

VAL-SEC-T2-2+0-120DC-FM - Type 2 surge arrester



2907874

<https://www.phoenixcontact.com/us/products/2907874>

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Pluggable surge protective device, in accordance with Type 2/Class II, for DC power sources with linear operating characteristics, with remote indication contact.

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
- More space in the control cabinet due to the narrow overall width of just 12 mm per position
- Extremely narrow design, just 12 mm per position
- Varistor arrester with a low leakage current

Commercial data

| | |
|--------------------------------------|--------------------|
| Item number | 2907874 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CL01 |
| Product key | CL1353 |
| Catalog page | Page 58 (C-4-2019) |
| GTIN | 4055626244594 |
| Weight per piece (including packing) | 214.3 g |
| Weight per piece (excluding packing) | 209.6 g |
| Customs tariff number | 85363090 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|--------------------------------|---|
| IEC test classification | II |
| | T2 |
| EN type | T2 |
| IEC power supply system | DC |
| Type | DIN rail module, two-section, divisible |
| Product type | Surge arrester |
| Product family | SEC Family |
| Number of positions | 2 |
| Surge protection fault message | Optical, remote indicator contact |

Insulation characteristics

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

Electrical properties

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

Indicator/remote signaling

| | |
|--------------------|---|
| Connection name | Remote fault indicator contact |
| Switching function | Changeover contact |
| Operating voltage | 5 V AC ... 250 V AC (Altitude \leq 2000 m amsl) |
| | 5 V AC ... 150 V AC (Altitude $>$ 2000 m amsl) |
| | 125 V DC (200 mA DC) |
| Operating current | 5 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 | 16 mm |
| Conductor cross section flexible | 2.5 mm ² ... 16 mm ² |
| Conductor cross section rigid | 2.5 mm ² ... 25 mm ² |
| Conductor cross section AWG | 12 ... 4 |
| Connection method | Fork-type cable lug |
| Conductor cross section flexible | 1.5 mm ² ... 6 mm ² |

Remote fault indicator contact

| | |
|-------------------|---------------------------------------|
| Connection method | Plug-in/screw connection via COMBICON |
| Screw thread | M2 |
| Tightening torque | 0.25 Nm |
| Stripping length | 7 mm |

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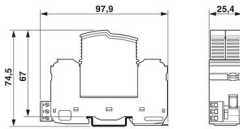


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| | |
|----------------------------------|--|
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section rigid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 28 ... 16 |

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 25.4 mm |
| Height | 97.9 mm |
| Depth | 74.5 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 1.4 Div. |

Material specifications

| | |
|--|-----------------------------|
| 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 voltage U_C | 150 V DC |
| Rated load current I_L | 40 A (Biconnect M4 fork-type cable lug 6 mm ²) 63 A (TWIN ferrule 2 x 10 mm ²) |
| Residual current I_{PE} | ≤ 10 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 |
| Total discharge current I_{total} (8/20) µs | 40 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 (DC+) - (DC-) | ≤ 1.8 kV |
| Voltage protection level U_p (DC+/DC-) - PE | ≤ 0.85 kV |
| TOV behavior at U_T | 174 V DC (5 s / withstand mode) |

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| | |
|---|-------------------------------------|
| 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 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 $\pm X$, $\pm Y$, $\pm Z$) |
| Vibration (operation) | 5g (10 ... 500 Hz / 2.5 h / X, Y, Z) |

Approvals

UL specifications

| | |
|---|---|
| Short-circuit current rating (SCCR) | 50 kA |
| Voltage protection rating VPR (DC+) - (DC-) | 1500 V |
| Voltage protection rating VPR (DC+) - G | 700 V |
| Voltage protection rating VPR (DC-) - G | 700 V |
| Nominal discharge current I_n | 20 kA |
| Mode of protection | (DC+) - (DC-) (DC+) - G (DC-) - G |
| Nominal voltage | 120 V DC |
| Power distribution system | DC |
| SPD Type | 1 |

UL indicator/remote signaling

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

UL connection data

| | |
|-----------------------------|-------------------------|
| Tightening torque | 30 lb _f -in. |
| Conductor cross section AWG | 10 ... 2 |

Standards and regulations

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

EN 61643-11

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

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| | |
|------|------|
| Note | 2012 |
|------|------|

Mounting

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

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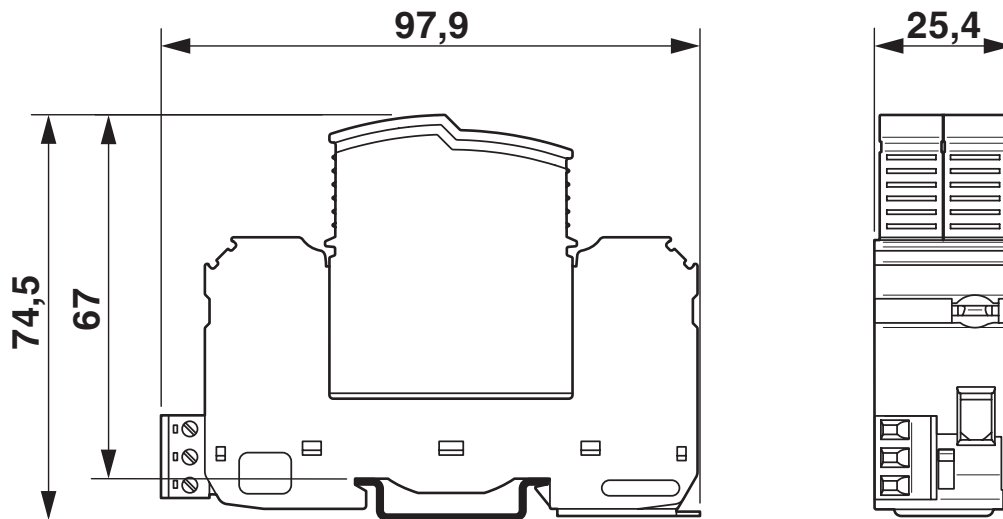
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Drawings

Dimensional drawing



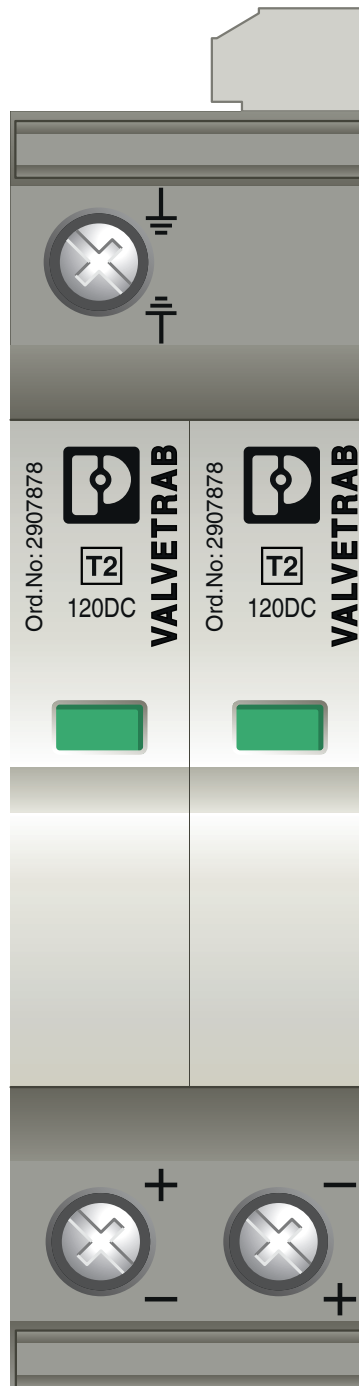
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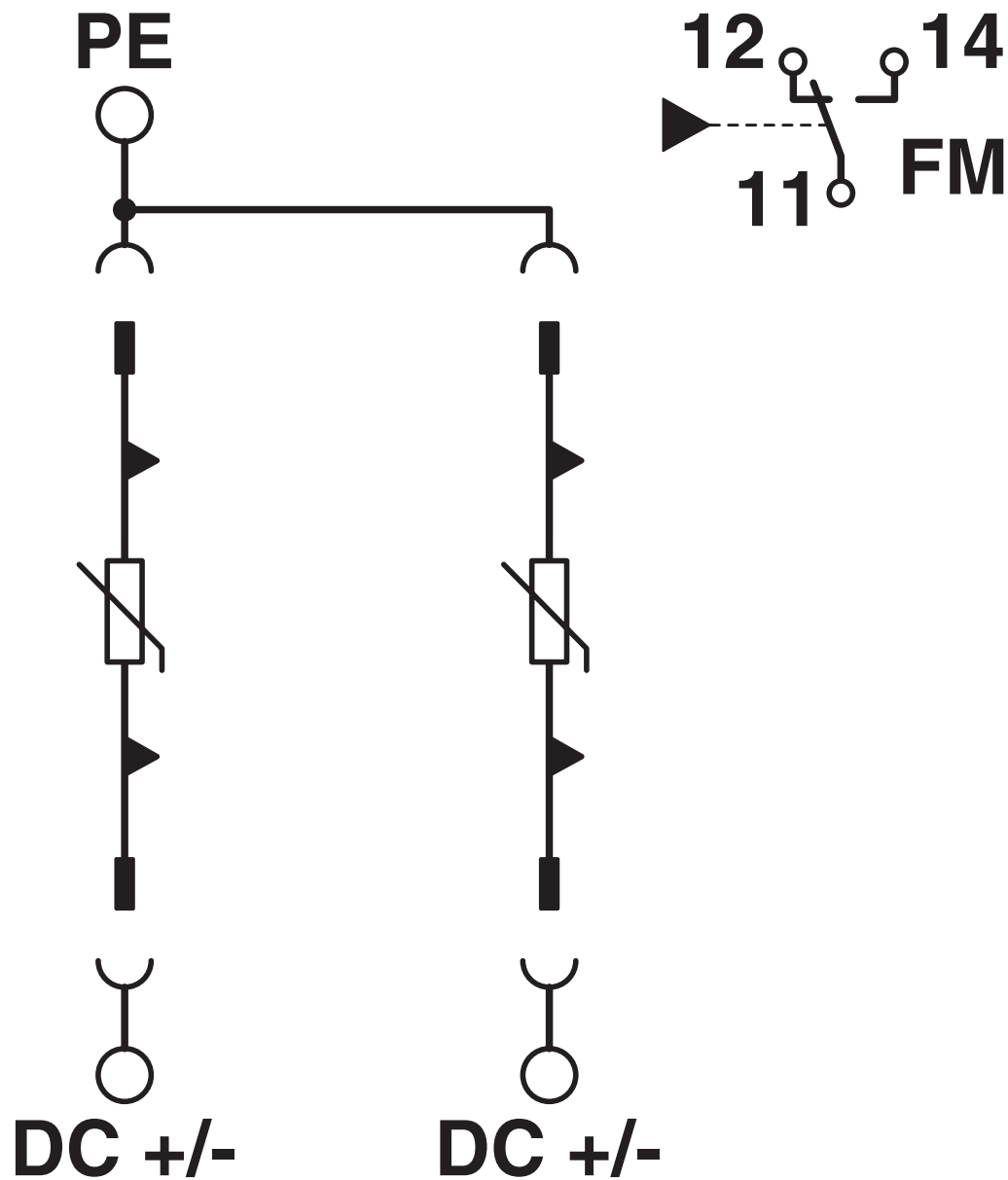
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Product drawing



Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2907874>



cUL Recognized
Approval ID: FILE E 330181



UL Recognized
Approval ID: FILE E 330181



EAC
Approval ID: RU C-DE.*09.B.00169



DNV GL
Approval ID: TAE000023D

UAE-RoHS
Approval ID: 22-09-50946

cULus Recognized

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27130805 |
| ECLASS-13.0 | 27171302 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC000941 |
|----------|----------|

UNSPSC

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

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Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

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Accessories

CLIPFIX 35 - End clamp

3022218

<https://www.phoenixcontact.com/us/products/3022218>



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

EML (20XE)R - Label

0803452

<https://www.phoenixcontact.com/us/products/0803452>



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm

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EML (20XE)R YE - Label

0803453

<https://www.phoenixcontact.com/us/products/0803453>



Label, Roll, yellow, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMaster 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 20 mm

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/us/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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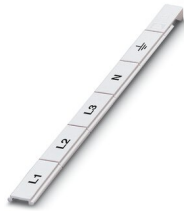
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ZBN 18,LGS:L1-N,ERDE - Marker for terminal blocks

2749576

<https://www.phoenixcontact.com/us/products/2749576>



Marker for terminal blocks, Strip, white, labeled, horizontal: L1, L2, L3, N, GND, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

<https://www.phoenixcontact.com/us/products/2749589>



Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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ZBFM 5/WH:UNBEDRUCKT - Flat zack marker sheet

0803595

<https://www.phoenixcontact.com/us/products/0803595>

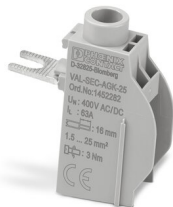
Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 5 x 4.5 mm, Number of individual labels: 120



VAL-SEC-AGK-25 - Pick-off terminal

1452282

<https://www.phoenixcontact.com/us/products/1452282>



Pick-off terminal, can only be used in combination with VAL-SEC-T2 series, nominal voltage: 400 V, nominal current: 63 A, connection method: screw connection, rated cross-section: 25 mm², cross-section: 1.5 mm² – 25 mm², color: gray

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X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/us/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

SZK PZ2 VDE - Screwdriver

1206463

<https://www.phoenixcontact.com/us/products/1206463>



Screwdriver, PZ crosshead, VDE insulated, size: PZ 2 x 100 mm, 2-component grip, with non-slip grip

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

2907878

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

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