

VAL-CP-3C-175 - Type 2 surge arrester



2859466

<https://www.phoenixcontact.com/us/products/2859466>

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Plug-in surge arrester for 3-phase power supply networks with N and PE in a common conductor (4-conductor system: L1, L2, L3, PEN), with remote indication contact.

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 2859466 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | CL01 |
| Product key | CL1311 |
| Catalog page | Page 40 (C-6-2013) |
| GTIN | 4046356045469 |
| Weight per piece (including packing) | 299.4 g |
| Weight per piece (excluding packing) | 299.4 g |
| Customs tariff number | 85369010 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|--------------------------------|---|
| IEC test classification | II |
| | T2 |
| EN type | T2 |
| IEC power supply system | TN-C |
| Type | DIN rail module, two-section, divisible |
| Product type | Surge arrester |
| Number of positions | 3 |
| Surge protection fault message | Optical, remote indicator contact |

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 | 5 V AC ... 250 V AC |
| | 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 |

Remote fault indicator contact

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

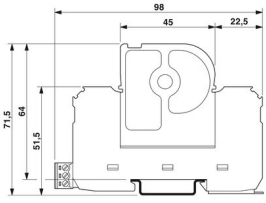
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Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 37.25 mm |
| Height | 98 mm |
| Depth | 71.5 mm |
| Horizontal pitch | 2 Div. |

Material specifications

| | |
|--|--------|
| Flammability rating according to UL 94 | V-0 |
| CTI value of material | 600 |
| Insulating material | PBT-FR |
| Material group | I |
| Housing material | PBT-FR |

Protective circuit

| | |
|--|--|
| Mode of protection | L-PEN |
| Direction of action | 3L-N/PE |
| Nominal voltage U_N | 120/208 V AC (TN-C) |
| Nominal frequency f_N | 50 Hz (60 Hz) |
| Maximum continuous operating voltage U_C (L-PEN) | 175 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) |
| Nominal discharge current I_n (8/20) μ s (L-PEN) | 20 kA |
| Maximum discharge current I_{max} (8/20) μ s (L-PEN) | 40 kA |
| Short-circuit current rating I_{SCCR} | 25 kA |
| Voltage protection level U_p (L-PEN) | ≤ 0.85 kV |
| Residual voltage U_{res} (L-PEN) | ≤ 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 (L-PEN) | 240 V AC (5 s / withstand mode) |
| | 240 V AC (120 min / safe failure mode) |
| Response time t_A (L-PEN) | ≤ 25 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) |

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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 | ≤ 2000 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 (L-L) | 350 V AC |
| Maximum continuous operating voltage MCOV (L-N) | 175 V AC |
| Nominal discharge current I_n (L-L) | 20 kA |
| Nominal discharge current I_n (L-N) | 20 kA |
| Mode of protection | L-L L-N |
| Nominal voltage | 120/208 V AC |
| Power distribution system | Wye |
| Nominal frequency | 50/60 Hz |
| Measured limiting voltage MLV (L-L) | 2010 V |
| Measured limiting voltage MLV (L-N) | 1510 V |
| SPD Type | 4CA |

UL indicator/remote signaling

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

UL connection data

| | |
|-----------------------------|---|
| Tightening torque | 40 lb _F -in. ... 50 lb _F -in. |
| Conductor cross section AWG | 14 ... 2 (solid) 14 ... 4 (flexible) |

Standards and regulations

Air clearances and creepage distances

| | |
|--------------------------|--|
| Standards/regulations | DIN VDE 0110-1 / IEC 60664-1 / IEC 61643-1 |
| Standards/specifications | IEC 61643-11 |
| Note | 2011 |
| Standards/specifications | EN 61643-11 |
| Note | 2012 |

Mounting

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Mounting type

DIN rail: 35 mm

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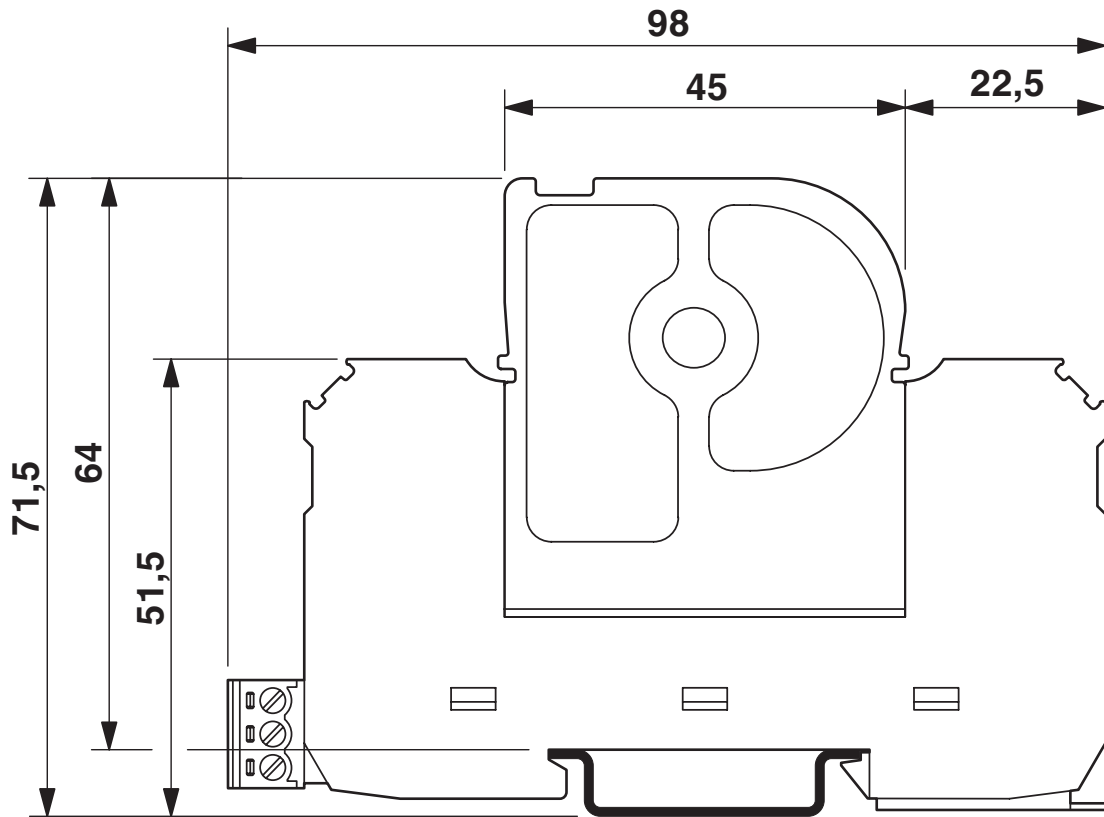


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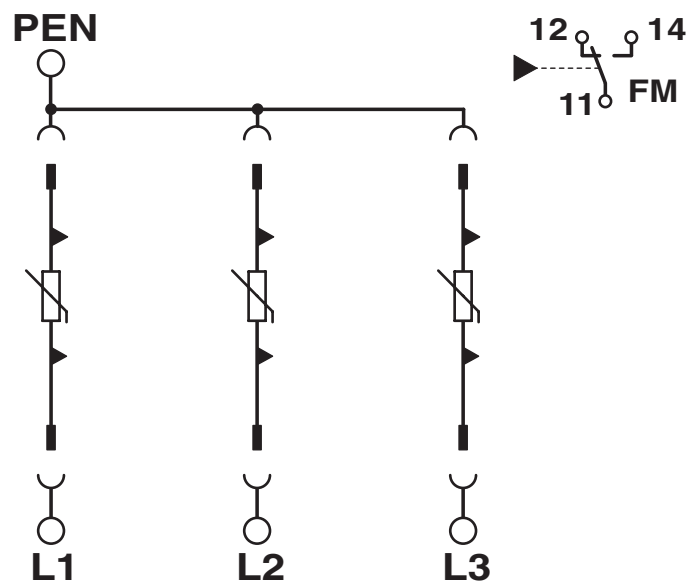
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Drawings

Dimensional drawing



Circuit diagram



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Accessories

ZBN 18,LGS:ERDE - Marker for terminal blocks

2749589

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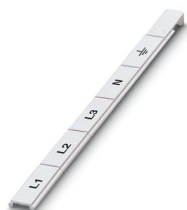


Marker for terminal blocks, Strip, white, labeled, horizontal: Grounding symbol, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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

2749576

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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

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ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

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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

B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>



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

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DK-BIC-35 - Feed-through terminal block

2749880

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Feed-through terminal block for VAL and FLT applications



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

2859628

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



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