# Surge protection device - PT-IQ-1X2+F-48DC-PT - 2801258

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for one 2-wire floating signal circuit. Indirect grounding via gas-filled surge arrester.


## Key Commercial Data

| | |
|---|---|
| Packing unit | 1 pc |
| GTIN | 4 046356 766418 |
| GTIN | 4046356766418 |

## Technical data

### Dimensions

| | |
|---|---|
| Height | 109.3 mm |
| Width | 17.7 mm |
| Depth | 77.5 mm (incl. DIN rail 7.5 mm) |
| Horizontal pitch | 1 Div. |

### Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 4000 m (amsl (above mean sea level)) |
| Degree of protection | IP20 |

### General

| | |
|---|---|
| Housing material | PA 6.6 |
| Flammability rating according to UL 94 | V-0 |
| Color | jet black RAL 9005 |
| Mounting type | DIN rail: 35 mm |
| Type | DIN rail module, two-section, divisible |

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## Technical data

### General

| | |
|---|---|
| Direction of action | Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground |

### Additional descriptions

| | |
|---|---|
| Note | Remote signaling as well as the power supply of the DIN rail connector are established by snapping the module into place on the DIN rail connector. |

### Protective circuit

| | |
|---|---|
| IEC test classification | C1 |
| | C2 |
| | C3 |
| | D1 |
| Nominal voltage $U_N$ | 48 V DC |
| Maximum continuous voltage $U_C$ | 53 V DC |
| | 37 V AC |
| Rated current | 300 mA |
| Operating effective current $I_C$ at $U_C$ | ≤ 5 µA (in the signal circuit) |
| Residual current $I_{PE}$ | ≤ 1 µA |
| Nominal discharge current $I_n$ (8/20) µs (line-line) | 10 kA |
| Nominal discharge current $I_n$ (8/20) µs (line-earth) | 10 kA |
| Nominal discharge current $I_n$ (8/20) µs (core-signal ground) | 10 kA |
| Pulse discharge current $I_{imp}$ (10/350) µs (line-earth) | 2.5 kA |
| Total discharge current $I_{total}$ (8/20) µs | 20 kA |
| Voltage protection level $U_p$ (line-line) | ≤ 100 V (C1 - 1 kV/500 A) |
| | ≤ 150 V (C2 - 10 kV / 5 kA) |
| | ≤ 90 V (C3 - 25 A) |
| | ≤ 95 V (C3 - 100 A) |
| Voltage protection level $U_p$ (line-earth) | ≤ 900 V (C1 - 1 kV/500 A) |
| | ≤ 1300 V (C2 - 10 kV / 5 kA) |
| | ≤ 1000 V (C3 - 25 A) |
| | ≤ 1300 V (C3 - 100 A) |
| Voltage protection level $U_p$ (line-signalground) | ≤ 600 V (C1 - 1 kV/500 A) |
| | ≤ 750 V (C2 - 10 kV / 5 kA) |
| | ≤ 700 V (C3 - 25 A) |
| | ≤ 800 V (C3 - 100 A) |
| Voltage protection level $U_p$ static (line-earth) | ≤ 130 V (C2 - 10 kV / 5 kA) |
| | ≤ 60 V (C3 - 25 A) |
| Voltage protection level $U_p$ static (line-signalground) | ≤ 60 V (C2 - 10 kV / 5 kA) |
| | ≤ 40 V (C3 - 25 A) |
| | ≤ 100 V (C3 - 100 A) |
| Response time $t_A$ (line-line) | ≤ 1 ns |

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### Protective circuit

| | |
|---|---|
| Response time tA (line-signalground) | ≤ 100 ns |
| Response time $t_A$ (line-earth) | ≤ 100 ns |
| Input attenuation aE, sym. | typ. 0.3 dB (≤ 450 kHz/150 Ω) |
| Cut-off frequency fg (3 dB), sym. in 150 Ohm system | typ. 1.9 MHz |
| Capacity (line-line) | typ. 1.5 nF |
| Resistance in series | 1.2 Ω ±5 % |
| Surge protection fault message | Optical, multi-stage |
| Max. required back-up fuse | 315 mA (FF) |
| Impulse durability (line-line) | C1 - 1 kV/500 A |
| | C2 - 10 kV/5 kA |
| | C2 - 10 kA |
| | C3 - 100 A |
| Impulse durability (line-earth) | C1 - 1 kV/500 A |
| | C2 - 10 kV/5 kA |
| | C2 - 10 kA |
| | C3 - 100 A |
| | D1 - 2.5 kA |
| Surge current carrying capability (wire-signal ground) | C1 - 1 kV/500 A |
| | C2 - 10 kV/5 kA |
| | C2 - 10 kA |
| | C3 - 100 A |
| Pulse reset time (line-line) | ≤ 300 ms |
| Pulse reset time (line-earth) | ≤ 30 ms |
| Pulse reset time (line-signalground) | ≤ 4000 ms |

### Connection data

| | |
|---|---|
| Connection method | Push-in connection |
| Stripping length | 10 mm |
| Conductor cross section flexible | 0.2 mm² ... 2.5 mm² |
| Conductor cross section solid | 0.2 mm² ... 4 mm² |
| Conductor cross section AWG | 24 ... 12 |

### Connection, equipotential bonding

| | |
|---|---|
| Connection method | DIN rail NS35 |

### Standards and Regulations

| | |
|---|---|
| Standards/specifications | IEC 61643-21 2000 + A1:2008 + A2:2012 |
| | EN 61643-21 2001 + A1:2009 + A2:2013 |
| | EN 61000-6-2 2005 |
| | EN 61000-6-3 2007 + A1:2011 |

### Environmental Product Compliance

# Surge protection device - PT-IQ-1X2+F-48DC-PT - 2801258

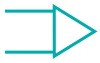
## Technical data

### Environmental Product Compliance

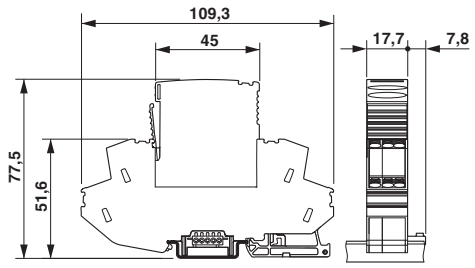
| | |
|---|---|
| REACh SVHC | Lead 7439-92-1 |

## Drawings

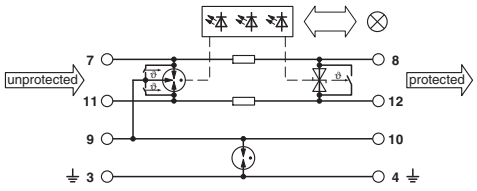
Pictogram



Dimensional drawing




Circuit diagram




## Approvals

### Approvals

Approvals

UL Listed / EAC / CSA / CSAus / cCSAus

Ex Approvals

### Approval details

| | | | |
|---|---|---|---|
| UL Listed | UL LISTED | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 138168 |

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## Approvals

| | | | |
|---|---|---|---|
| EAC | | | RU C-DE.A*30.B01561 |
| CSA | | http://www.csagroup.org/services-industries/product-listing/ | 2761632 |
| CSAus | | http://www.csagroup.org/services-industries/product-listing/ | 2761632 |
| cCSAus | | http://www.csagroup.org/us/en/services/testing-and-certification/certified-product-listing | |



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