

## Surge protection device - PT-IQ-3-HF+F-12DC-UT - 2800995

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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-UT version



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	140.0 GRM
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	91.1 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
Inflammability class according to UL 94	V-0
Color	jet black RAL 9005
Standards for clearances and creepage distances	IEC 60664-1
Mounting type	DIN rail: 35 mm

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## Technical data

### General

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 $U_N$	12 V DC
Maximum continuous voltage $U_C$	15 V DC
	10 V AC
Nominal current $I_N$	600 mA (40°C)
Operating effective current $I_C$ at $U_C$	$\leq 100 \mu\text{A}$ (per path)
Residual current $I_{PE}$	$\leq 10 \mu\text{A}$ (per path)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Core)	5 kA
	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	5 kA
	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (core-core)	2.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (core-ground)	2.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (core-GND)	2.5 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)	$\leq 100 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 145 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 40 \text{ V}$ (C3 - 25 A)
	$\leq 40 \text{ V}$ (C3 - 50 A)
Voltage protection level $U_p$ (core-ground)	$\leq 730 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 900 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 900 \text{ V}$ (C3 - 25 A)
	$\leq 900 \text{ V}$ (C3 - 50 A)
Voltage protection level $U_p$ (core-GND)	$\leq 100 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 145 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 40 \text{ V}$ (C3 - 25 A)
	$\leq 40 \text{ V}$ (C3 - 50 A)
Voltage protection level $U_p$ static (core-core)	$\leq 50 \text{ V}$ (C1 - 1 kV/500 A)

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### Technical data

#### Protective circuit

Voltage protection level $U_p$ static (core-GND)	$\leq 50$ V (C1 - 1 kV/500 A)
Response time $t_A$ (Core-Core)	$\leq 1$ ns
Response time $t_A$ (Core-Earth)	$\leq 1$ ns
	$\leq 100$ ns
Input attenuation $a_E$ , sym.	typ. 0.3 dB ( $\leq 10$ MHz/150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 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	600 mA (FF)
Impulse durability (conductor-conductor)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C2 - 5 kA
	C3 - 50 A
	D1 - 2.5 kA
Impulse durability (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C2 - 5 kA
	C3 - 50 A
	D1 - 2,5 kA
Impulse durability (conductor-GND)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C2 - 5 kA
	C3 - 50 A
	D1 - 2.5 kA
Pulse reset time (conductor-conductor)	$\leq 15$ ms
Pulse reset time (conductor-ground)	$\leq 15$ ms
Pulse reset time (conductor-GND)	$\leq 15$ 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 min.	0.2 mm <sup>2</sup>

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### Technical data

#### Connection data

Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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

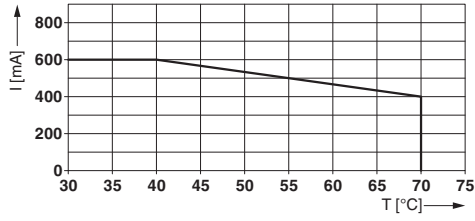
#### UNSPSC

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

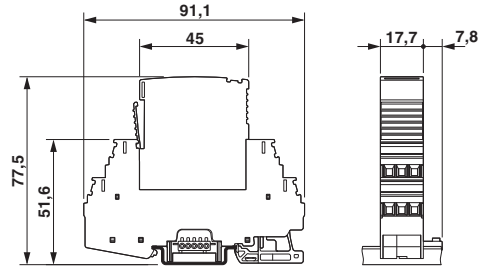
### Drawings

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Diagram



Dimensional drawing



Circuit diagram

