

### MCR-PLUGTRAB PT

- Seamless plug-in signal circuit protection
- Maximum ease of maintenance thanks to the two-piece design
- Base element remains an integral part of the installation
- Impedance-neutral disconnection of connector for test and maintenance purposes
- Connectors can be checked with CHECKMASTER

#### PT 1x2...

- Protection for a floating signal circuit
- Installed in conjunction with the PT 1x2...-BE base element

#### PT 2x1...

- Protection for two wires with common reference potential
- Installed in conjunction with the PT 2x1...-BE base element

#### \* Note:

Various grounding options for the base elements:

**PT .x.-BE** connections 9/10 (GND) directly connected to the mounting foot.

**PT .x.+F-BE** connections 9/10 (GND) connected to the mounting foot via a gas-filled surge arrester.

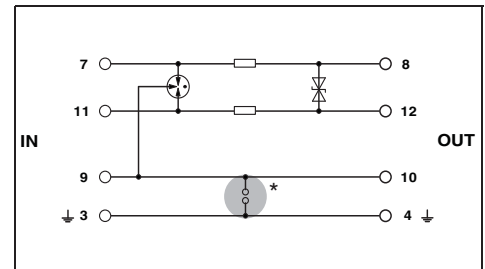
#### Notes:

Dimensional drawings starting on page 240  
Approvals starting on page 252



Double wire (loop), floating

Total width 17.7 mm



#### Technical data

| Electrical data                                      |                                                    | ... 5DC                    | ... 12DC                   | ... 24DC                   | ... 48DC                                                          |
|------------------------------------------------------|----------------------------------------------------|----------------------------|----------------------------|----------------------------|-------------------------------------------------------------------|
|                                                      |                                                    | C1 / C2 / C3 / D1          | C1 / C2 / C3 / D1          | C1 / C2 / C3 / D1          | C1 / C2 / C3 / D1                                                 |
| Maximum continuous operating voltage $U_c$           | DC / AC                                            | 6 V DC / 4 V AC            | 13 V DC / 9 V AC           | 28 V DC / 20 V AC          | 53 V DC / 37 V AC                                                 |
| Lightning test curr. $I_{imp}$ (10/350) $\mu$ s      | Per path                                           | 2.5 kA                     | 2.5 kA                     | 2.5 kA                     | 2.5 kA                                                            |
| Nominal current $I_n$                                |                                                    | 450 mA (45°C)              | 450 mA (45°C)              | 450 mA (45°C)              | 450 mA (45°C)                                                     |
| Nominal discharge surge current $I_n$ (8/20) $\mu$ s |                                                    |                            |                            |                            |                                                                   |
|                                                      | Core-Core / Core-Ground                            | 10 kA / 10 kA<br>20 kA     | 10 kA / 10 kA<br>20 kA     | 10 kA / 10 kA<br>20 kA     | 10 kA / 10 kA<br>20 kA                                            |
| Total surge current (8/20) $\mu$ s                   |                                                    |                            |                            |                            |                                                                   |
| Output voltage limitation at 1 kV/ $\mu$ s           |                                                    |                            |                            |                            |                                                                   |
|                                                      | Core-Core                                          | $\leq 10$ V                | $\leq 18$ V                | $\leq 40$ V                | $\leq 70$ V                                                       |
|                                                      | Core-Ground                                        | $\leq 450$ V               | $\leq 450$ V               | $\leq 450$ V               | $\leq 450$ V                                                      |
| Cut-off frequency $f_g$ (3 dB)                       |                                                    |                            |                            |                            |                                                                   |
|                                                      | Symmetrical/asymmetrical in the 50 $\Omega$ system | Typ. 1 MHz / -2.2 $\Omega$ | Typ. 3 MHz / -2.2 $\Omega$ | Typ. 6 MHz / -2.2 $\Omega$ | Typ. 10 MHz / -2.2 $\Omega$                                       |
| Resistance per path                                  |                                                    |                            |                            |                            |                                                                   |
| General data                                         |                                                    |                            |                            |                            |                                                                   |
| Connection data solid / stranded / AWG               |                                                    |                            |                            |                            | 0.2 ... 4 mm <sup>2</sup> / 0.2 ... 2.5 mm <sup>2</sup> / 24 - 12 |
| Temperature range                                    |                                                    |                            |                            |                            | -40°C ... 85°C                                                    |
| Degree of protection according to IEC 60529/EN 60529 |                                                    |                            |                            |                            | IP20                                                              |
| Inflammability class according to UL 94              |                                                    |                            |                            |                            | V0                                                                |
| Test standards                                       |                                                    |                            |                            |                            | IEC 61643-21 / DIN EN 61643-21 / UL 497B                          |

#### Ordering data

| Description                                                                          | Voltage $U_N$ | Type           | Order No. | Pcs. / Pkt. |
|--------------------------------------------------------------------------------------|---------------|----------------|-----------|-------------|
| <b>PLUGTRAB connector</b> , with protective circuit for inserting in PT base element | 5 V DC        | PT 1X2- 5DC-ST | 2856016   | 10          |
|                                                                                      | 12 V DC       | PT 1X2-12DC-ST | 2856029   | 10          |
|                                                                                      | 24 V DC       | PT 1X2-24DC-ST | 2856032   | 10          |
|                                                                                      | 12 V AC       |                |           |             |
|                                                                                      | 24 V AC       |                |           |             |
| <b>PLUGTRAB base element</b> , for mounting on NS 35                                 | 48 V DC       | PT 1X2-48DC-ST | 2803658   | 10          |
|                                                                                      |               | PT 1X2-BE      | 2856113   | 10          |
|                                                                                      |               | PT 1X2+F-BE    | 2856126   | 10          |

#### Accessories

|                               |                       |         |    |
|-------------------------------|-----------------------|---------|----|
| <b>Shield fast connection</b> |                       |         |    |
| For $\varnothing$ 3 - 6 mm    | SSA 3-6               | 2839295 | 10 |
| For $\varnothing$ 5 - 10 mm   | SSA 5-10              | 2839512 | 10 |
| <b>Labeling material</b>      | ZBF ..., see page 125 |         |    |



Double wire (loop), floating

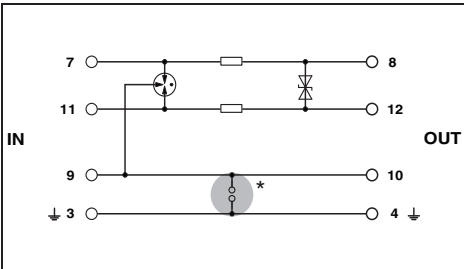


2-wire, with common reference potential



2-wire, with common reference potential

Total width 17.7 mm



## Technical data

| ... 12AC                | ... 24AC                |
|-------------------------|-------------------------|
| C1 / C2 / C3 / D1       | C1 / C2 / C3 / D1       |
| 18 V DC / 13 V AC       | 40 V DC / 28 V AC       |
| 2.5 kA                  | 2.5 kA                  |
| 450 mA (45°C)           | 450 mA (45°C)           |
| 10 kA / 10 kA           | 10 kA / 10 kA           |
| 20 kA                   | 20 kA                   |
| ≤ 25 V                  | ≤ 55 V                  |
| ≤ 450 V                 | ≤ 450 V                 |
| Typ. 4 MHz / -<br>2.2 Ω | Typ. 8 MHz / -<br>2.2 Ω |

0.2 ... 4 mm<sup>2</sup> / 0.2 ... 2.5 mm<sup>2</sup> / 24 - 12  
-40°C ... 85°C  
IP20  
V0

IEC 61643-21 / DIN EN 61643-21 / UL 497B

## Ordering data

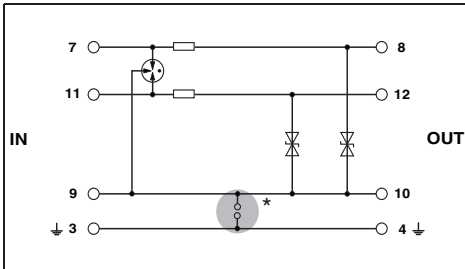
| Type           | Order No. | Pcs. / Pkt. |
|----------------|-----------|-------------|
| PT 1X2-12AC-ST | 2856045   | 10          |
| PT 1X2-24AC-ST | 2856058   | 10          |
| PT 1X2-BE      | 2856113   | 10          |
| PT 1X2+F-BE    | 2856126   | 10          |

## Accessories

|          |         |    |
|----------|---------|----|
| SSA 3-6  | 2839295 | 10 |
| SSA 5-10 | 2839512 | 10 |

ZBF ..., see page 125

Total width 17.7 mm



## Technical data

| ... 5DC           | ... 12DC          | ... 24DC          |
|-------------------|-------------------|-------------------|
| C1 / C2 / C3 / D1 | C1 / C2 / C3 / D1 | C1 / C2 / C3 / D1 |
| 6 V DC / 4 V AC   | 13 V DC / 9 V AC  | 28 V DC / 20 V AC |
| 2.5 kA            | 2.5 kA            | 2.5 kA            |
| 300 mA (45°C)     | 300 mA (45°C)     | 300 mA (45°C)     |
| - / 10 kA         | - / 10 kA         | - / 10 kA         |
| 20 kA             | 20 kA             | 20 kA             |
| -                 | -                 | -                 |
| ≤ 10 V            | ≤ 18 V            | ≤ 40 V            |
| - / Typ. 1 MHz    | - / Typ. 3 MHz    | - / Typ. 6 MHz    |
| 4.7 Ω             | 4.7 Ω             | 4.7 Ω             |

0.2 ... 4 mm<sup>2</sup> / 0.2 ... 2.5 mm<sup>2</sup> / 24 - 12  
-40°C ... 85°C  
IP20  
V0

IEC 61643-21 / DIN EN 61643-21 / UL 497B

## Ordering data

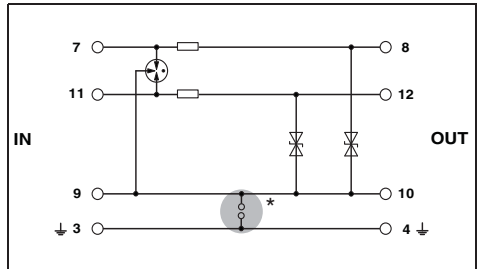
| Type           | Order No. | Pcs. / Pkt. |
|----------------|-----------|-------------|
| PT 2X1-5DC-ST  | 2856061   | 10          |
| PT 2X1-12DC-ST | 2856074   | 10          |
| PT 2X1-24DC-ST | 2856087   | 10          |
| PT 2X1-BE      | 2856139   | 10          |
| PT 2X1+F-BE    | 2856142   | 10          |

## Accessories

|          |         |    |
|----------|---------|----|
| SSA 3-6  | 2839295 | 10 |
| SSA 5-10 | 2839512 | 10 |

ZBF ..., see page 125

Total width 17.7 mm



## Technical data

| ... 12AC          | ... 24AC          |
|-------------------|-------------------|
| C1 / C2 / C3 / D1 | C1 / C2 / C3 / D1 |
| 18 V DC / 13 V AC | 40 V DC / 28 V AC |
| 2.5 kA            | 2.5 kA            |
| 300 mA (45°C)     | 300 mA (45°C)     |
| - / 10 kA         | - / 10 kA         |
| 20 kA             | 20 kA             |
| -                 | -                 |
| ≤ 25 V            | ≤ 55 V            |
| - / Typ. 4 MHz    | - / Typ. 8 MHz    |
| 4.7 Ω             | 4.7 Ω             |

0.2 ... 4 mm<sup>2</sup> / 0.2 ... 2.5 mm<sup>2</sup> / 24 - 12  
-40°C ... 85°C  
IP20  
V0

IEC 61643-21 / DIN EN 61643-21 / UL 497B

## Ordering data

| Type           | Order No. | Pcs. / Pkt. |
|----------------|-----------|-------------|
| PT 2X1-12AC-ST | 2856090   | 10          |
| PT 2X1-24AC-ST | 2856100   | 10          |
| PT 2X1-BE      | 2856139   | 10          |
| PT 2X1+F-BE    | 2856142   | 10          |

## Accessories

|          |         |    |
|----------|---------|----|
| SSA 3-6  | 2839295 | 10 |
| SSA 5-10 | 2839512 | 10 |

ZBF ..., see page 125