

## Surge protection device - PT-IQ-3-PB-PT - 2801286

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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. For HF applications and telecommunications interfaces without supply voltage (up to 90 Mbps).

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

### Product Features

- 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
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	109.3 mm
Width	17.7 mm
Depth	77.5 mm
Horizontal pitch	1 Div.

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### Technical data

#### 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
Standards for clearances and creepage distances	IEC 60664-1
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
Transmission speed	90 MBit/s

#### 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
Nominal current $I_N$	600 mA (40°C)
Operating effective current $I_C$ at $U_C$	$\leq 800 \mu\text{A}$ (per system)
Residual current $I_{PE}$	$\leq 800 \mu\text{A}$ (per system)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Core)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	10 kA
Total surge current (8/20) $\mu\text{s}$	20 kA
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	2.5 kA
Voltage protection level $U_p$ (core-core)	$\leq 90 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 30 \text{ V}$ (C3 - 25 A)
	$\leq 30 \text{ V}$ (C3 - 50 A)
	$\leq 140 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ (core-ground)	$\leq 90 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 140 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 30 \text{ V}$ (C3 - 25 A)
	$\leq 30 \text{ V}$ (C3 - 50 A)

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### Technical data

#### Protective circuit

Voltage protection level $U_p$ static (core-core)	$\leq 45$ V (C1 - 1 kV/500 A)
Voltage protection level $U_p$ static (core-ground)	$\leq 45$ V (C1 - 1 kV/500 A)
Response time $t_A$ (Core-Core)	$\leq 1$ ns
Response time $t_A$ (Core-Earth)	$\leq 1$ ns
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 10$ MHz/150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	$> 60$ MHz
Capacity (Core-Core)	typ. 30 pF
Capacity (Core-GND)	typ. 30 pF
Resistance in series	1.2 $\Omega \pm 5$ %
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	0.6 A (FF)
Impulse durability (conductor-conductor)	C1 (1 kV/500 A)
	C2 (10 kV/5 kA)
	C2 (10 kA)
	C3 (25 A)
	C3 (50 A)
Impulse durability (conductor-ground)	C1 (1 kV / 500 A)
	C2 (10 kV / 5 kA)
	C2 (10 kA)
	C3 (25 A)
	C3 (50 A)
Impulse durability (conductor-GND)	D1 - 2,5 kA
	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C2 - 10 kA
	C3 - 25 A
Pulse reset time (conductor-conductor)	$\leq 10$ ms
	$\leq 10$ ms
Pulse reset time (conductor-GND)	$\leq 10$ ms
Overload failure mode (connector)	Mode 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 flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>

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### Technical data

#### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12

#### Connection, equipotential bonding

Connection method	NS 35 DIN rail or connection terminal block
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### 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

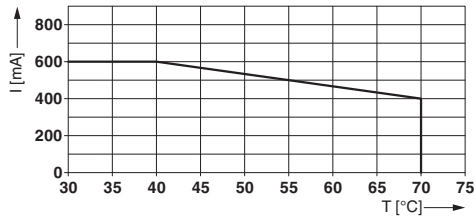
#### UNSPSC

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

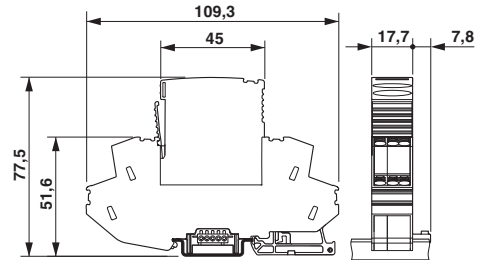
### Drawings

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Diagram



Dimensional drawing



Circuit diagram

