

### 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.

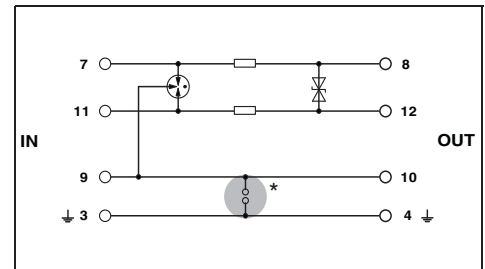
#### Notes:

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                     |
|------------------------------------------------------|--|-------------------------------------------------------------------|-----------------------------|-----------------------------|------------------------------|
| IEC category / EN type                               |  | C1 / C2 / C3 / D1                                                 | C1 / C2 / C3 / D1           | C1 / C2 / C3 / D1           | C1 / C2 / C3 / D1            |
| Maximum continuous operating voltage $U_c$           |  | 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      |  | 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                                                     | 10 kA / 10 kA               | 10 kA / 10 kA               | 10 kA / 10 kA                |
| Total surge current (8/20) $\mu$ s                   |  | 20 kA                                                             | 20 kA                       | 20 kA                       | 20 kA                        |
| 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><br>For $\varnothing$ 3 - 6 mm<br>For $\varnothing$ 5 - 10 mm | SSA 3-6  | 2839295               | 10 |
|                                                                                            | SSA 5-10 | 2839512               | 10 |
| <b>Labeling material</b>                                                                   |          | ZBF ..., see page 125 |    |



Double wire (loop), floating

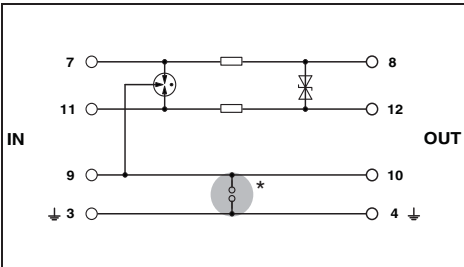


2-wire, with common reference potential



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<br>450 mA (45°C) | 2.5 kA<br>450 mA (45°C) |
| 10 kA / 10 kA<br>20 kA  | 10 kA / 10 kA<br>20 kA  |
| ≤ 25 V<br>≤ 450 V       | ≤ 55 V<br>≤ 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

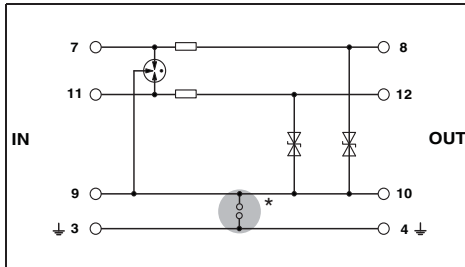
| Type           | Order No. | Pcs. / Pkt. |
|----------------|-----------|-------------|
| PT 1X2-12AC-ST | 2856045   | 10          |
| PT 1X2-24AC-ST | 2856058   | 10          |
| PT 1X2-BE      | 2856113   | 10          |
| PT 1X2+F-BE    | 2856126   | 10          |

## 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<br>300 mA (45°C) | 2.5 kA<br>300 mA (45°C) | 2.5 kA<br>300 mA (45°C) |
| - / 10 kA<br>20 kA      | - / 10 kA<br>20 kA      | - / 10 kA<br>20 kA      |
| -<br>≤ 10 V             | -<br>≤ 18 V             | -<br>≤ 40 V             |
| - / Typ. 1 MHz<br>4.7 Ω | - / Typ. 3 MHz<br>4.7 Ω | - / Typ. 6 MHz<br>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

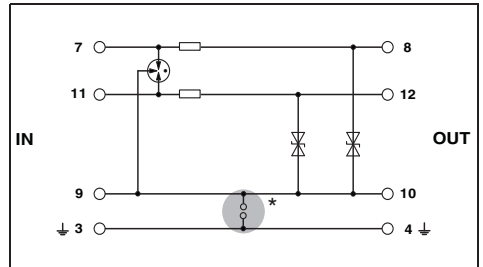
| Type           | Order No. | Pcs. / Pkt. |
|----------------|-----------|-------------|
| PT 2X1-5DC-ST  | 2856061   | 10          |
| PT 2X1-12DC-ST | 2856074   | 10          |
| PT 2X1-24DC-ST | 2856087   | 10          |
| PT 2X1-BE      | 2856139   | 10          |
| PT 2X1+F-BE    | 2856142   | 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<br>300 mA (45°C) | 2.5 kA<br>300 mA (45°C) |
| - / 10 kA<br>20 kA      | - / 10 kA<br>20 kA      |
| -<br>≤ 25 V             | -<br>≤ 55 V             |
| - / Typ. 4 MHz<br>4.7 Ω | - / Typ. 8 MHz<br>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