| Height | 46.4 mm |
| Depth | 59.4 mm |
| Horizontal pitch | 0.6 HP |

## Material specifications

| | |
|---|---|
| Color | light gray (RAL 7035) |
| 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 |

## Protective circuit

| | |
|---|---|
| Mode of protection | (DC+) - (DC-) |
| | (DC+/DC-) - PE |
| Direction of action | (DC+/DC-) - PE |
| Nominal voltage $U_N$ | 100 V DC ... 120 V DC |
| Maximum continuous operating voltage $U_C$ | 150 V DC |
| Protective conductor current $I_{PE}$ | ≤ 5 µA DC |
| Nominal discharge current $I_n$ (8/20) µs | 20 kA |
| Maximum discharge current $I_{max}$ (8/20) µs | 40 kA |
| Impulse discharge current (10/350) µs, charge | 0.5 As |
| Impulse discharge current (10/350) µs, specific energy | 0.25 kJ/Ω |
| Impulse discharge current (10/350) µs, peak value $I_{imp}$ | 1 kA |
| Short-circuit current rating $I_{SCCR}$ | 0.2 kA (without backup fuse) |
| | 6 kA (for 20 A gG/B backup fuse) |
| Voltage protection level $U_p$ | ≤ 0.85 kV |
| Residual voltage $U_{res}$ | ≤ 0.85 kV (at $I_n$) |
| | ≤ 0.75 kV (at 10 kA) |
| | ≤ 0.65 kV (at 5 kA) |
| | ≤ 0.63 kV (at 4 kA) |
| | ≤ 0.57 kV (at 2 kA) |
| TOV behavior at $U_T$ | 174 V DC (5 s / withstand mode) |
| Response time $t_A$ | ≤ 25 ns |
| Max. backup fuse with V-type through wiring | 20 A (gG / B at $I_{SCCR}$ > 200 A) |
| Max. backup fuse with branch wiring | 20 A (gG / B at $I_{SCCR}$ > 200 A) |

### Additional technical data

| | |
|---|---|
| Maximum continuous operating voltage $U_C$ | 135 V AC (for operation in safety lighting systems) |

## Environmental and real-life conditions

### Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Altitude | ≤ 6000 m (amsl) |
| Permissible humidity (operation) | 5 % ... 95 % |
| Shock (operation) | 30g (Half-sine / 11 ms / 3x ±X, ±Y, ±Z) |
| Vibration (operation) | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z) |

## Approvals

### UL specifications

| | |
|---|---|
| Maximum continuous operating voltage MCOV | 150 V DC |
| Short-circuit current rating (SCCR) | 50 kA |
| Voltage protection rating VPR | 700 V |

| | |
|---|---|
| Nominal discharge current $I_n$ | 20 kA |
| Mode of protection | (DC+) - G |
| | (DC-) - G |
| Nominal voltage | 120 V DC |
| Power distribution system | DC |
| SPD Type | 1CA |

## Standards and regulations

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

EN 61643-11

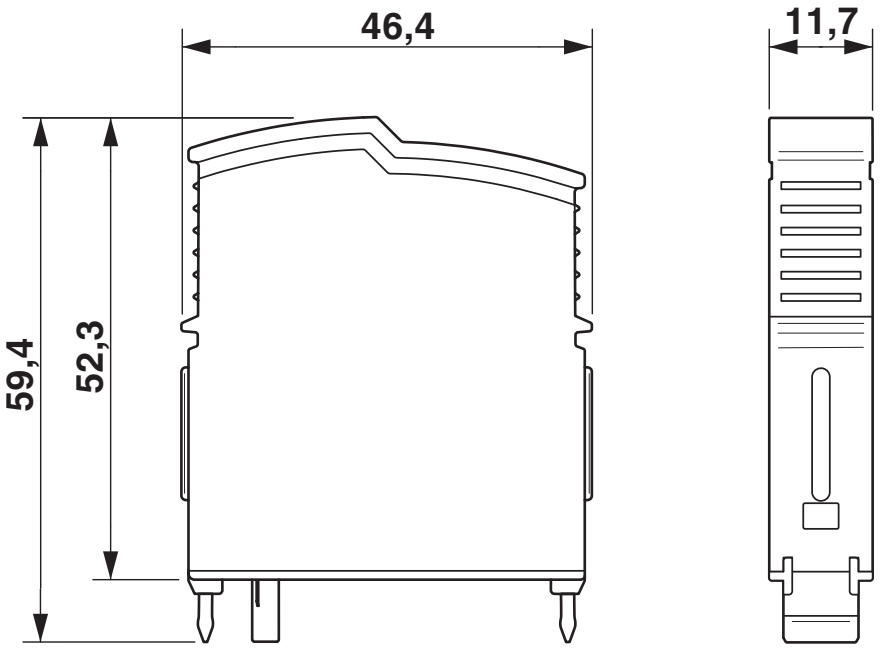
| | |
|---|---|
| Standards/specifications | EN 61643-11 |
| Note | 2012 |

## Mounting

| | |
|---|---|
| Mounting type | on base element |

## Drawings

Dimensional drawing




Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2907878

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

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

**UAE-RoHS**
Approval ID: 23-10-88707

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27171292 |
| ECLASS-15.0 | 27171292 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002496 |

### UNSPSC

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

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |

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