

## Surge protection device - PT-IQ-5-HF-5DC-PT - 2801291

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for five signal wires. For HF applications and telecommunications interfaces without supply voltage (up to 90 Mbps).

The figure shows the PT-IQ-5-HF +F-5DC-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 air 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 operating voltage $U_C$	6 V DC
	4 V AC
Nominal current $I_N$	600 mA (up to 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-Earth)	$\leq 90 \text{ V}$ (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 $a_E$ , 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)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C1 (1 kV/500 A)
	C2 (10 kV/5 kA)
	C2 (10 kA)
	C3 (25 A)
	C3 (50 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C1 (1 kV / 500 A)
	C2 (10 kV / 5 kA)
	C2 (10 kA)
	C3 (25 A)
	C3 (50 A)
	D1 - 2,5 kA
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C1 (1 kV/500 A)
	C2 (10 kV/5 kA)
	C2 (10 kA)
	C3 (25 A)
	C3 (50 A)
Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-Core)	$\leq 10$ ms
Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-GND)	$\leq 10$ ms
Overload failure mode as per IEC 61643-21 (plug)	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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded 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/kcmil min.	24
Conductor cross section AWG/kcmil 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

## Approvals

### Approvals

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Approvals

UL Listed

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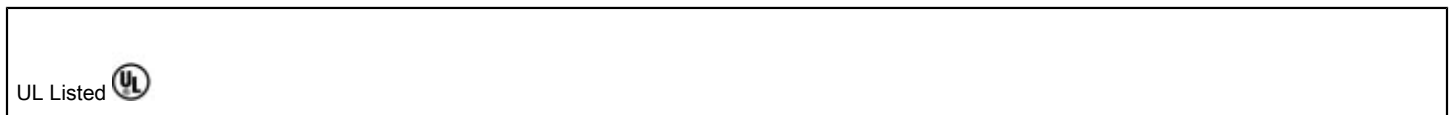
## Approvals

Ex Approvals

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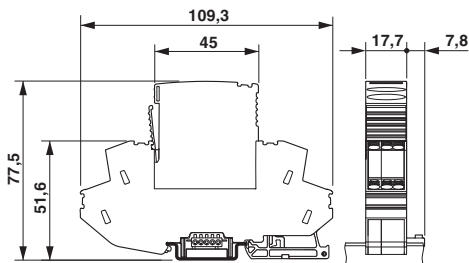
Approvals submitted

## Approval details



## Drawings

Dimensioned drawing



Circuit diagram

