

Type 2 surge arrester - VAL-CP-1S-175 - 2859479

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Plug-in surge arrester for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE), with remote indication contact.

Your advantages

- ✓ With or without floating remote indication contact
- ✓ Plugs can be checked with CHECKMASTER
- ✓ High continuous voltage of 175 V AC for 120 V AC networks with high voltage fluctuations
- ✓ Mechanical coding of all slots
- ✓ Optical, mechanical status indication for the individual arresters
- ✓ Disconnect device on each individual plug
- ✓ Type 2 consistent plug-in surge arresters
- ✓ Modular arrester blocks with ultra-narrow design
- ✓ Use of varistors with a low leakage current



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 045476 |
| GTIN | 4046356045476 |
| Weight per Piece (excluding packing) | 221.300 g |
| Custom tariff number | 85369010 |
| Country of origin | Germany |

Technical data

Dimensions

Type 2 surge arrester - VAL-CP-1S-175 - 2859479

Technical data

Dimensions

| | |
|------------------|----------|
| Height | 98 mm |
| Width | 25.3 mm |
| Depth | 71.5 mm |
| Horizontal pitch | 1.4 Div. |

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -40 °C ... 80 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |
| Altitude | ≤ 2000 m (amsl (above mean sea level)) |
| 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) |

General

| | |
|--|---|
| IEC test classification | II |
| | T2 |
| EN type | T2 |
| IEC power supply system | TN-S |
| | TT |
| Mode of protection | L-N |
| | L-PE |
| | N-PE |
| Mounting type | DIN rail: 35 mm |
| Color | gray/blue |
| | black |
| Housing material | PBT-FR |
| Degree of pollution | 2 |
| Flammability rating according to UL 94 | V-0 |
| Type | DIN rail module, two-section, divisible |
| Number of positions | 2 |
| Surge protection fault message | Optical, remote indicator contact |

Protective circuit

| | |
|---|-----------------|
| Nominal voltage U_N | 120 V AC (TN-S) |
| | 120 V AC (TT) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Maximum continuous operating voltage U_C (L-N) | 175 V AC |
| Maximum continuous operating voltage U_C (L-PE) | 175 V AC |

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Protective circuit

| | |
|---|--|
| Maximum continuous voltage U_C (N-PE) | 150 V AC |
| 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} | $\leq 1 \mu A$ |
| Nominal discharge current I_n (8/20) μs (L-N) | 20 kA |
| Nominal discharge current I_n (8/20) μs (N-PE) | 20 kA |
| Maximum discharge current I_{max} (8/20) μs (L-N) | 40 kA |
| Maximum discharge current I_{max} (8/20) μs (N-PE) | 40 kA |
| Follow current interrupt rating I_{fi} (N-PE) | 100 A (150 V AC) |
| Short-circuit current rating I_{SCCR} | 25 kA |
| Voltage protection level U_p (L-N) | ≤ 0.85 kV |
| Voltage protection level U_p (L-PE) | ≤ 1.3 kV |
| Voltage protection level U_p (N-PE) | ≤ 0.95 kV |
| Residual voltage U_{res} (L-N) | ≤ 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) |
| Residual voltage U_{res} (N-PE) | ≤ 0.4 kV (at I_n) |
| | ≤ 0.4 kV (at 10 kA) |
| | ≤ 0.4 kV (at 5 kA) |
| | ≤ 0.4 kV (at 4 kA) |
| | ≤ 0.4 kV (at 2 kA) |
| TOV behavior at U_T (L-N) | 240 V AC (5 s / withstand mode) |
| | 240 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 (N-PE) | ≤ 100 ns |
| Max. backup fuse with V-type through wiring | 40 A (gG / Biconnect M4 fork-type cable lug, 6 mm ²) |
| | 63 A (gG / TWIN ferrule 2x 10mm ²) |
| Max. backup fuse with branch wiring | 315 A (gG) |

Indicator/remote signaling

| | |
|--------------------|----------------------|
| Switching function | PDT contact |
| Operating voltage | 5 V AC ... 250 V AC |
| | 125 V DC (200 mA DC) |
| Operating current | 5 mA AC ... 1 A AC |

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Technical data

Indicator/remote signaling

| | |
|----------------------------------|--|
| | 1 A DC (30 V DC) |
| Connection method | Pluggable screw connection |
| Screw thread | M2 |
| Tightening torque | 0.25 Nm |
| Stripping length | 7 mm |
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section solid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG | 28 ... 16 |

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 solid | 2.5 mm ² ... 25 mm ² |
| Conductor cross section AWG | 12 ... 4 |

UL specifications

| | |
|---|--------------|
| SPD Type | 4CA |
| Maximum continuous operating voltage MCOV (L-N) | 175 V AC |
| Maximum continuous operating voltage MCOV (L-G) | 175 V AC |
| Maximum continuous operating voltage MCOV (N-G) | 150 V AC |
| Nom. voltage | 120 V AC |
| Mode of protection | L-N |
| | L-G |
| | N-G |
| Power distribution system | Single phase |
| Nominal frequency | 50/60 Hz |
| Measured limiting voltage MLV (L-N) | 1510 V |
| Measured limiting voltage MLV (L-G) | 1630 V |
| Measured limiting voltage MLV (N-G) | 560 V |
| Nominal discharge current I _n (L-N) | 20 kA |
| Nominal discharge current I _n (L-G) | 20 kA |
| Nominal discharge current I _n (N-G) | 20 kA |

Environmental Product Compliance

| | |
|------------|--|
| China RoHS | Environmentally Friendly Use Period = 50 years |
|------------|--|

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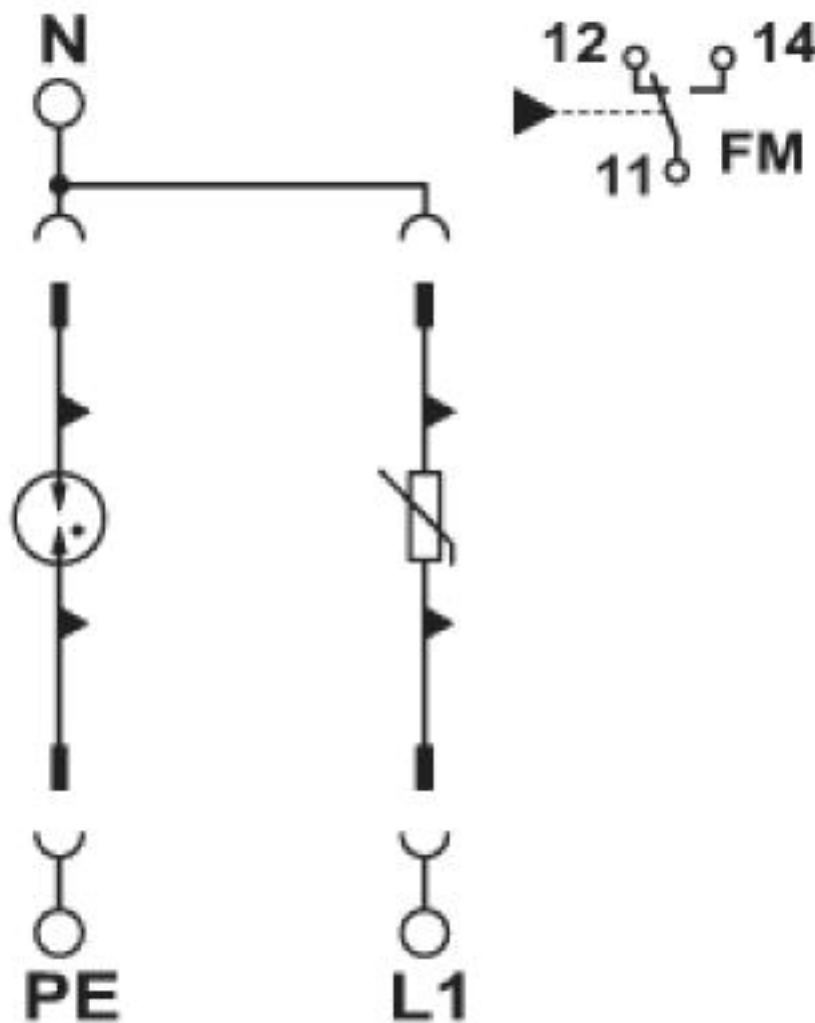
Technical data

Environmental Product Compliance

For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

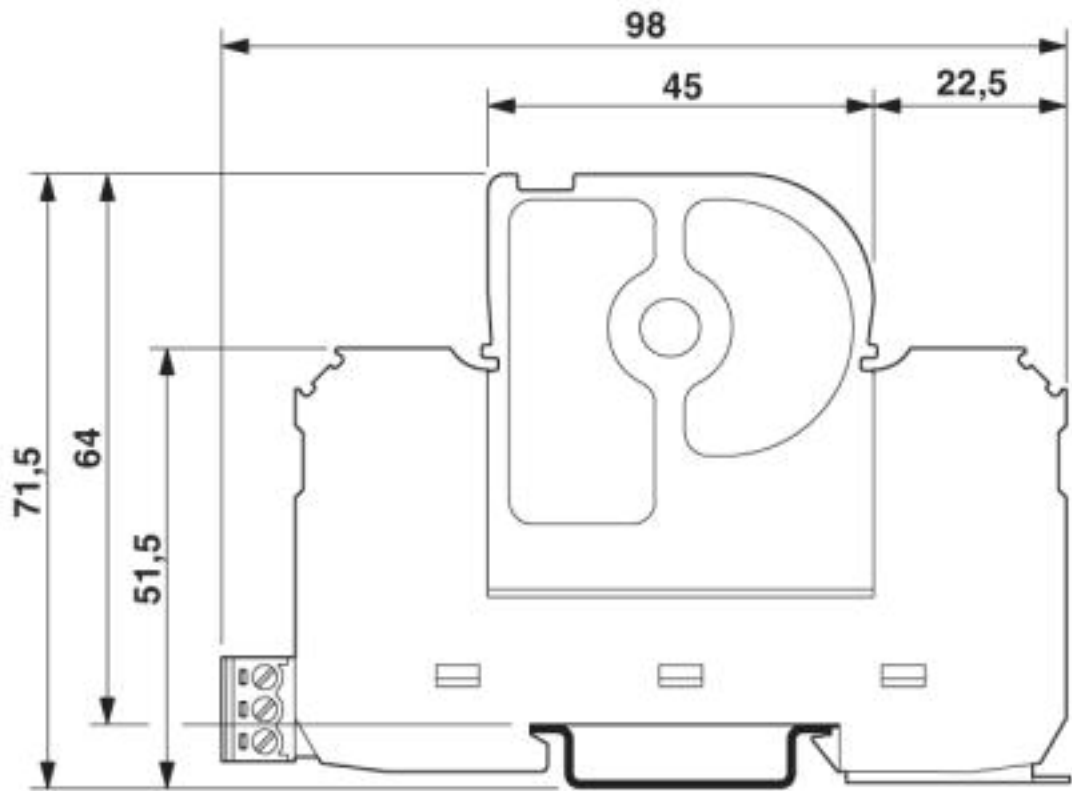
Drawings

Circuit diagram



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Dimensional drawing



Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27140201 |
| eCl@ss 4.1 | 27130801 |
| eCl@ss 5.0 | 27130801 |
| eCl@ss 5.1 | 27130800 |
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130805 |
| eCl@ss 8.0 | 27130805 |
| eCl@ss 9.0 | 27130805 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC000941 |
| ETIM 3.0 | EC000941 |
| ETIM 4.0 | EC000941 |
| ETIM 5.0 | EC000941 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 6.0 | EC000941 |
|----------|----------|

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30212010 |
| UNSPSC 7.0901 | 39121610 |
| UNSPSC 11 | 39121610 |
| UNSPSC 12.01 | 39121610 |
| UNSPSC 13.2 | 39121620 |
| UNSPSC 19.0 | 39121620 |

Accessories

Accessories

Bridge

Wiring bridge - MPB SET VAL-CP-3S - 2880684



Wiring bridge set, consisting of three flexible bridges 15 cm black, 1 bridge 27 cm blue.

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



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

Feed-through terminal block

Feed-through terminal block - DK-BIC-35 - 2749880



Feed-through terminal block for VAL and FLT applications

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Accessories

Labeled device marker

Marker for terminal blocks - ZBN 18,LGS:ERDE - 2749589



Marker for terminal blocks, Strip, white, labeled, Horizontal: Grounding symbol, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker for terminal blocks - ZBN 18,LGS:L1-N,ERDE - 2749576



Marker for terminal blocks, Strip, white, labeled, Horizontal: L1, L2, L3, N, GND, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Spare parts

Type 2 surge protection plug - VAL-CP-175-ST - 2859628



Replacement plug for VAL-CP surge protective device with high-capacity varistor with a low leakage current.

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Accessories

Type 2 surge protection plug - VAL-CP-N/PE-175-ST - 2859709



Replacement plug for VAL-CP surge arrester with N-PE spark gap.

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