

## Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for four signal wires with common reference potential.

The figure shows the PT-IQ-2x2-24DC-UT version



### Key Commercial Data

|                      |          |
|----------------------|----------|
| Packing unit         | 1 STK    |
| Custom tariff number | 85363010 |
| Country of origin    | Germany  |

### Technical data

#### Dimensions

|                  |         |
|------------------|---------|
| Height           | 91 mm   |
| Width            | 17.7 mm |
| Depth            | 77.5 mm |
| Horizontal pitch | 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             |
| Flammability rating according to UL 94 | V-0                |
| Color                                  | jet black RAL 9005 |

# Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

## Technical data

### General

|                     |  |
|---------------------|--|
| Mounting type       | DIN rail: 35 mm  |
| Type                | DIN rail module, two-section, divisible  |
| Direction of action | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground |

### Additional descriptions

|      |  |
|------|--|
| Note | Remote signaling as well as the power supply of the T-BUS are established by snapping the module onto the T-BUS. |
|------|--|

### Protective circuit

|  |   |
|--|---|
| IEC test classification  | C1  |
|  | C2  |
|  | C3  |
|  | D1  |
| Nominal voltage $U_N$  | 12 V DC                                     |
| Maximum continuous voltage $U_C$                                 | 15 V DC                                     |
|  | 10 V AC                                     |
| Rated current  | 700 mA (50 °C)                              |
| Operating effective current $I_C$ at $U_C$                       | $\leq 1$ mA (per path)                      |
| Residual current $I_{PE}$  | $\leq 1$ mA (per path)                      |
| Nominal discharge current $I_n$ (8/20) $\mu$ s (Core-Earth)      | 10 kA                                       |
| Pulse discharge current $I_{imp}$ (10/350) $\mu$ s (core-ground) | 2.5 kA                                      |
| Total discharge current $I_{Total}$ (8/20) $\mu$ s               | 20 kA                                       |
| Voltage protection level $U_p$ (core-ground)                     | $\leq 90$ V (C1 - 1 kV/500 A)               |
|  | $\leq 135$ V (C2 - 10 kV / 5 kA)            |
|  | $\leq 35$ V (C3 - 25 A)                     |
|  | $\leq 35$ V (C3 - 50 A)                     |
| Voltage protection level $U_p$ static (core-ground)              | $\leq 45$ V (C1 - 1 kV/500 A)               |
|  | $\leq 100$ V (C2 - 10 kV / 5 kA)            |
| Response time $t_A$ (Core-Earth)                                 | $\leq 1$ ns                                 |
| Input attenuation aE, asym.                                      | typ. 0.3 dB ( $\leq 130$ kHz/150 $\Omega$ ) |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 Ohm system     | typ. 600 kHz                                |
| Capacity (Core-GND)  | typ. 4 nF                                   |
| Resistance in series   | 1.2 $\Omega$ $\pm 5$ %                      |
| Max. required back-up fuse                                       | 800 mA (FF)                                 |
| Impulse durability (conductor-ground)                            | C1 - 1 kV/500 A                             |
|  | C2 - 10 kV/5 kA                             |
|  | C2 - 10 kA                                  |
|  | C3 - 50 A                                   |

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## Technical data

### Protective circuit

|                                     |             |
|-------------------------------------|-------------|
|                                     | D1 - 2,5 kA |
| Pulse reset time (conductor-ground) | ≤ 15 ms     |

### Connection data

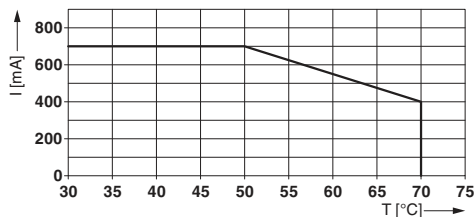
|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                            |
| Connection type IN               | Screw terminal blocks                       |
| Connection type OUT              | Screw terminal blocks                       |
| Screw thread                     | M3  |
| Tightening torque                | 0.5 Nm                                      |
| Stripping length                 | 8 mm  |
| Conductor cross section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section solid    | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>   |
| Conductor cross section AWG      | 24 ... 12                                   |

### Standards and Regulations

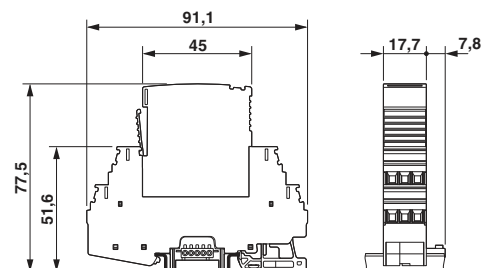
|                          |                                       |
|--------------------------|---------------------------------------|
| Standards/specifications | IEC 61643-21 2000 + A1:2008, modified |
|                          | EN 61643-21 2001 + A1:2009            |
|                          | EN 61000-6-3 2007 + A1:2011           |
|                          | EN 61000-6-2 2005                     |

## Drawings

Diagram

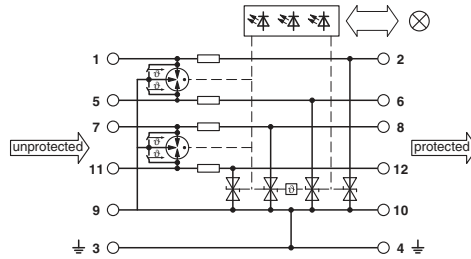


Dimensional drawing



# Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

Circuit diagram



## 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 |
| eCl@ss 9.0 | 27130807 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000943 |
| ETIM 4.0 | EC000899 |
| ETIM 5.0 | EC000943 |

### UNSPSC

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

## Approvals

### Approvals

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

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## Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

### Approvals

Ex Approvals

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### Approval details

UL Listed  <http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm> FILE E 138168

### Accessories

#### Accessories

#### Device marking

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

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#### Labeled terminal marker

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

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

## Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

### Accessories

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

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

### Marker pen

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

### Mounting material

Electronic housing - E/ME TBUS NS35 GY - 2713780



End clamp, stable construction for DIN rail bus connector

### PCB plug

## Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

### Accessories

Printed-circuit board connector - FK-MC 0,5/ 5-ST-2,5 - 1881354



Plug component, Nominal current: 4 A, Rated voltage (III/2): 160 V, Number of positions: 5, Pitch: 2.5 mm, Connection method: Push-in spring connection, Color: green, Contact surface: Tin

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### Terminal marking

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

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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### Necessary add-on products

Supply and remote module - PT-IQ-PTB-UT - 2800768



Module for power supply and multi-stage, floating remote signaling of connected surge protection modules.

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### Additional products

## Surge protection device - PT-IQ-4X1-12DC-UT - 2801217

### Accessories

#### Shield connection - SSA 3-6 - 2839295



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

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#### Shield connection - SSA 5-10 - 2839512



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

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### Spare parts

#### Surge protection plug - PT-IQ-4X1-12DC-P - 2800812



Surge protection plug with integrated multi-stage status indicator on the module for four signal wires with common reference potential. Nominal voltage: 12 V DC

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#### DIN rail bus connectors - PT-IQ-17,5-TBUS-5-2.0 - 2906878



DIN rail connector for PT-IQ system for establishing remote signaling and the power supply when a surge protection module is snapped on.

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