

## Surge protection device - PT-IQ-3-PB+F-PT - 2801287

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for three signal wires with common reference potential. Indirect grounding via gas-filled surge arrester. For HF applications and telecommunications interfaces without supply voltage (up to 90 Mbps).

### Your advantages

- ✓ Surge protection system
- ✓ Multi-level state monitoring
- ✓ Collective message about supply and remote module
- ✓ System supplied via DIN rail bus
- ✓ Up to 28 protection modules per supply module
- ✓ For HF applications, thanks to high transmission speeds
- ✓ Maximum ease of maintenance thanks to the two-piece design
- ✓ Codable plug
- ✓ Impedance-neutral disconnection of plug for maintenance purposes
- ✓ Base element remains an integral part of the installation



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 046356 766685 |
| GTIN                                 | 4046356766685   |
| Weight per Piece (excluding packing) | 111.000 g   |
| Custom tariff number                 | 85363010  |
| Country of origin                    | Germany   |
| Note                                 | Made to Order (non-returnable)  |

### Technical data

#### Dimensions

|        |                                 |
|--------|---------------------------------|
| Height | 109.3 mm                        |
| Width  | 17.7 mm                         |
| Depth  | 77.5 mm (incl. DIN rail 7.5 mm) |

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## Technical data

### Dimensions

|                  |        |
|------------------|--------|
| Horizontal pitch | 1 Div. |
|------------------|--------|

### Ambient conditions

|   |  |
|---|--|
| Ambient temperature (operation)         | -40 °C ... 70 °C                       |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C                       |
| Altitude                                | ≤ 4000 m (amsl (above mean sea level)) |
| Degree of protection                    | IP20                                   |

### General

|  |  |
|--|--|
| Housing material                       | PA 6.6   |
| Flammability rating according to UL 94 | V-0  |
| Color                                  | jet black RAL 9005   |
| 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 |

### Protective circuit

|   |                             |
|---|-----------------------------|
| IEC test classification   | C1                          |
|   | C2                          |
|   | C3                          |
|   | D1                          |
| Nominal voltage $U_N$   | 5 V DC                      |
| Maximum continuous voltage $U_C$                                  | 6 V DC                      |
|   | 4 V AC                      |
| Rated current   | 600 mA (40 °C)              |
| Operating effective current $I_C$ at $U_C$                        | ≤ 800 μA (per path)         |
| Residual current $I_{PE}$   | ≤ 10 μA                     |
| Nominal discharge current $I_n$ (8/20) μs (line-line)             | 10 kA                       |
| Nominal discharge current $I_n$ (8/20) μs (line-earth)            | 10 kA                       |
| Pulse discharge current $I_{imp}$ (10/350) μs (line-earth)        | 2.5 kA                      |
| Pulse discharge current $I_{imp}$ (10/350) μs (line-signalground) | 2.5 kA                      |
| Total discharge current $I_{total}$ (8/20) μs                     | 20 kA                       |
| Voltage protection level $U_p$ (line-line)                        | ≤ 90 V (C1 - 1 kV/500 A)    |
|   | ≤ 140 V (C2 - 10 kV / 5 kA) |
|   | ≤ 30 V (C3 - 25 A)          |
|   | ≤ 30 V (C3 - 50 A)          |
| Voltage protection level $U_p$ (line-earth)                       | ≤ 730 V (C1 - 1 kV/500 A)   |
|   | ≤ 900 V (C2 - 10 kV / 5 kA) |
|   | ≤ 900 V (C3 - 25 A)         |
|   | ≤ 900 V (C3 - 50 A)         |
| Voltage protection level $U_p$ (line-signalground)                | ≤ 90 V (C1 - 1 kV/500 A)    |

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## Technical data

### Protective circuit

|   |  |
|---|--|
|   | ≤ 140 V (C2 - 10 kV / 5 kA)  |
|   | ≤ 30 V (C3 - 25 A)   |
|   | ≤ 30 V (C3 - 50 A)   |
| Voltage protection level $U_p$ static (line-line)             | ≤ 45 V (C1 - 1 kV/500 A)   |
| Voltage protection level $U_p$ static (line-signalground)     | ≤ 45 V (C1 - 1 kV/500 A)   |
| Response time $t_A$ (line-line)                               | ≤ 1 ns   |
| Response time $t_A$ (line-signalground)                       | ≤ 1 ns   |
| Response time $t_A$ (line-earth)                              | ≤ 100 ns   |
| Input attenuation aE, sym.                                    | typ. 0.3 dB (≤ 10 MHz/150 Ω)                                       |
| Input attenuation aE, asym.                                   | typ. 0.3 dB (≤ 10 MHz/150 Ω)                                       |
| Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system        | typ. 60 MHz  |
| Cut-off frequency $f_g$ (3 dB), asym. (GND) in 150 Ohm system | typ. 60 MHz  |
| Capacity (line-line)  | typ. 30 pF   |
| Capacity (line-signalground)                                  | typ. 30 pF   |
| Resistance per path   | 1.2 Ω ±5 %   |
| Surge protection fault message                                | Optical, multi-stage   |
| Max. required back-up fuse                                    | 600 mA (FF)  |
| Impulse durability (line-line)                                | C1 - 1 kV / 500 A<br>C2 - 10 kV / 5 kA<br>C3 - 50 A                |
| Impulse durability (line-earth)                               | C1 - 1 kV / 500 A<br>C2 - 10 kV / 5 kA<br>C3 - 50 A<br>D1 - 2.5 kA |
| Impulse durability (line-signalground)                        | C1 - 1 kV / 500 A<br>C2 - 10 kV / 5 kA<br>C3 - 50 A<br>D1 - 2,5 kA |
| Pulse reset time (line-line)                                  | ≤ 10 ms  |
| Pulse reset time (line-earth)                                 | ≤ 10 ms  |
| Pulse reset time (line-signalground)                          | ≤ 10 ms  |

### Connection data

|                                  |   |
|----------------------------------|---|
| Connection method                | Push-in connection                          |
| Stripping length                 | 10 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                                   |

### Connection, equipotential bonding

|                   |               |
|-------------------|---------------|
| Connection method | DIN rail NS35 |
|-------------------|---------------|

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## Technical data

### Standards and Regulations

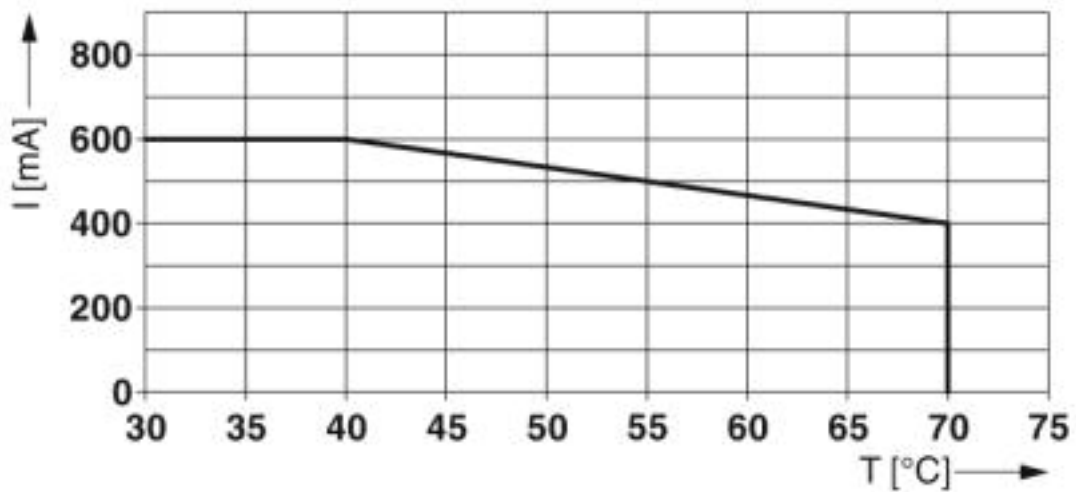
|                          |                                       |
|--------------------------|---------------------------------------|
| Standards/specifications | IEC 61643-21 2000 + A1:2008 + A2:2012 |
|                          | EN 61643-21 2001 + A1:2009            |
|                          | EN 61000-6-2 2007 + A1:2011           |
|                          | EN 61000-6-3 2005                     |

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

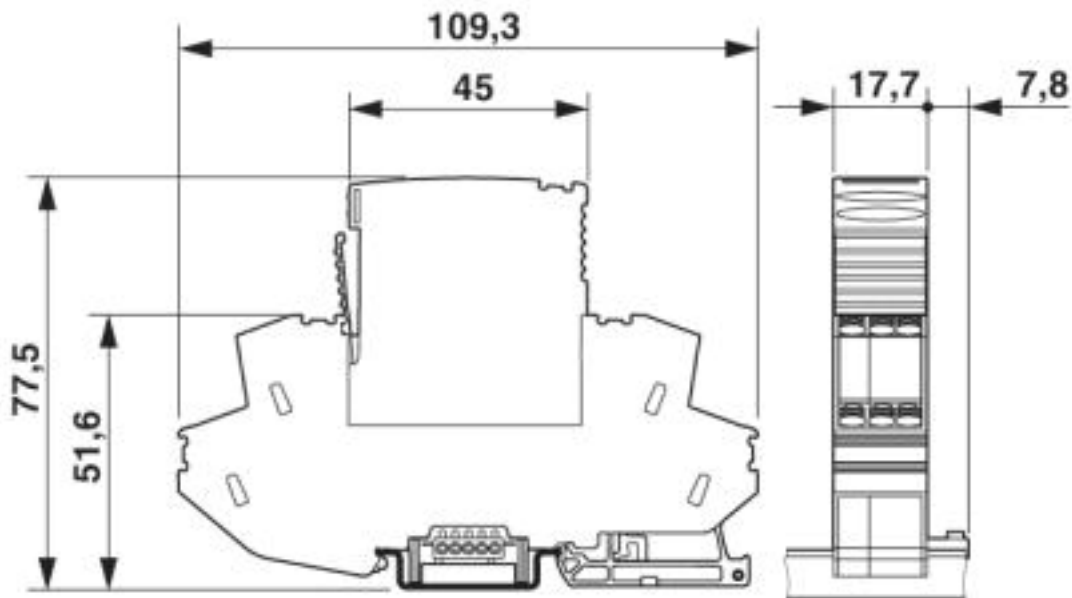
## Drawings

Diagram

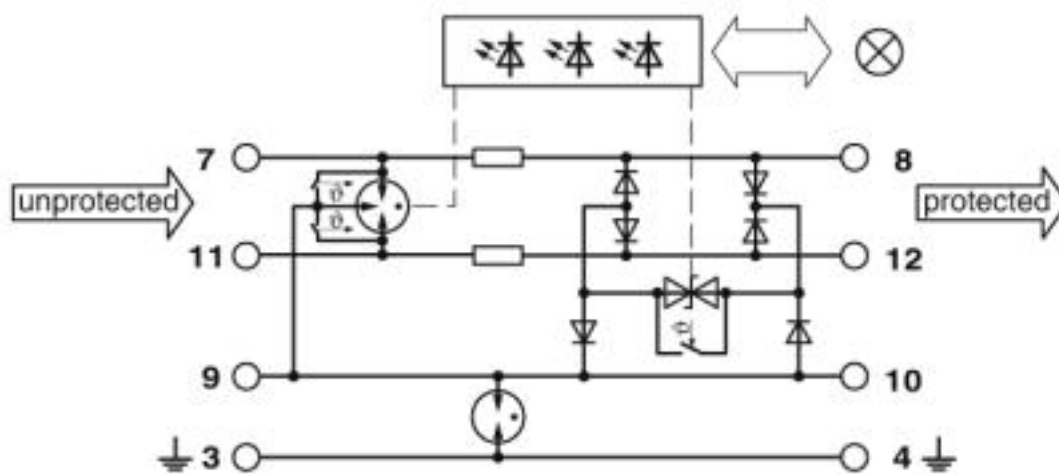


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Dimensional drawing



Circuit diagram



## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27130800 |
| eCl@ss 4.1 | 27130800 |
| eCl@ss 5.0 | 27130800 |
| eCl@ss 5.1 | 27130800 |
| eCl@ss 6.0 | 27130800 |
| eCl@ss 7.0 | 27130807 |
| eCl@ss 8.0 | 27130807 |
| eCl@ss 9.0 | 27130807 |

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## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000943 |
| ETIM 4.0 | EC000943 |
| ETIM 5.0 | EC000943 |
| ETIM 6.0 | EC000943 |
| ETIM 7.0 | EC000943 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30212010 |
| UNSPSC 7.0901 | 39121610 |
| UNSPSC 11     | 39121610 |
| UNSPSC 12.01  | 39121610 |
| UNSPSC 13.2   | 39121620 |
| UNSPSC 18.0   | 39121620 |
| UNSPSC 19.0   | 39121620 |
| UNSPSC 20.0   | 39121620 |
| UNSPSC 21.0   | 39121620 |

## Approvals

### Approvals

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Approvals

UL Listed

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Ex Approvals

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### Approval details

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

## Accessories

Accessories

Device marking

## Surge protection device - PT-IQ-3-PB+F-PT - 2801287

### Accessories

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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### Marker pen

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### Accessories

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

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### Mounting material

End clamp - E/ME TBUS NS35 GY - 2713780



End clamp, stable construction for DIN rail bus connector

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### PCB plug

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



PCB connector, nominal current: 4 A, rated voltage (III/2): 160 V, Nominal cross section: 0.5 mm<sup>2</sup>, 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: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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### Necessary add-on products



## Surge protection device - PT-IQ-3-PB+F-PT - 2801287

### Accessories

Supply and remote module - PT-IQ-PTB-PT - 2801296



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

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### Additional products

Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

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Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

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### Spare parts

Surge protection plug - PT-IQ-3-PB-P - 2800783



Surge protection plug with integrated multi-stage status indicator on the module for three signal wires. For HF applications. Nominal voltage: 5 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.