# Surge protection device - PT-IQ-1X2-48DC-PT - 2801257

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The figure shows the PT-IQ-1x2-24DC-PT version

Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for one 2-wire floating signal circuit.


## Key commercial data

| | |
|---|---|
| **package_quantity** | 1 |
| **GTIN** | 4046356766401 |

## Technical data

### Dimensions

| | |
|---|---|
| **Height** | 109.3 mm |
| **Width** | 17.7 mm |
| **Depth** | 77.5 mm |
| **Pitch unit** | 1 Div. |

### Ambient conditions

| | |
|---|---|
| **Ambient temperature (operation)** | -40 °C ... 70 °C |
| **Ambient temperature (storage/transport)** | -40 °C ... 85 °C |
| **Degree of protection** | IP20 |

### General

| | |
|---|---|
| **Housing material** | PA 6.6 |
| **Inflammability class according to UL 94** | V0 |
| **Color** | black |
| **Mounting type** | DIN rail mounting |
| **Design** | DIN rail module, two-section, divisible |
| **Direction of action** | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/ Shield-Earth Ground |

### Protective circuit

| | |
|---|---|
| **IEC test classification** | C1 |
| **IEC test classification** | C2 |
| **IEC test classification** | C3 |

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## Technical data

### Protective circuit

| | |
|---|---|
| **IEC test classification** | D1 |
| **Nominal voltage $U_N$** | 48 V DC |
| **Maximum continuous operating voltage $U_C$** | 53 V DC |
| **Maximum continuous operating voltage $U_C$** | 37 V AC |
| **Nominal current $I_N$** | 300 mA (up to 70°C) |
| **Operating effective current $I_C$ at $U_C$** | ≤ 5 µA (per system) |
| **Residual current $I_{PE}$** | ≤ 2 µA (per system) |
| **Nominal discharge current $I_n$ (8/20) µs (Core-Core)** | 10 kA |
| **Nominal discharge current $I_n$ (8/20) µs (Core-Earth)** | 10 kA |
| **Impulse discharge current (10/350) µs, peak value $I_{imp}$** | 2.5 kA |
| **Voltage protection level $U_P$ (Core-Core)** | ≤ 100 V (C1 - 1 kV/500 A) |
| **Voltage protection level $U_P$ (Core-Core)** | ≤ 150 V (C2 - 10 kV / 5 kA) |
| **Voltage protection level $U_P$ (Core-Core)** | ≤ 90 V (C3 - 25 A) |
| **Voltage protection level $U_P$ (Core-Earth)** | ≤ 600 V (C1 - 1 kV/500 A) |
| **Voltage protection level $U_P$ (Core-Earth)** | ≤ 750 V (C2 - 10 kV / 5 kA) |
| **Voltage protection level $U_P$ (Core-Earth)** | ≤ 700 V (C3 - 25 A) |
| **Voltage protection level $U_P$ static (core-ground)** | ≤ 60 V (C2 - 10 kV / 5 kA) |
| **Voltage protection level $U_P$ static (core-ground)** | ≤ 40 V (C3 - 25 A) |
| **Response time tA (Core-Core)** | ≤ 1 ns |
| **Response time tA (Core-Earth)** | ≤ 100 ns |
| **Input attenuation aE, sym.** | typ. 0.3 dB (≤ 450 kHz/150 Ω) |
| **Cut-off frequency fg (3 dB), sym. in 150 Ohm system** | typ. 1.9 MHz |
| **Capacity (Core-Core)** | typ. 1.5 nF |
| **Resistance in series** | 1.2 Ω ± 5% (per path) |
| **Message: Surge protection fault** | Optical, multi-stage |
| **Max. required back-up fuse** | 315 mA (FF) |
| **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 kA |
| **Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)** | D1 (2.5 kA) |
| **Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)** | C3 - 25 A |
| **Pulse reset time tr in acc. with IEC 61643-21 (Core-Core)** | ≤ 300 ms |
| **Pulse reset time tr in acc. with IEC 61643-21 (Core-Earth)** | ≤ 4000 ms |
| **Overload failure mode as per IEC 61643-21 (plug)** | 2 |

### Connection data

| | |
|---|---|
| **Connection method** | Push-in connection |
| **Connection type IN** | Push-in connection |
| **Connection type OUT** | Push-in connection |
| **Stripping length** | 10 mm |
| **Conductor cross section stranded min.** | 0.2 mm² |
| **Conductor cross section stranded max.** | 2.5 mm² |

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## Technical data

### Connection data

| | |
|---|---|
| **Conductor cross section solid min.** | 0.2 mm² |
| **Conductor cross section solid max.** | 4 mm² |
| **Conductor cross section AWG/kcmil min.** | 24 |
| **Conductor cross section AWG/kcmil max** | 12 |

### Connection, equipotential bonding

| | |
|---|---|
| **Connection method** | NS 35 DIN rail or connection terminal block |

## 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 3.0** | EC000943 |
| **ETIM 4.0** | EC000943 |
| **ETIM 5.0** | EC000943 |

### UNSPSC

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

## accessories

**Marker pen**

X-PEN 0,35 - 0811228

**Terminal marking**

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## accessories

ZBF 5:UNBEDRUCKT - 0808642

ZBF 5/WH-100:UNBEDRUCKT - 0808668

**Labeled terminal marker**

ZBF 5,LGS:FORTL.ZAHLEN - 0808671

ZBF 5,LGS:GERADE ZAHLEN - 0810821

ZBF 5,LGS:UNGERADE ZAHLEN - 0810863

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## accessories

ZBF 5,QR:FORTL.ZAHLEN - 0808697

### Device marking

ZBN 18:UNBEDRUCKT - 2809128

### Mounting material

E/ME TBUS NS35 GY - 2713780

### PCB plug

FK-MC 0,5/ 5-ST-2,5 - 1881354

## accessories

ZBF 15:SO/CMS - 0814717

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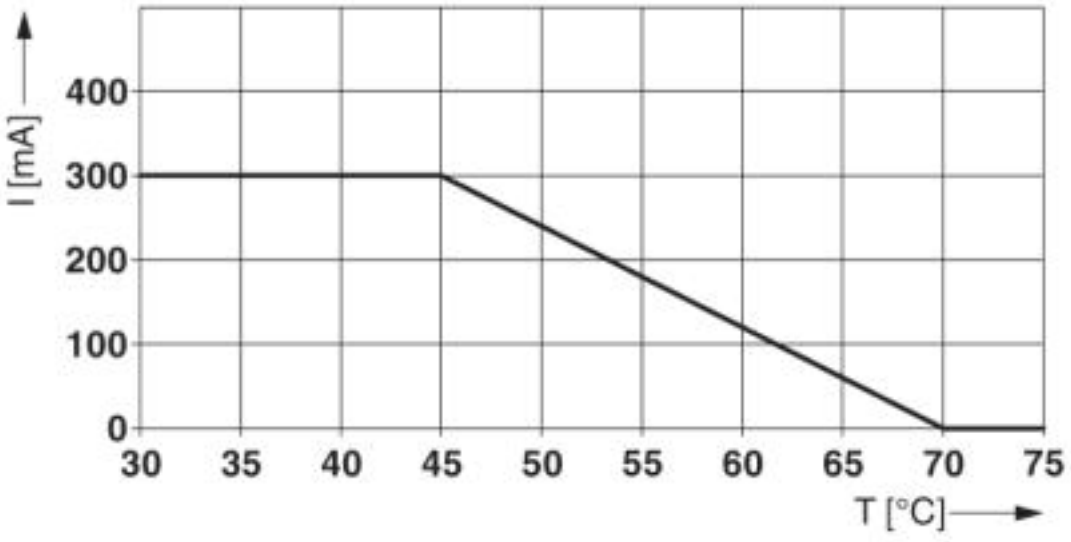
## accessories

ZBF 5:SO/CMS - 0808707

ZBN 18:SO/CMS - 0800763

## Drawings

Diagram



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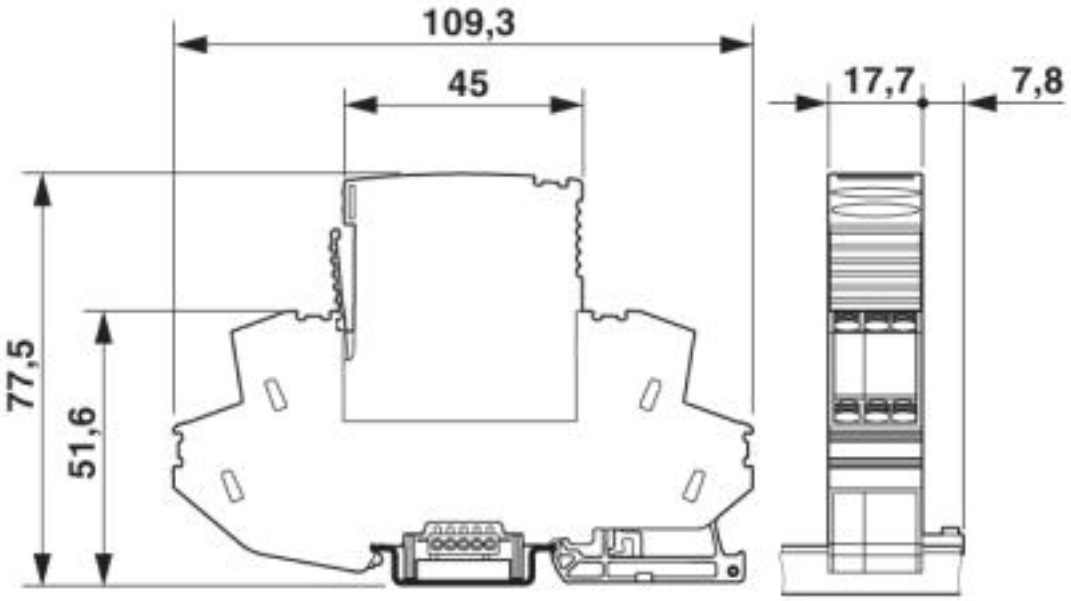
Dimensioned drawing




Circuit diagram