

## Surge protection device - PT-IQ-2X1-12DC-UT - 2800780

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for two signal wires with common reference potential.

The figure shows the PT-IQ-1x2-24DC-UT 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
- ✓ 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      |
| Weight per Piece (excluding packing) | 135.2 GRM |
| Custom tariff number                 | 85363010  |
| Country of origin                    | Germany   |

### Technical data

#### Dimensions

|        |         |
|--------|---------|
| Height | 91.1 mm |
| Width  | 17.7 mm |

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## Technical data

### Dimensions

|                  |         |
|------------------|---------|
| 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 | V0   |
| Color                                   | black  |
| Mounting type                           | DIN rail mounting  |
| 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                             |
| Maximum continuous operating voltage $U_C$                       | 15 V DC                          |
|  | 10 V AC                          |
| Nominal current $I_N$  | 1000 mA ( $U_p$ to 45°C)         |
| Operating effective current $I_C$ at $U_C$                       | $\leq 1$ mA (per path)           |
| Residual current $I_{PE}$  | $\leq 1$ mA (per path)           |
| 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-Earth)                      | $\leq 90$ V (C1 - 1 kV/500 A)    |
|  | $\leq 135$ V (C2 - 10 kV / 5 kA) |
|  | $\leq 35$ V (C3 - 25 A)          |
|  | $\leq 35$ V (C3 - 50 A)          |
| Response time $t_A$ (Core-Earth)                                 | $\leq 1$ ns                      |
|  | $\leq 1$ ns                      |
| Input attenuation $aE$ , asym.                                   | typ. 0.3 dB ( $\leq 130$ kHz)    |
| Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 Ohm system     | typ. 600 kHz                     |

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### Technical data

#### Protective circuit

|  |                        |
|--|------------------------|
| Capacity (Core-Earth)  | 4 nF                   |
| Resistance in series   | 1.2 $\Omega$ $\pm$ 5 % |
| Surge protection fault message                                 | Optical, multi-stage   |
| Max. required back-up fuse                                     | 1 A (FF)               |
| 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            |
| Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-Earth)  | $\leq$ 15 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>     |
| 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 |

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## Classifications

### 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

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Approvals submitted

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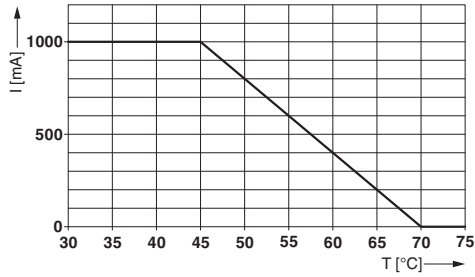
### Approval details

|   |
|---|
| UL Listed  |
|---|

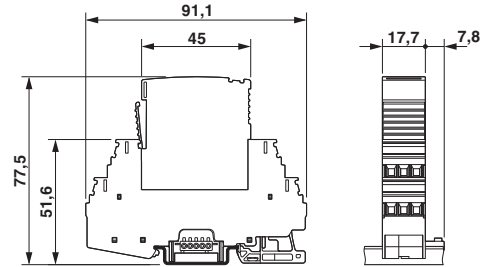
## Drawings

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Diagram



Dimensioned drawing



Circuit diagram

