



**THE DATASHEET OF**  
**2800981**



## Surge protection device - PT-IQ-4X1+F-24DC-UT - 2800983

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for four signal wires with common reference potential. Indirect grounding via gas-filled surge arrester.

The figure shows the PT-IQ-2x2-24DC-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)	160.0 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 $I_N$	700 mA (Up to 45°C)
Operating effective current $I_C$ at $U_C$	≤ 1 mA (per path)
Residual current $I_{PE}$	≤ 1 μA
Nominal discharge current $I_n$ (8/20) μs (Core-Earth)	10 kA
Impulse discharge current (10/350) μs, peak value $I_{imp}$	2.5 kA
Voltage protection level $U_p$ (Core-Earth)	≤ 800 V (C1 - 1 kV/500 A)
	≤ 950 V (C2 - 10 kV / 5 kA)
	≤ 180 V (C2 - 10 kA)
	≤ 780 V (C3 - 25 A)
	≤ 950 V (C3 - 50 A)
Voltage protection level $U_p$ (Core-GND)	≤ 75 V (C1 - 1 kV/500 A)
	≤ 135 V (C2 - 10 kV / 5 kA)
	≤ 55 V (C3 - 25 A)
	≤ 60 V (C3 - 50 A)

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### Technical data

#### Protective circuit

Response time $t_A$ (Core-Earth)	$\leq 1$ ns
	$\leq 100$ ns
Input attenuation $a_E$ , asym.	typ. 0.3 dB ( $\leq 300$ kHz)
Cut-off frequency $f_g$ (3 dB), asym. (GND) in 150 Ohm system	typ. 1.1 MHz
Capacity (Core-Earth)	2 nF
Resistance in series	1.2 $\Omega \pm 5\%$
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	0.8 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
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-Earth)	$\leq 30$ ms
Pulse reset time $t_r$ in acc. with IEC 61643-21 (Core-GND)	$\leq 350$ 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
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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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Ex Approvals

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Approvals submitted

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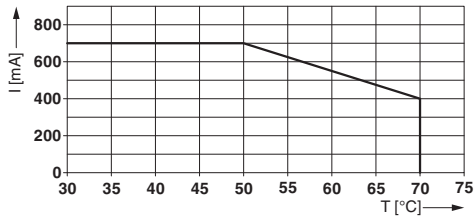
### Approval details

UL Listed
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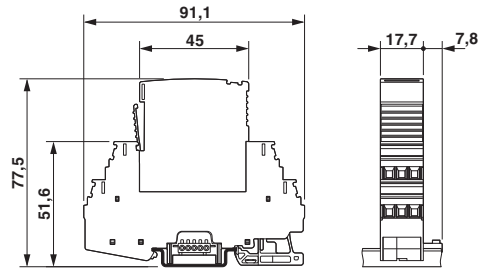
# Surge protection device - PT-IQ-4X1+F-24DC-UT - 2800983

## Drawings

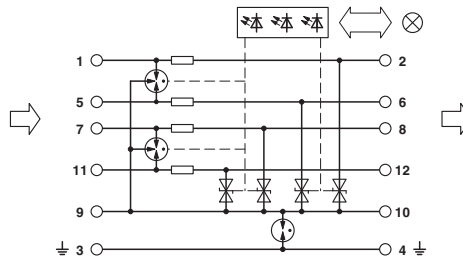
Diagram



Dimensioned drawing




Circuit diagram



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