

Surge protection device - PT-IQ-3-PB+F-UT - 2800994

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for three signal wires with common reference potential. Indirect grounding via gas-filled surge arrester. For HF applications and telecommunications interfaces without supply voltage (up to 90 Mbps).

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
- For HF applications, thanks to high transmission speeds
- 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
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	91.1 mm
Width	17.7 mm
Depth	77.5 mm
Horizontal pitch	1 Div.

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Technical data

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
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
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	5 V DC
Maximum continuous voltage U_C	6 V DC
	4 V AC
Nominal current I_N	600 mA (40°C)
Operating effective current I_C at U_C	$\leq 800 \mu A$ (per path)
Residual current I_{PE}	$\leq 10 \mu A$
Nominal discharge current I_n (8/20) μs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs (core-ground)	2.5 kA
Pulse discharge current I_{imp} (10/350) μs (core-GND)	2.5 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)	$\leq 90 V$ (C1 - 1 kV/500 A)
	$\leq 140 V$ (C2 - 10 kV / 5 kA)
	$\leq 30 V$ (C3 - 25 A)
	$\leq 30 V$ (C3 - 50 A)
Voltage protection level U_p (core-ground)	$\leq 730 V$ (C1 - 1 kV/500 A)
	$\leq 900 V$ (C2 - 10 kV / 5 kA)
	$\leq 900 V$ (C3 - 25 A)
	$\leq 900 V$ (C3 - 50 A)

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Technical data

Protective circuit

Voltage protection level U_p (core-GND)	$\leq 90 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 140 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 30 \text{ V}$ (C3 - 25 A)
	$\leq 30 \text{ V}$ (C3 - 50 A)
Voltage protection level U_p static (core-core)	$\leq 45 \text{ V}$ (C1 - 1 kV/500 A)
Voltage protection level U_p static (core-GND)	$\leq 45 \text{ V}$ (C1 - 1 kV/500 A)
Response time t_A (Core-Core)	$\leq 1 \text{ ns}$
Response time t_A (Core-Earth)	$\leq 1 \text{ ns}$
	$\leq 100 \text{ ns}$
Input attenuation a_E , sym.	typ. 0.3 dB ($\leq 10 \text{ MHz}/150 \text{ }\Omega$)
Input attenuation a_E , asym.	typ. 0.3 dB ($\leq 10 \text{ MHz}/150 \text{ }\Omega$)
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 60 MHz
Cut-off frequency f_g (3 dB), asym. (GND) in 150 Ohm system	typ. 60 MHz
Capacity (Core-Core)	typ. 30 pF
Capacity (Core-GND)	typ. 30 pF
Resistance in series	1.2 $\Omega \pm 5 \%$
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	600 mA (FF)
Impulse durability (conductor-conductor)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 50 A
Impulse durability (conductor-ground)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 50 A
	D1 - 2.5 kA
Impulse durability (conductor-GND)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 50 A
	D1 - 2.5 kA
Pulse reset time (conductor-conductor)	$\leq 10 \text{ ms}$
Pulse reset time (conductor-ground)	$\leq 10 \text{ ms}$
Pulse reset time (conductor-GND)	$\leq 10 \text{ ms}$

Connection data

Connection method	Screw connection
Connection type IN	Screw terminal blocks
Connection type OUT	Screw terminal blocks
Screw thread	M3

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Connection data

Tightening torque	0.5 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 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
eCl@ss 9.0	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

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Approvals

Approvals

UL Listed

Ex Approvals

Approvals submitted

Approval details

UL Listed 

Accessories

Accessories

Device marking

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

Labeled terminal marker

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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Accessories

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

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

Marker pen

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

Mounting material

Electronic housing - E/ME TBUS NS35 GY - 2713780



End clamp, stable construction for DIN rail bus connector

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Accessories

PCB plug

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: Push-in spring connection, Color: green, Contact surface: Tin

Terminal marking

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

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

Required add-on products

Surge protection controller - PT-IQ-PTB-UT - 2800768



Controller for power supply and multi-stage, floating remote signaling of connected surge protection modules.

Additional products

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Accessories

Shield connection - SSA 3-6 - 2839295



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

Shield connection - SSA 5-10 - 2839512



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

Spare parts

Surge protection plug - PT-IQ-3-PB-P - 2800783



Surge protection plug with integrated multi-stage status indicator on the module for three signal wires. For HF applications. Nominal voltage: 5 V DC

DIN rail connector - PT-IQ-17,5-TBUS-5-2.0 - 2906878

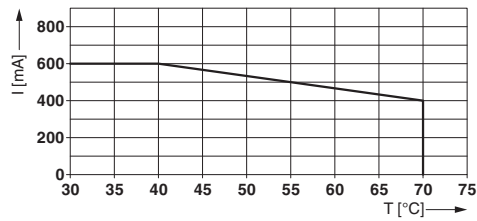


DIN rail connector for PT-IQ system for establishing remote signaling and the power supply when a surge protection module is snapped on.

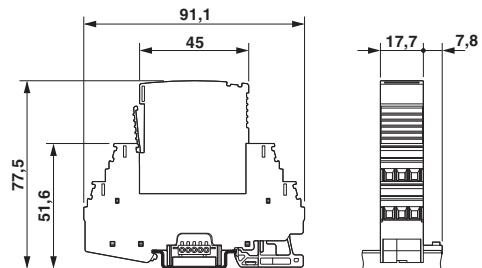
Drawings

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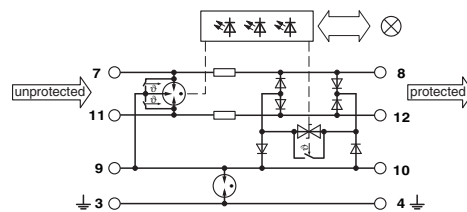
Diagram



Dimensional drawing



Circuit diagram



Mouser Electronics

Authorized Distributor

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