

## Surge protection device - PT-IQ-1X2+F-24DC-UT - 2800977

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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.

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) | 140.0 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 $U_N$                                       | 24 V                         |
| Maximum continuous operating voltage $U_C$                  | 30 V DC                      |
|                                                             | 21 V AC                      |
| Nominal current $I_N$                                       | 1000 mA (Up to 45°C)         |
| Operating effective current $I_C$ at $U_C$                  | ≤ 2 mA (per system)          |
| Residual current $I_{PE}$                                   | ≤ 1 μA                       |
| Nominal discharge current $I_n$ (8/20) μs (Core-Core)       | 10 kA                        |
| Nominal discharge current $I_n$ (8/20) μs (Core-Earth)      | 10 kA                        |
| Total surge current (8/20) μs                               | 20 kA                        |
| Impulse discharge current (10/350) μs, peak value $I_{imp}$ | 2.5 kA                       |
| Voltage protection level $U_p$ (Core-Core)                  | ≤ 80 V (C1 - 1 kV/500 A)     |
|                                                             | ≤ 130 V (C2 - 10 kV / 5 kA)  |
|                                                             | ≤ 140 V (C2 - 10 kA)         |
|                                                             | ≤ 55 V (C3 - 25 A)           |
|                                                             | ≤ 60 V (C3 - 100 A)          |
| Voltage protection level $U_p$ (Core-Earth)                 | ≤ 900 V (C1 - 1 kV/500 A)    |
|                                                             | ≤ 1300 V (C2 - 10 kV / 5 kA) |

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#### Protective circuit

|                                                                |                             |
|----------------------------------------------------------------|-----------------------------|
|                                                                | ≤ 1200 V (C2 - 10 kA)       |
|                                                                | ≤ 1000 V (C3 - 25 A)        |
|                                                                | ≤ 1300 V (C3 - 100 A)       |
| Voltage protection level $U_p$ (Core-GND)                      | ≤ 600 V (C1 - 1 kV/500 A)   |
|                                                                | ≤ 750 V (C2 - 10 kV / 5 kA) |
|                                                                | ≤ 800 V (C2 - 10 kA)        |
|                                                                | ≤ 700 V (C3 - 25 A)         |
|                                                                | ≤ 800 V (C3 - 100 A)        |
| Voltage protection level $U_p$ static (core-core)              | ≤ 64 V (C1 - 1 kV/500 A)    |
| Response time $t_A$ (Core-Core)                                | ≤ 1 ns                      |
| Response time $t_A$ (Core-Earth)                               | ≤ 100 ns                    |
|                                                                | ≤ 100 ns                    |
| Input attenuation $a_E$ , sym.                                 | typ. 0.3 dB (≤ 270 kHz)     |
| Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system         | typ. 1.1 MHz                |
| Capacity (Core-Earth)                                          | 2 nF                        |
| Resistance in series                                           | 1.2 Ω ±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-Core)  | C1 (1 kV/500 A)             |
|                                                                | C2 (10 kV/5 kA)             |
|                                                                | C2 (10 kA)                  |
|                                                                | C3 - 25 A                   |
|                                                                | C3 (50 A)                   |
|                                                                | C3 - 100 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)                   |
|                                                                | C3 - 100 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)                   |
|                                                                | C3 (100 A)                  |

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### Technical data

#### Protective circuit

|                                                                     |                |
|---------------------------------------------------------------------|----------------|
| Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-Core)        | $\leq 4000$ ms |
| Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-Earth)       | $\leq 30$ ms   |
| Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-GND)         | $\leq 2600$ ms |
| Overload failure mode as per IEC 61643-21 (plug)                    | Mode 2         |
| Overload failure mode as per IEC 61643-21 (GND-Ground base element) | 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 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000943 |
| ETIM 4.0 | EC000943 |
| ETIM 5.0 | EC000943 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30212010 |
| UNSPSC 7.0901 | 39121610 |

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## Classifications

### UNSPSC

|              |          |
|--------------|----------|
| UNSPSC 11    | 39121610 |
| UNSPSC 12.01 | 39121610 |
| UNSPSC 13.2  | 39121620 |

## Approvals

### Approvals

Approvals

UL Listed

Ex Approvals

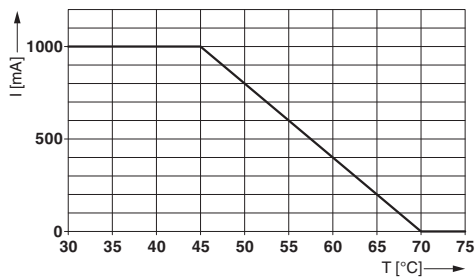
Approvals submitted

### Approval details

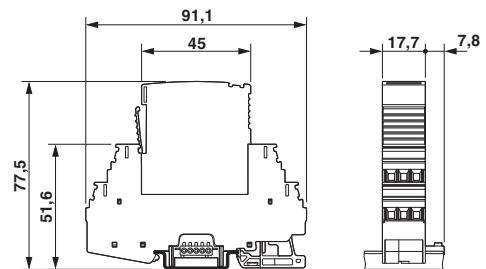
UL Listed

## Drawings

Diagram

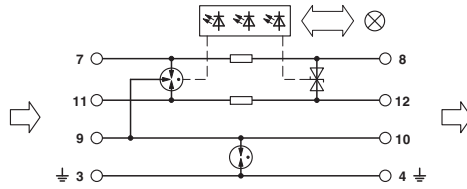


Dimensioned drawing



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Circuit diagram



Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренеспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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