# Surge protection connector - PT 1X2-24DC-ST - 2856032

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The figure shows the PT 1x2-48DC-ST version

PT protective connector with protective circuit for a 2-wire floating signal circuit. HART-compatible.

## Why buy this product

- Plugs can be checked with CHECKMASTER
- Installed in conjunction with the PT 1x2…-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 a floating signal circuit
- Impedance-neutral disconnection of plug for test and maintenance purposes

## Key commercial data

| | |
|---|---|
| Packing unit | 1 |
| Minimum order quantity | 10 |
| Catalog page | Page 94 (TT-2011) |
| GTIN | 4 017918 599201 |
| Custom tariff number | 85363010 |
| Country of origin | GERMANY |

## 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 |
| Total surge current (8/20) µs | 20 kA |
| Ambient temperature (operation) | -40 °C ... 85 °C |

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## Technical data

### General

| | |
|---|---|
| Mounting type | On base element |
| Design | DIN rail module, two-section, divisible |
| Degree of protection | IP20 |
| 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 |
| Width | 17.7 mm |
| Height | 45 mm |
| Depth | 52 mm |
| Pitch unit | 1 Div. |

### Protective circuit

| | |
|---|---|
| IEC category | C1 |
| IEC category | C2 |
| IEC category | C3 |
| IEC category | D1 |
| VDE requirement class | C1 |
| VDE requirement class | C2 |
| VDE requirement class | C3 |
| VDE requirement class | D1 |
| Nominal voltage UN | 24 V DC |
| Maximum continuous operating voltage UC | 28 V DC |
| Maximum continuous operating voltage UC | 20 V AC |
| Maximum continuous voltage UC (wire-wire) | 28 V DC |
| Maximum continuous voltage UC (wire-ground) | 20 V AC |
| Nominal current IN | 450 mA (45°C) |
| Operating effective current IC at UC | ≤ 5 µA |
| Ground conductor current IPE | ≤ 2 µA (Directly grounded) |
| Ground conductor current IPE | ≤ 1 µA (BE: 1x2+F) |
| Nominal discharge surge current In (8/20) µs (Core-Core) | 10 kA |
| Nominal discharge surge current In (8/20) µs (Core-Earth) | 10 kA |
| Total surge current (8/20) µs | 20 kA |
| Max. discharge surge current Imax (8/20) µs maximum (Core-Core) | 10 kA |
| Max. discharge surge current Imax (8/20) µs maximum (Core-Earth) | 10 kA |
| Nominal pulse current Ian (10/1000) µs (Core-Core) | 30 A |
| Lightning test current (10/350) µs, peak value limp | 2.5 kA |
| Output voltage limitation at 1 kV/µs (Core-Core) spike | ≤ 40 V |
| Output voltage limitation at 1 kV/µs (Core-Earth) spike | ≤ 450 V |
| Output voltage limitation at 1 kV/µs (Core-Earth) spike | ≤ 1 kV (BE: 1x2+F) |
| Output voltage limitation at 1 kV/µs (Core-Core) static | ≤ 40 V |
| Residual voltage at In, (conductor-conductor) | ≤ 40 V |

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## Technical data

### Protective circuit

| | |
|---|---|
| Residual voltage with Ian (10/1000)µs (conductor-conductor) | ≤ 50 V |
| Protection level UP (Core-Core) | ≤ 70 V |
| Protection level UP (Core-Core) | ≤ 50 V (C3 - 25 A) |
| Protection level UP (Core-Earth) | ≤ 450 V |
| Response time tA (Core-Core) | ≤ 1 ns |
| Response time tA (Core-Earth) | ≤ 100 ns |
| Input attenuation aE, sym. | 0.5 dB (≤ 1 MHz) |
| Input attenuation aE, sym. | 0.5 dB (≤ 1 MHz / 50 Ω) |
| Cut-off frequency fg (3 dB), sym. in 50 Ohm system | Typ. 6 MHz |
| Capacity (Core-Core) | 1.4 nF |
| Resistance in series | 2.2 Ω (1-2/5-6/7-8/11-12) |
| Max. required back-up fuse | 500 mA (e.g. T ( IEC 127-2/III)) |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Core) | C2 (10 kV/5 kA) |
| Surge carrying capacity in acc. with IEC 61643-21 (Core-Core) | C3 (25 A) |
| 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, protective circuit

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

## Classifications

### eclass

| | |
|---|---|
| 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 |

### etim

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

### unspsc

| | |
|---|---|
| UNSPSC 6.01 | 30212010 |
| UNSPSC 7.0901 | 39121610 |
| UNSPSC 11 | 39121610 |
| UNSPSC 12.01 | 39121610 |
| UNSPSC 13.2 | 39121620 |

# Surge protection connector - PT 1X2-24DC-ST - 2856032

## Approvals

### Approvals

Approvals

UL Listed / GOST / GL

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Recognized

Approvals submitted

### Approval details

UL Listed

| | |
|---|---|
| Nominal current IN | 0.45 A |
| Nominal voltage UN | 24 V |

GOST

GL

## Accessories

### Accessories

### Marking

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

# Surge protection connector - PT 1X2-24DC-ST - 2856032

## Accessories

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

Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.1 x 5.2 mm

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

Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

# Surge protection connector - PT 1X2-24DC-ST - 2856032

## Accessories

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

### Necessary add-on products

Surge protection base element - PT 1X2-BE - 2856113

Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Mounting on NS 35/7.5 und NS 35/15, housing width: 17.5 mm.

Surge protection base element - PT 1X2+F-BE - 2856126

Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Integrated gas arrester as coarse protection between GND and PE. Mounting on NS 35/7.5 und NS 35/15, housing width: 17.5 mm.

### Additional products

Shield connection - SSA 3-6 - 2839295

shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black

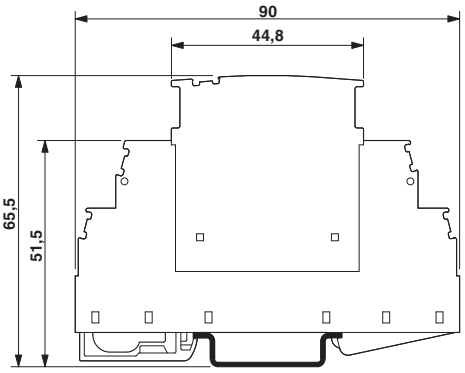
Shield connection - SSA 5-10 - 2839512

Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

## Drawings

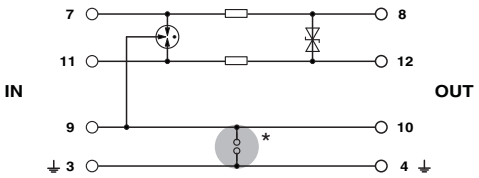
# Surge protection connector - PT 1X2-24DC-ST - 2856032

Dimensioned drawing




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

Circuit diagram



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