

## Surge protection device - PT-IQ-2X2+F-24DC-UT - 2800981

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

### 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 PCE
GTIN	 4 046356 665810
Custom tariff number	85363010
Country of origin	GERMANY

### Technical data

#### General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	black
Ambient temperature (operation)	-40 °C ... 70 °C

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## Technical data

### General

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Mounting type	DIN rail mounting
Design	DIN rail module, two-section, divisible
Degree of protection	IP20
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Width	17.7 mm
Height	91 mm
Depth	77.5 mm
Pitch unit	1 Div.

### Protective circuit

IEC category	C1
IEC category	C2
IEC category	C3
IEC category	D1
Nominal voltage $U_N$	24 V
Maximum continuous operating voltage $U_C$	30 V DC
Maximum continuous operating voltage $U_C$	21 V AC
Nominal current $I_N$	700 mA (Up to 45°C)
Operating effective current $I_C$ at $U_C$	$\leq 1$ mA (per system)
Ground conductor current $I_{PE}$	$\leq 1$ $\mu$ A
Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Core)	10 kA
Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Earth)	10 kA
Lightning test current (10/350) $\mu$ s, peak value $I_{imp}$	2.5 kA
Protection level $U_p$ (Core-Core)	$\leq 80$ V (C1 - 1 kV/500 A)
Protection level $U_p$ (Core-Core)	$\leq 130$ V (C2 - 10 kV / 5 kA)
Protection level $U_p$ (Core-Core)	$\leq 140$ V (C2 - 10 kA)
Protection level $U_p$ (Core-Core)	$\leq 55$ V (C3 - 25 A)
Protection level $U_p$ (Core-Core)	$\leq 60$ V (C3 - 100 A)
Protection level $U_p$ (Core-Earth)	$\leq 900$ V (C1 - 1 kV/500 A)
Protection level $U_p$ (Core-Earth)	$\leq 1300$ V (C2 - 10 kV / 5 kA)
Protection level $U_p$ (Core-Earth)	$\leq 1200$ V (C2 - 10 kA)
Protection level $U_p$ (Core-Earth)	$\leq 1000$ V (C3 - 25 A)
Protection level $U_p$ (Core-Earth)	$\leq 1300$ V (C3 - 100 A)
Protection level $U_p$ (Core-GND)	$\leq 600$ V (C1 - 1 kV/500 A)
Protection level $U_p$ (Core-GND)	$\leq 750$ V (C2 - 10 kV / 5 kA)

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## Technical data

### Protective circuit

Protection level $U_p$ (Core-GND)	$\leq 800$ V (C2 - 10 kA)
Protection level $U_p$ (Core-GND)	$\leq 700$ V (C3 - 25 A)
Protection level $U_p$ (Core-GND)	$\leq 800$ V (C3 - 100 A)
Protection level $U_p$ static (core-core)	$\leq 65$ V (C1 - 1 kV/500 A)
Response time $t_A$ (Core-Core)	$\leq 1$ ns
Response time $t_A$ (Core-Earth)	$\leq 100$ ns
Response time $t_A$ (Core-Earth)	$\leq 100$ ns
Input attenuation $a_E$ , sym.	typ. 0.3 dB ( $\leq 270$ 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 $\Omega \pm 5\%$
Message: Surge protection fault	Optical, multi-stage
Max. required back-up fuse	0.8 A (FF)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C1 (1 kV/500 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (25 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (50 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (100 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C1 (1 kV / 500 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV / 5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C3 (25 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C3 (50 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C3 (100 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	D1 (2.5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C1 (1 kV/500 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C2 (10 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C3 (25 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C3 (50 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-GND)	C3 (100 A)
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

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## Technical data

### 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

### ETIM

ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

### UNSPSC

UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610

### 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

## Accessories

### Accessories

### Marking

## Surge protection device - PT-IQ-2X2+F-24DC-UT - 2800981

### Accessories

Marker pen - X-PEN 0,35 - 0811228



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.1 x 5.2 mm

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Zack Marker strip, flat - ZBF 5/WH-100:UNBEDRUCKT - 0808668



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

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Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671



Zack Marker strip, flat, Strip, white, labeled, Printed horizontally: Consecutive numbers 1 - 10, 11 - 20, etc. up to 491 - 500, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

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Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821



Zack Marker strip, flat, Strip, white, labeled, Printed horizontally: Consecutive numbers 2 - 20, 22 - 40, etc. up to 82 - 100, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

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### Accessories

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



Zack Marker strip, flat, Strip, white, labeled, Printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: Consecutive numbers 1 - 10, 11 - 20, etc. up to 91 - 100, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

Electronic housing - E/ME TBUS NS35 GY - 2713780



End clamp, stable construction for DIN rail bus connector

Printed-circuit board connector - FK-MC 0,5/ 5-ST-2,5 - 1881354



Plug component, Nominal current: 4 A, Rated voltage (III/2): 160 V, Number of positions: 5, Pitch: 2.5 mm, Connection method: Spring-cage conn., Color: green, Contact surface: Tin

### Additional products

## Surge protection device - PT-IQ-2X2+F-24DC-UT - 2800981

### Accessories

Shield connection - SSA 3-6 - 2839295



shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black

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Shield connection - SSA 5-10 - 2839512



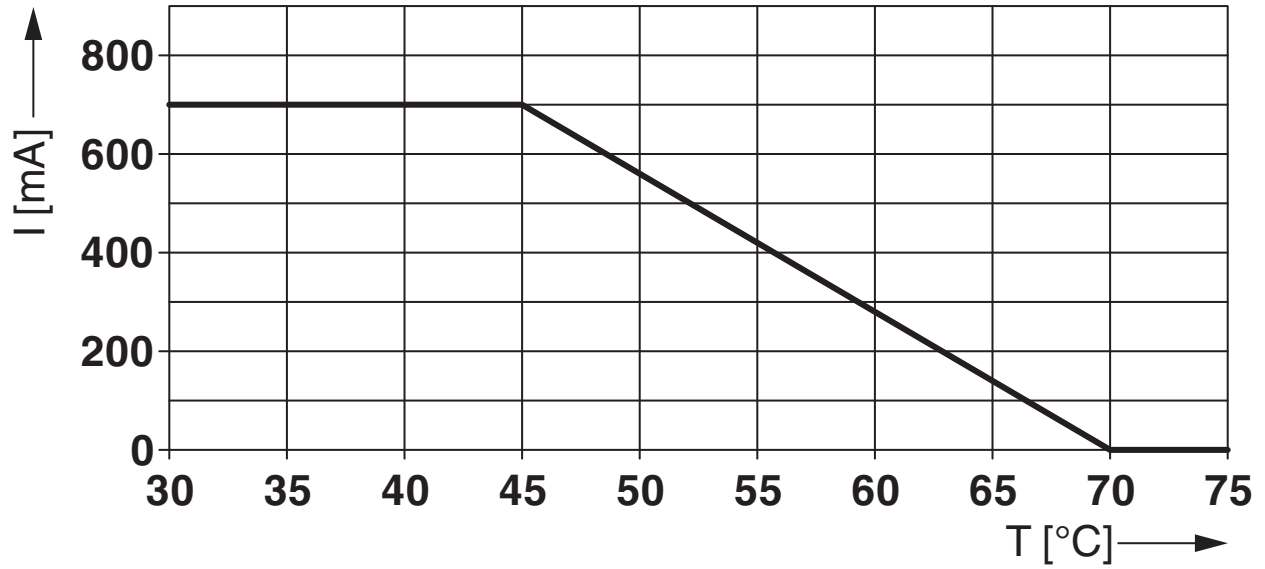
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

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### Drawings

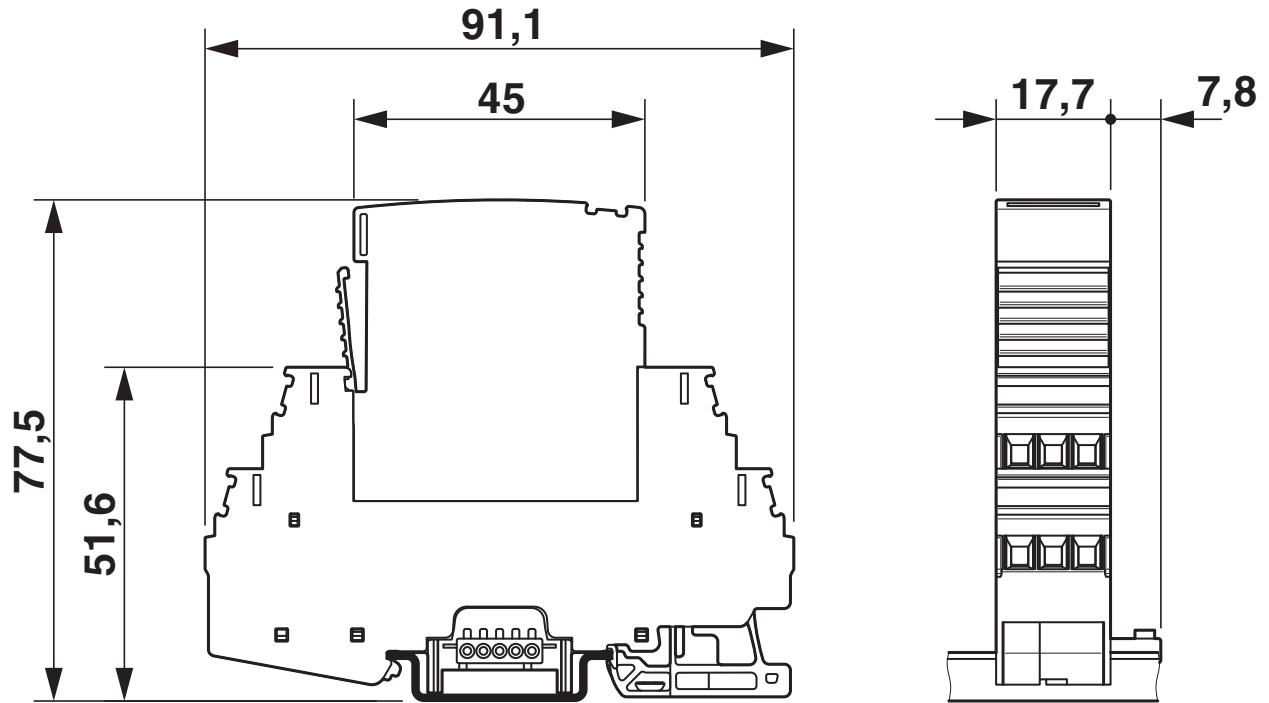
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Diagram



# Surge protection device - PT-IQ-2X2+F-24DC-UT - 2800981

Dimensioned drawing



# Surge protection device - PT-IQ-2X2+F-24DC-UT - 2800981

Circuit diagram

