

## Surge protection connector - PT 4X1-24DC-ST - 2838322

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Protective plug PT with protective circuit for 4 conductors of signal circuits grounded on one side.  
Nominal voltage: 24 V DC

The illustration shows version PT  
4x1- 5 DC-ST

### Product Features

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Installed in conjunction with the PT 4x1...-BE base element
- ✓ 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

|                  |               |
|------------------|---------------|
| package_quantity | 10            |
| GTIN             | 4017918182717 |

### Technical data

#### Dimensions

|            |         |
|------------|---------|
| Height     | 45 mm   |
| Width      | 17.7 mm |
| Depth      | 52 mm   |
| Pitch unit | 1 Div.  |
| Height     | 90 mm   |
| Width      | 17.7 mm |
| Depth      | 65.5 mm |

#### Ambient conditions

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

#### General

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## Technical data

### General

|                                                                |                                                                                    |
|----------------------------------------------------------------|------------------------------------------------------------------------------------|
| Housing material                                               | PA 6.6                                                                             |
| Inflammability class according to UL 94                        | V0                                                                                 |
| Color                                                          | black                                                                              |
| Standards for air and creepage distances                       | VDE 0110-1                                                                         |
| Standards for air and creepage distances                       | IEC 60664-1                                                                        |
| Mounting type                                                  | On base element                                                                    |
| Design                                                         | DIN rail module, two-section, divisible                                            |
| 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                                  |
| IEC test classification                                              | C2                                  |
| IEC test classification                                              | C3                                  |
| IEC test classification                                              | D1                                  |
| VDE requirement class                                                | C1                                  |
| VDE requirement class                                                | C2                                  |
| VDE requirement class                                                | C3                                  |
| VDE requirement class                                                | D1                                  |
| Nominal voltage $U_N$                                                | 24 V DC                             |
| Maximum continuous operating voltage $U_c$                           | 28 V DC                             |
| Maximum continuous operating voltage $U_c$                           | 20 V AC                             |
| Maximum continuous voltage $U_c$ (wire-ground)                       | 28 V DC                             |
| Maximum continuous voltage $U_c$ (wire-ground)                       | 20 V AC                             |
| Nominal current $I_N$                                                | 300 mA (45°C)                       |
| Operating effective current $I_c$ at $U_c$                           | $\leq 5 \mu A$                      |
| Residual current $I_{PE}$                                            | $\leq 1 \mu A$ (BE: 4x1+F)          |
| Residual current $I_{PE}$                                            | $\leq 20 \mu A$ (Directly grounded) |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Earth)          | 10 kA                               |
| Total surge current (8/20) $\mu s$                                   | 20 kA                               |
| Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Earth) | 10 kA                               |
| Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Earth)        | 30 A                                |
| Impulse discharge current (10/350) $\mu s$ , peak value $I_{imp}$    | 2.5 kA (per path)                   |
| Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) spike        | $\leq 45 V$                         |
| Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) static       | $\leq 40 V$                         |
| Residual voltage at $I_n$ , (conductor-ground)                       | $\leq 40 V$                         |
| Voltage protection level $U_p$ (Core-Earth)                          | $\leq 80 V$ (C2 (10 kV/5 kA))       |
| Response time $t_A$ (Core-Earth)                                     | $\leq 1 ns$                         |
| Input attenuation aE, asym.                                          | 0.5 dB ( $\leq 1 MHz$ )             |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 50 Ohm system          | typ. 6 MHz                          |

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## Technical data

### Protective circuit

|                                                                |                                  |
|----------------------------------------------------------------|----------------------------------|
| Capacity (Core-Earth)                                          | 1.4 nF                           |
| Resistance in series                                           | 4.7 $\Omega$ (Path 1-2/5-6)      |
| Resistance in series                                           | 4.7 $\Omega$ (Path 7-8, 11-12)   |
| Message: Surge protection fault                                | None                             |
| Max. required back-up fuse                                     | 315 mA (e.g. T ( IEC 127-2/III)) |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth) | C2 (10 kV/5 kA)                  |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth) | D1 (2.5 kA)                      |

### Connection data

|                                        |                                                        |
|----------------------------------------|--------------------------------------------------------|
| Connection method                      | Screw connection (in connection with the base element) |
| Connection type IN                     | PLUGTRAB plug-in system                                |
| Connection type OUT                    | PLUGTRAB plug-in system                                |
| Screw thread                           | M3                                                     |
| Tightening torque                      | 0.8 Nm                                                 |
| Stripping length                       | 8 mm                                                   |
| Conductor cross section stranded min.  | 0.2 mm <sup>2</sup>                                    |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup>                                    |
| Conductor cross section solid min.     | 0.2 mm <sup>2</sup>                                    |
| Conductor cross section solid max.     | 4 mm <sup>2</sup>                                      |
| Conductor cross section AWG/kcmil min. | 24                                                     |
| Conductor cross section AWG/kcmil max  | 12                                                     |

### Standards and Regulations

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

## classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27140201 |
| eCl@ss 4.1 | 27130801 |
| eCl@ss 5.0 | 27130801 |
| eCl@ss 5.1 | 27130801 |
| eCl@ss 6.0 | 27130807 |
| eCl@ss 7.0 | 27130807 |
| eCl@ss 8.0 | 27130807 |

### ETIM

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

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## classifications

### UNSPSC

|                      |          |
|----------------------|----------|
| <b>UNSPSC 6.01</b>   | 30212010 |
| <b>UNSPSC 7.0901</b> | 39121610 |
| <b>UNSPSC 11</b>     | 39121610 |
| <b>UNSPSC 12.01</b>  | 39121610 |
| <b>UNSPSC 13.2</b>   | 39121620 |

## approvals

UL Listed / cUL Listed / cULus Listed / UL Listed / GOST / GL /

### Approval details

|                                                                                             |
|---------------------------------------------------------------------------------------------|
| UL Listed  |
|---------------------------------------------------------------------------------------------|

|                                                                                                |
|------------------------------------------------------------------------------------------------|
| cUL Listed  |
|------------------------------------------------------------------------------------------------|

|                                                                                                  |
|--------------------------------------------------------------------------------------------------|
| cULus Listed  |
|--------------------------------------------------------------------------------------------------|

|                                                                                     |       |
|-------------------------------------------------------------------------------------|-------|
|  |       |
| Nominal voltage UN                                                                  | 24 V  |
| Nominal current IN                                                                  | 0.3 A |
| mm²/AWG/kcmil                                                                       |       |

|                                                                                          |
|------------------------------------------------------------------------------------------|
| GOST  |
|------------------------------------------------------------------------------------------|

|    |
|----|
| GL |
|----|

## accessories

### Marker pen

## Surge protection connector - PT 4X1-24DC-ST - 2838322

### accessories

X-PEN 0,35 - 0811228



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### Terminal marking

ZBF 5:UNBEDRUCKT - 0808642



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ZBF 5/WH-100:UNBEDRUCKT - 0808668



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### Labeled terminal marker

ZBF 5,LGS:FORTL.ZAHLEN - 0808671



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ZBF 5,LGS:GERADE ZAHLEN - 0810821



## Surge protection connector - PT 4X1-24DC-ST - 2838322

### accessories

ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



ZBF 5,QR:FORTL.ZAHLEN - 0808697



### Device marking

ZBN 18:UNBEDRUCKT - 2809128



### accessories

ZBF 15:SO/CMS - 0814717



ZBF 5:SO/CMS - 0808707



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accessories

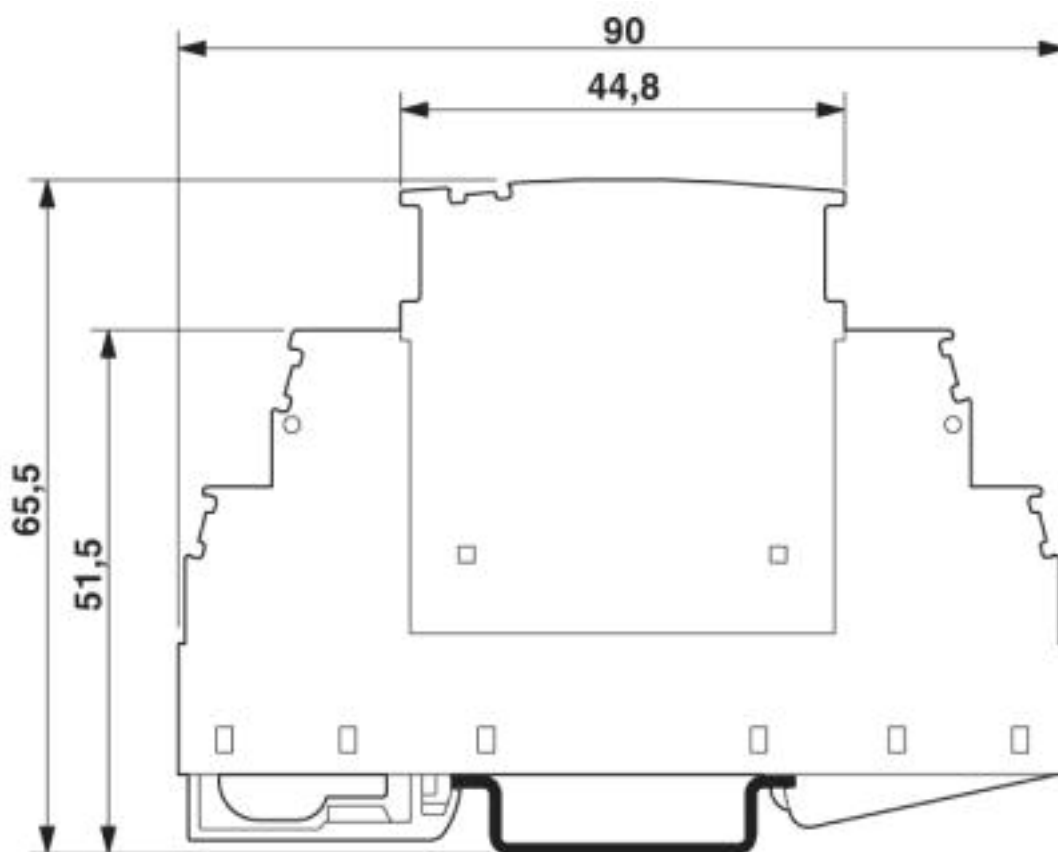
ZBN 18:SO/CMS - 0800763



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### Drawings

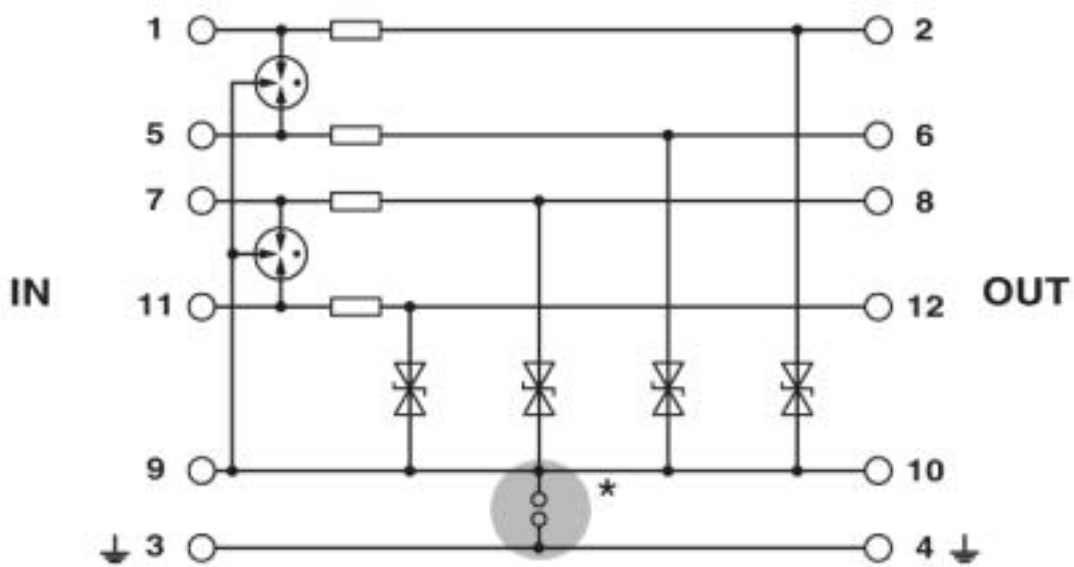
Dimensioned drawing



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

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Circuit diagram



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