

## Surge protection plug - PT 4X1-48DC-ST - 2858014

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Surge protection plug for the base element, common mode voltage coarse and fine protection for four lines with a common reference potential. Design: 48 V DC

### Your advantages

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Maximum ease of maintenance thanks to the two-piece design
- ✓ Base element remains an integral part of the installation
- ✓ Consistent plug-in signal circuit protection
- ✓ Protection for four conductors with common reference potential
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 10 pc                                                                                                   |
| GTIN         | <br>4 017918 828325 |
| GTIN         | 4017918828325                                                                                           |

### Technical data

#### Dimensions

|                        |         |
|------------------------|---------|
| Height                 | 45 mm   |
| Width                  | 17.7 mm |
| Depth                  | 52 mm   |
| Horizontal pitch       | 1 Div.  |
| Complete module height | 90 mm   |
| Complete module width  | 17.7 mm |
| Complete module depth  | 65.5 mm |

#### Ambient conditions

|                                 |                  |
|---------------------------------|------------------|
| Ambient temperature (operation) | -40 °C ... 85 °C |
| Degree of protection            | IP20             |

# Surge protection plug - PT 4X1-48DC-ST - 2858014

## Technical data

### General

|                                                                |                                                                                    |
|----------------------------------------------------------------|------------------------------------------------------------------------------------|
| Housing material                                               | PA 6.6                                                                             |
| Flammability rating according to UL 94                         | V-0                                                                                |
| Color                                                          | jet black RAL 9005                                                                 |
| Mounting type                                                  | on base element                                                                    |
| Type                                                           | Male                                                                               |
| Direction of action                                            | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.00                                                                  |

### Protective circuit

|                                                                      |                                     |
|----------------------------------------------------------------------|-------------------------------------|
| IEC test classification                                              | C1                                  |
|                                                                      | C2                                  |
|                                                                      | C3                                  |
|                                                                      | D1                                  |
| VDE requirement class                                                | C1                                  |
|                                                                      | C2                                  |
|                                                                      | C3                                  |
|                                                                      | D1                                  |
| Nominal voltage $U_N$                                                | 48 V DC                             |
| Maximum continuous voltage $U_C$                                     | 53 V DC                             |
|                                                                      | 37 V AC                             |
| Rated current                                                        | 300 mA (45 °C)                      |
| Operating effective current $I_C$ at $U_C$                           | $\leq 5 \mu A$                      |
| Residual current $I_{PE}$                                            | $\leq 1 \mu A$ (with PT 4X1+F-BE)   |
|                                                                      | $\leq 20 \mu A$ (Directly grounded) |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (line-earth)          | 10 kA                               |
| Pulse discharge current $I_{imp}$ (10/350) $\mu s$                   | 2.5 kA (per path)                   |
| Total discharge current $I_{total}$ (8/20) $\mu s$                   | 20 kA                               |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-earth) | 10 kA                               |
| Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-earth)        | 17 A                                |
| Output voltage limitation at 1 kV/ $\mu s$ (line-earth) spike        | $\leq 75 V$                         |
| Output voltage limitation at 1 kV/ $\mu s$ (line-earth) static       | $\leq 70 V$                         |
| Residual voltage at $I_n$ (line-earth)                               | $\leq 70 V$                         |
| Voltage protection level $U_p$ (line-earth)                          | $\leq 130 V$ (C2 - 10 kV / 5 kA)    |
| Response time $t_A$ (line-earth)                                     | $\leq 1 ns$                         |
| Input attenuation aE, asym.                                          | 0.5 dB ( $\leq 1.7 MHz$ )           |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 Ohm system          | typ. 9 MHz                          |
| Capacity (line-earth)                                                | 0.9 nF                              |
| Resistance per path                                                  | 4.7 $\Omega$                        |
| Max. required back-up fuse                                           | 315 mA (T)                          |
| Impulse durability (line-earth)                                      | C2 - 10 kV / 5 kA                   |

## Surge protection plug - PT 4X1-48DC-ST - 2858014

### Technical data

#### Protective circuit

|  |             |
|--|-------------|
|  | D1 - 2.5 kA |
|--|-------------|

#### Connection data

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Connection method                | Screw connection (in connection with the base element) |
| Screw thread                     | M3                                                     |
| Tightening torque                | 0.8 Nm                                                 |
| Stripping length                 | 8 mm                                                   |
| Conductor cross section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>            |
| Conductor cross section solid    | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>              |
| Conductor cross section AWG      | 24 ... 12                                              |

#### Standards and Regulations

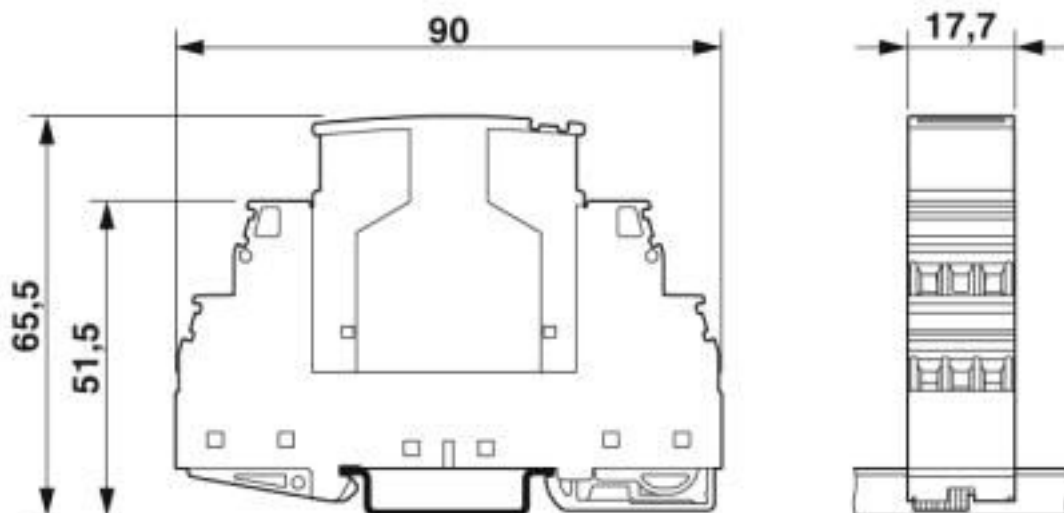
|                          |                   |
|--------------------------|-------------------|
| Standards/specifications | IEC 61643-21 2000 |
|--------------------------|-------------------|

#### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                      |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

### Drawings

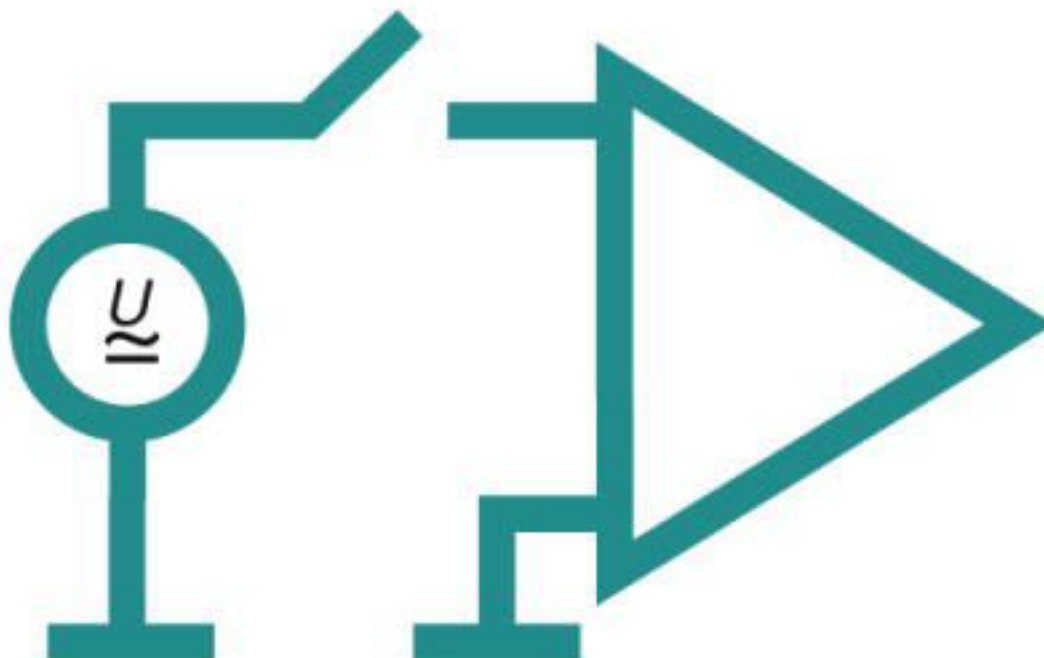
Dimensional drawing



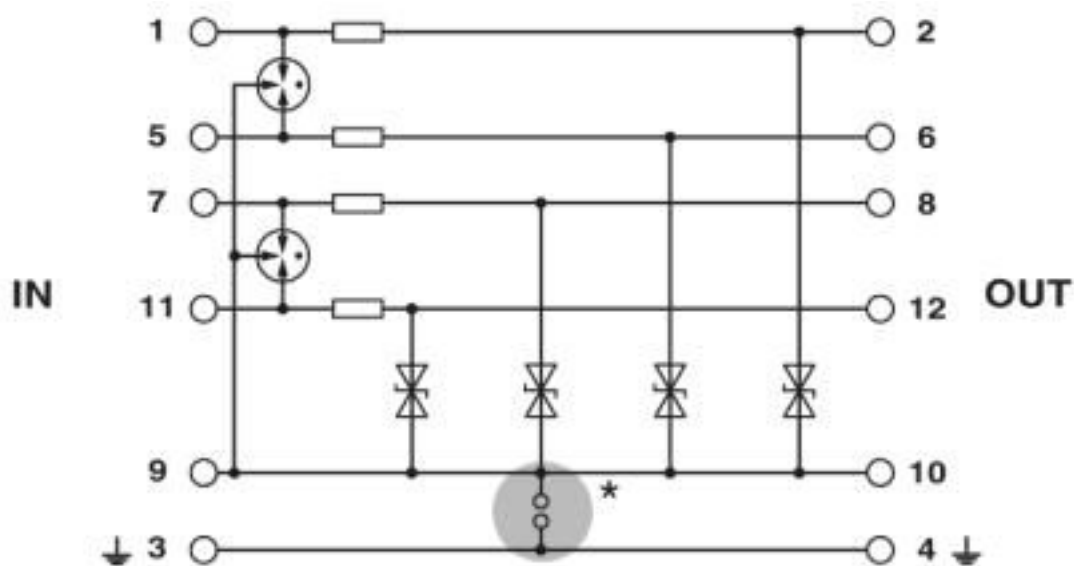
The figure shows the complete module consisting of a base element and connector

## Surge protection plug - PT 4X1-48DC-ST - 2858014

Pictogram



Circuit diagram



### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27130807 |
| eCl@ss 4.0    | 27130800 |
| eCl@ss 4.1    | 27130800 |

## Surge protection plug - PT 4X1-48DC-ST - 2858014

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.0 | 27130800 |
| eCl@ss 5.1 | 27130800 |
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130807 |
| eCl@ss 8.0 | 27130807 |
| eCl@ss 9.0 | 27130807 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000943 |
| ETIM 3.0 | EC000943 |
| ETIM 4.0 | EC000943 |
| ETIM 5.0 | EC000943 |
| ETIM 6.0 | EC000943 |
| ETIM 7.0 | EC000943 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30212010 |
| UNSPSC 7.0901 | 39121610 |
| UNSPSC 11     | 39121610 |
| UNSPSC 12.01  | 39121610 |
| UNSPSC 13.2   | 39121620 |
| UNSPSC 18.0   | 39121620 |
| UNSPSC 19.0   | 39121620 |
| UNSPSC 20.0   | 39121620 |
| UNSPSC 21.0   | 39121620 |

### Approvals

#### Approvals

Approvals

EAC

Ex Approvals

#### Approval details

|     |                                                                                     |                         |
|-----|-------------------------------------------------------------------------------------|-------------------------|
| EAC |  | RU C-<br>DE.*09.B.00169 |
|-----|-------------------------------------------------------------------------------------|-------------------------|

## Surge protection plug - PT 4X1-48DC-ST - 2858014

### Accessories

#### Accessories

#### 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

---

#### Labeled terminal marker

Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

---

Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

---

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

---

Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

---

#### Marker pen

## Surge protection plug - PT 4X1-48DC-ST - 2858014

### Accessories

Marker pen - X-PEN 0,35 - 0811228



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

---

### Terminal marking

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

Zack Marker strip, flat - ZBF 5/WH-100:UNBEDRUCKT - 0808668



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

---

### Necessary add-on products

Surge protection base element - PT 4X1-BE - 2839363



Base element for protective plug PT with protective circuit for 4 conductors of signal circuits grounded on one side, with bridge between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

Surge protection base element - PT 4X1+F-BE - 2839376



Base element for protective plug PT with protective circuit for 4 signal wires, with gas-filled surge arrester between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

---

### Additional products

## Surge protection plug - PT 4X1-48DC-ST - 2858014

### Accessories

#### Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

---

#### Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

---

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Phoenix Contact:](#)

[2858014](#)