

## Surge protection device - PT-IQ-5-HF-5DC-UT - 2800797

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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).

### 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           | 91 mm   |
| Width            | 17.7 mm |
| Depth            | 77.5 mm |
| Horizontal pitch | 1 Div.  |

#### Ambient conditions

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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 $U_C$                        | $\leq 800 \mu A$ (per system)    |
| Residual current $I_{PE}$                                         | $\leq 800 \mu A$ (per system)    |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Core)        | 10 kA                            |
| Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Earth)       | 10 kA                            |
| Total surge current (8/20) $\mu s$                                | 20 kA                            |
| Impulse discharge current (10/350) $\mu s$ , peak value $I_{imp}$ | 2.5 kA                           |
| Voltage protection level $U_P$ (Core-Core)                        | $\leq 90 V$ (C1 - 1 kV/500 A)    |
|                                                                   | $\leq 30 V$ (C3 - 25 A)          |
|                                                                   | $\leq 140 V$ (C2 - 10 kV / 5 kA) |
| Voltage protection level $U_P$ (Core-Earth)                       | $\leq 90 V$ (C1 - 1 kV/500 A)    |
|                                                                   | $\leq 140 V$ (C2 - 10 kV / 5 kA) |
|                                                                   | $\leq 30 V$ (C3 - 25 A)          |
| 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)    |

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## Technical data

### Protective circuit

|                                                                |                                                    |
|----------------------------------------------------------------|----------------------------------------------------|
| Response time $t_A$ (Core-Core)                                | $\leq 1 \text{ ns}$                                |
| Response time $t_A$ (Core-Earth)                               | $\leq 1 \text{ ns}$                                |
| Input attenuation $a_E$ , sym.                                 | typ. 0.3 dB ( $\leq 15 \text{ MHz} / 150 \Omega$ ) |
| Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system         | $> 60 \text{ MHz}$                                 |
| 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)   | $\leq 10 \text{ ms}$                               |
| Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-Earth)  | $\leq 10 \text{ ms}$                               |
| Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-GND)    | $\leq 10 \text{ ms}$                               |
| Overload failure mode as per IEC 61643-21 (plug)               | Mode 2                                             |

### Connection data

|                                    |                       |
|------------------------------------|-----------------------|
| Connection method                  | Screw connection      |
| Connection type IN                 | Screw terminal blocks |
| Connection type OUT                | Screw terminal blocks |
| Tightening torque                  | 0.5 Nm                |
| Stripping length                   | 8 mm                  |
| Conductor cross section solid min. | 0.2 mm <sup>2</sup>   |
| Conductor cross section solid max. | 4 mm <sup>2</sup>     |

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### Technical data

#### Connection data

|                                        |    |
|----------------------------------------|----|
| 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 |
|-------------------|---------------------------------------------|

### 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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Ex Approvals

## Surge protection device - PT-IQ-5-HF-5DC-UT - 2800797

### Approvals

Approvals submitted

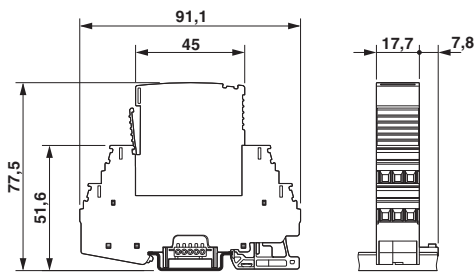
### Approval details

UL Listed

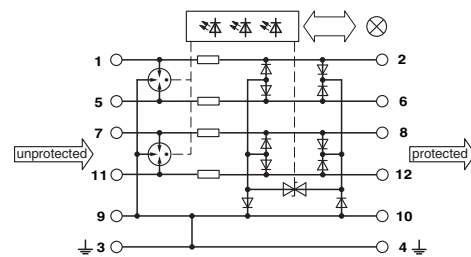


### Drawings

Dimensioned drawing



Circuit diagram



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