

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

package_quantity	1
GTIN	4046356665179

Technical data

Dimensions

Height	91.1 mm
Width	17.7 mm
Depth	77.5 mm
Pitch unit	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
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Technical data

General

Inflammability class according to UL 94	V0
Color	black
Mounting type	DIN rail mounting
Design	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
IEC test classification	C2
IEC test classification	C3
IEC test classification	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	1000 mA (U_p to 45°C)
Operating effective current I_C at U_C	≤ 2 mA (per system)
Residual current I_{PE}	≤ 1 μ A
Nominal discharge current I_n (8/20) μ s (Core-Core)	10 kA
Nominal discharge current I_n (8/20) μ s (Core-Earth)	10 kA
Total surge current (8/20) μ s	20 kA
Impulse discharge current (10/350) μ s, peak value I_{imp}	2.5 kA
Voltage protection level U_p (Core-Core)	≤ 80 V (C1 - 1 kV/500 A)
Voltage protection level U_p (Core-Core)	≤ 130 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (Core-Core)	≤ 140 V (C2 - 10 kA)
Voltage protection level U_p (Core-Core)	≤ 55 V (C3 - 25 A)
Voltage protection level U_p (Core-Core)	≤ 60 V (C3 - 100 A)
Voltage protection level U_p (Core-Earth)	≤ 900 V (C1 - 1 kV/500 A)
Voltage protection level U_p (Core-Earth)	≤ 1300 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (Core-Earth)	≤ 1200 V (C2 - 10 kA)
Voltage protection level U_p (Core-Earth)	≤ 1000 V (C3 - 25 A)
Voltage protection level U_p (Core-Earth)	≤ 1300 V (C3 - 100 A)
Voltage protection level U_p (Core-GND)	≤ 600 V (C1 - 1 kV/500 A)
Voltage protection level U_p (Core-GND)	≤ 750 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (Core-GND)	≤ 800 V (C2 - 10 kA)
Voltage protection level U_p (Core-GND)	≤ 700 V (C3 - 25 A)
Voltage protection level U_p (Core-GND)	≤ 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
Response time t_A (Core-Earth)	≤ 100 ns

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Protective circuit

Input attenuation aE, 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 Ω $\pm$ 5 %
Message: Surge protection fault	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)
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

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 ²
Conductor cross section solid max.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12

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Technical data

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

accessories

Marker pen

X-PEN 0,35 - 0811228



Terminal marking

ZBF 5:UNBEDRUCKT - 0808642



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accessories

ZBF 5/WH-100:UNBEDRUCKT - 0808668



Labeled terminal marker

ZBF 5,LGS:FORTL.ZAHLEN - 0808671



ZBF 5,LGS:GERADE ZAHLEN - 0810821



ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



ZBF 5,QR:FORTL.ZAHLEN - 0808697



Device marking

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accessories

ZBN 18:UNBEDRUCKT - 2809128



Mounting material

E/ME TBUS NS35 GY - 2713780



PCB plug

FK-MC 0,5/ 5-ST-2,5 - 1881354



accessories

ZBF 15:SO/CMS - 0814717



ZBF 5:SO/CMS - 0808707



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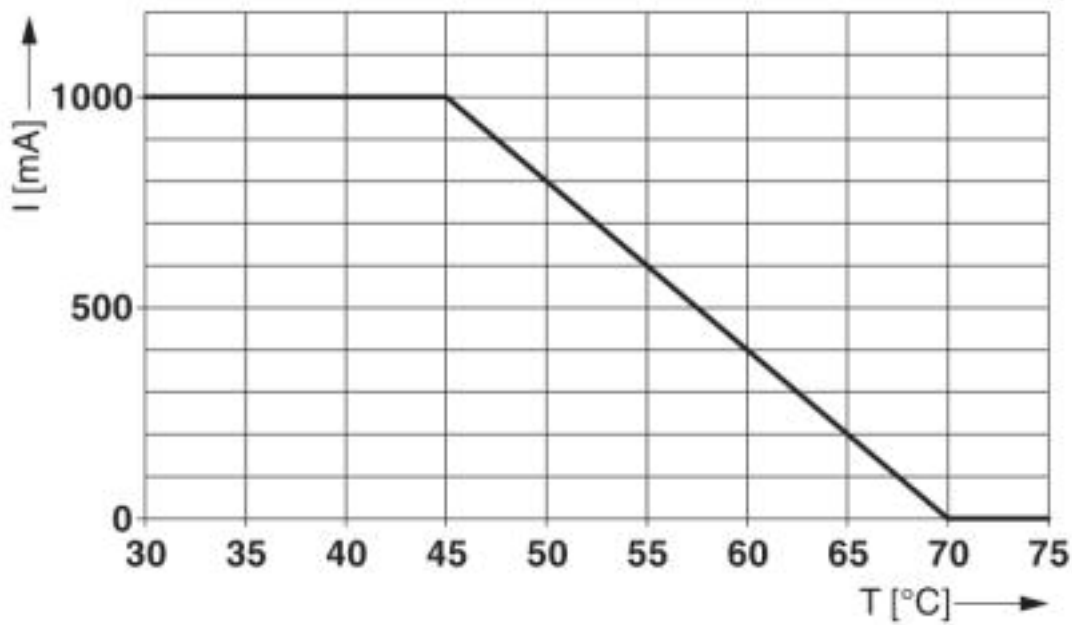
accessories

ZBN 18:SO/CMS - 0800763



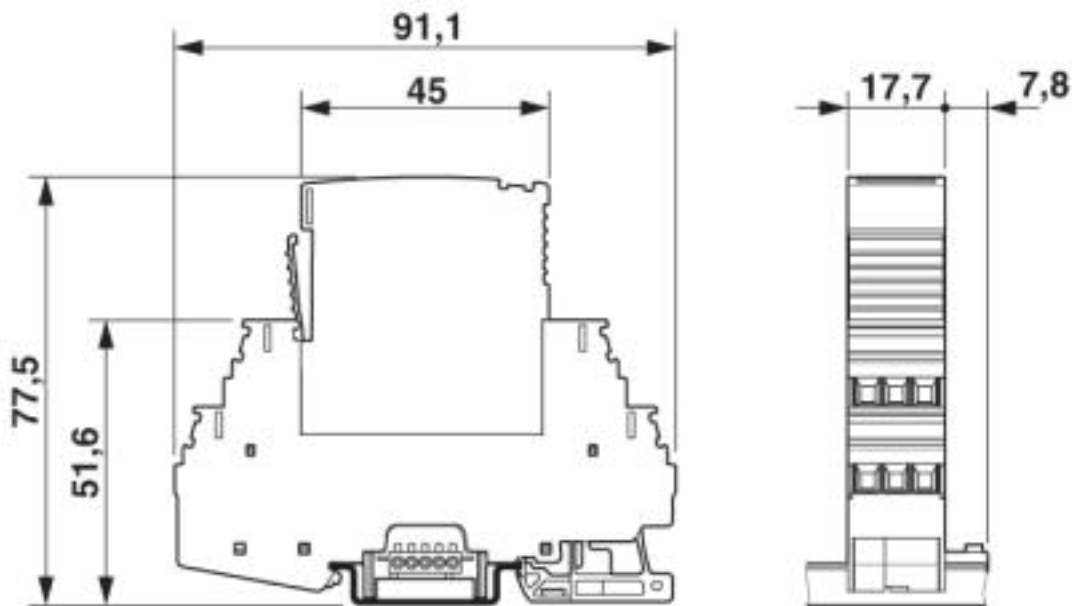
Drawings

Diagram



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Dimensioned drawing



Circuit diagram

