

# PT 4X1-12DC-ST - Surge protection plug

2838319

<https://www.phoenixcontact.com/in/products/2838319>

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Protective plug PT with protective circuit for 4 conductors of signal circuits grounded on one side.  
Nominal voltage: 12 V DC

## Your advantages

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance, thanks to the 2-piece design
- Easy selection for all possible demands in MCR applications with a complete product portfolio
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

## Commercial Data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2838319                        |
| Packing unit                         | 10 pc                          |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to Order (non-returnable) |
| Sales Key                            | CL2                            |
| Product Key                          | CL2111                         |
| Catalog Page                         | Page 135 (C-4-2019)            |
| GTIN                                 | 4017918182700                  |
| Weight per Piece (including packing) | 26.23 g                        |
| Weight per Piece (excluding packing) | 21.718 g                       |
| Customs tariff number                | 85363010                       |
| Country of origin                    | DE                             |

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## Technical Data

### Product properties

|  |                                     |
|--|-------------------------------------|
| IEC test classification  | C1                                  |
|  | C2                                  |
|  | C3                                  |
|  | D1                                  |
| VDE requirement class  | C1                                  |
|  | C2                                  |
|  | C3                                  |
|  | D1                                  |
| Type   | Male                                |
| Product type   | Surge protection for MCR technology |
| Product family   | PLUGTRAB PT                         |
| Surge protection fault message                                 | none                                |
| Arrester can be tested with CHECKMASTER from software version: | From SW rev. 1.00                   |

### Insulation characteristics

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

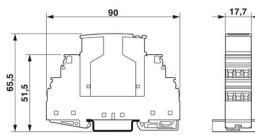
### Electrical properties

|                       |         |
|-----------------------|---------|
| Nominal voltage $U_N$ | 12 V DC |
|-----------------------|---------|

### Connection data

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

### Dimensions

|                       |  |
|-----------------------|--|
| Dimensional drawing   |  |
| Width                 | 17.7 mm  |
| Height                | 45 mm  |
| Depth                 | 52 mm  |
| Horizontal pitch      | 1 Div.   |
| Complete module width | 17.7 mm  |

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|                        |         |
|------------------------|---------|
| Complete module height | 90 mm   |
| Complete module depth  | 65.5 mm |

## Material specifications

|  |                    |
|--|--------------------|
| Color                                  | jet black RAL 9005 |
| Flammability rating according to UL 94 | V-0                |
| Housing material                       | PA 6.6             |

## Mechanical properties

### Mechanical data

|                 |    |
|-----------------|----|
| Open side panel | No |
|-----------------|----|

## Protective circuit

|  |  |
|--|--|
| Direction of action  | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground |
| Maximum continuous voltage $U_C$   | 13 V DC  |
|  | 9 V AC   |
| Rated current  | 300 mA (45 °C)   |
| Operating effective current $I_C$ at $U_C$                                 | $\leq 5 \mu\text{A}$   |
| Residual current $I_{PE}$  | $\leq 1 \mu\text{A}$ (with PT 4X1+F-BE)  |
|  | $\leq 20 \mu\text{A}$ (Directly grounded)  |
| Nominal discharge surge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)    | 10 kA  |
| Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$                   | 2.5 kA (per path)  |
| Total discharge current $I_{total}$ (8/20) $\mu\text{s}$                   | 20 kA  |
| Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth) | 10 kA  |
| Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)        | 67 A   |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike        | $\leq 23 \text{ V}$  |
| Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static       | $\leq 18 \text{ V}$  |
| Residual voltage at $I_n$ (conductor-ground)                               | $\leq 18 \text{ V}$  |
| Voltage protection level $U_p$ (line-earth)                                | $\leq 65 \text{ V}$ (C2 - 10 kV / 5 kA)  |
| Response time $t_A$ (line-earth)   | $\leq 1 \text{ ns}$  |
| Input attenuation aE, asym.  | 0.5 dB ( $\leq 600 \text{ kHz}$ )  |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 $\Omega$ system           | typ. 3 MHz   |
| Capacity (Core-Earth)  | 3 nF   |
| Resistance per path  | 4.7 $\Omega$   |
| Surge protection fault message   | none   |
| Max. required back-up fuse   | 315 mA (T)   |
| Impulse durability (line-earth)  | C2 - 10 kV / 5 kA  |
|  | D1 - 2.5 kA  |

## Environmental and real-life conditions

### Ambient conditions

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

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## Standards and regulations

|                       |    |
|-----------------------|----|
| VDE requirement class | C1 |
|                       | C2 |
|                       | C3 |
|                       | D1 |

## Air clearances and creepage distances

|                       |                          |
|-----------------------|--------------------------|
| Standards/regulations | VDE 0110-1 / IEC 60664-1 |
|-----------------------|--------------------------|

## Standards Information technology specification

|                          |                 |
|--------------------------|-----------------|
| Standards/regulations    | IEC 61643-21    |
|                          | DIN EN 61643-21 |
|                          | UL 497B         |
|                          | IEC 61643-21    |
|                          | DIN EN 61643-21 |
| Standards/specifications | UL 497B         |
|                          | IEC 61643-21    |

## Mounting

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

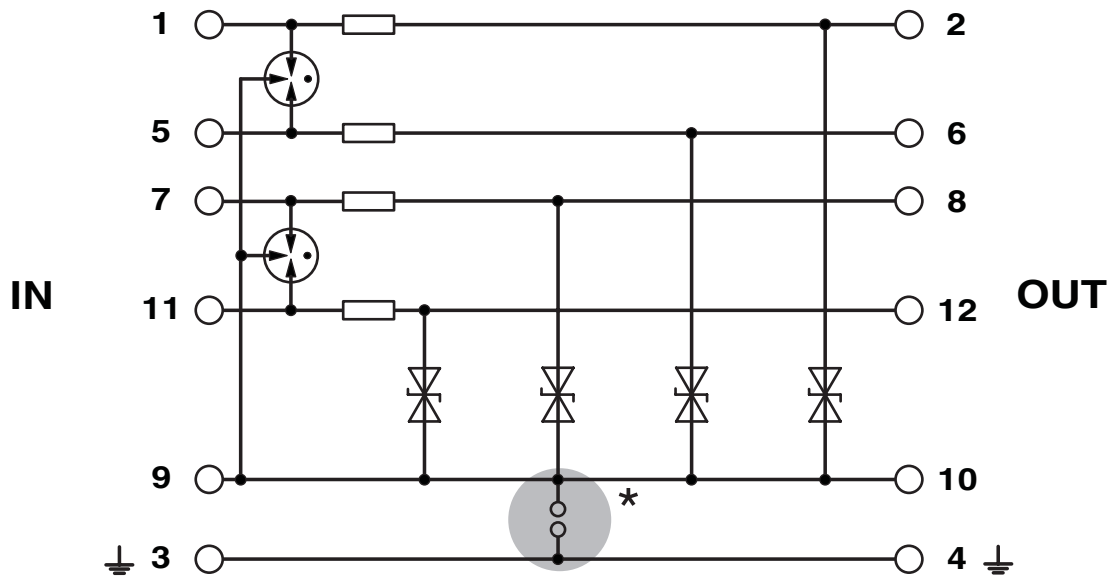
# PT 4X1-12DC-ST - Surge protection plug

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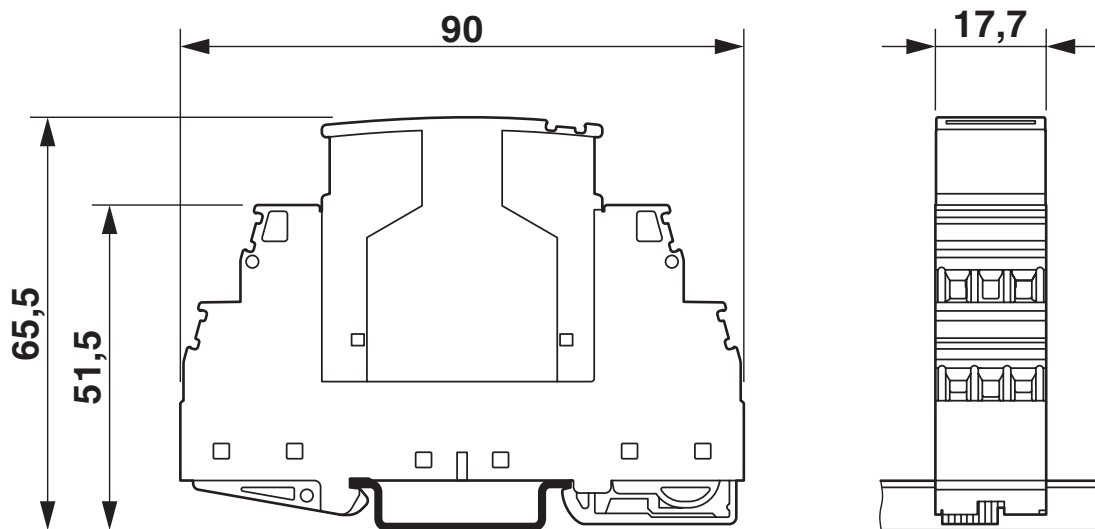
<https://www.phoenixcontact.com/in/products/2838319>

## Drawings

Circuit diagram



Dimensional drawing



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

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## Approvals



### EAC

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



### UL Listed

Approval ID: FILE E 138168

|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | 12 V                  | 0.3 A                 | -                 | -                           |



### cUL Listed

Approval ID: FILE E 333250



### UL Listed

Approval ID: FILE E 333250

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## Classifications

### ECLASS

ECLASS-11.0

27130807

### ETIM

ETIM 8.0

EC000943

### UNSPSC

UNSPSC 21.0

39121600

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## Environmental Product Compliance

|            |  |
|------------|--|
| REACH SVHC | Lead 7439-92-1   |
| China RoHS | Environmentally Friendly Use Period = 50 years   |
|            | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |



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## Mandatory Accessories

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

2839363

<https://www.phoenixcontact.com/in/products/2839363>

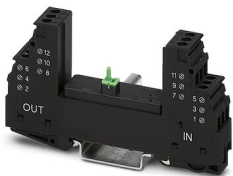


Base element for protective plug PT with protective circuit for 4 conductors of signal circuits grounded on one side, with bridge between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

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

2839376

<https://www.phoenixcontact.com/in/products/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

## Accessories

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## X-PEN 0,35 - Marker pen

0811228

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



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

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

0808642

<https://www.phoenixcontact.com/in/products/0808642>



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

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

0808668

<https://www.phoenixcontact.com/in/products/0808668>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 1000

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

0808671

<https://www.phoenixcontact.com/in/products/0808671>



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

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

0810821

<https://www.phoenixcontact.com/in/products/0810821>



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

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

0810863

<https://www.phoenixcontact.com/in/products/0810863>



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

# PT 4X1-12DC-ST - Surge protection plug

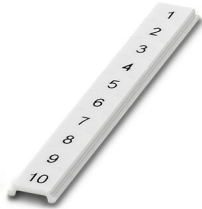
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## ZBF 5,QR:FORTL.ZAHLEN - Zack Marker strip, flat

0808697

<https://www.phoenixcontact.com/in/products/0808697>



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

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## ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/in/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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## SSA 3-6 - Shield connection

2839295

<https://www.phoenixcontact.com/in/products/2839295>

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



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## SSA 5-10 - Shield connection

2839512

<https://www.phoenixcontact.com/in/products/2839512>

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



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