

## Surge protection device - PT-IQ-1X2-EX-24DC-UT - 2801512


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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 Ex i signal circuit, HART-compatible.



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 801225
GTIN	4046356801225

### Technical data

#### Dimensions

Height	91.1 mm
Width	17.7 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP20

#### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	black
Mounting type	DIN rail: 35 mm
Type	DIN rail module, two-section, divisible

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## Technical data

### General

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
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### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous voltage $U_C$	30 V DC
	21 V AC
Rated current	350 mA
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$ (per system)
Residual current $I_{PE}$	$\leq 100 \text{ nA}$ (per system)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-line)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$	2 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	20 kA
Voltage protection level $U_p$ (core-core)	$\leq 60 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 110 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 140 \text{ V}$ (C2 - 10 kA)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 55 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ (core-ground)	$\leq 1.3 \text{ kV}$ (C2 - 10 kV / 5 kA)
	$\leq 1.5 \text{ kV}$ (C2 - 10 kA)
	$\leq 1.3 \text{ kV}$ (C3 - 100 A)
Response time $t_A$ (line-line)	$\leq 1 \text{ ns}$
Response time $t_A$ (line-earth)	$\leq 100 \text{ ns}$
Input attenuation $a_E$ , sym.	typ. 0.3 dB ( $\leq 300 \text{ kHz} / 150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 1.1 MHz
Capacity (core-earth)	typ. 2 nF
Resistance in series	1.2 $\Omega \pm 5 \%$
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	350 mA (F)
Impulse durability (conductor-conductor)	C1 - 1 kV/500 A
	C2 - 10 kA
	C3 - 100 A
Impulse durability (conductor-ground)	C2 - 10 kA
	D1 - 2 kA
Pulse reset time (conductor-conductor)	$\leq 30 \text{ ms}$
Pulse reset time (conductor-ground)	$\leq 30 \text{ ms}$

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## Technical data

### Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12

### Connection, equipotential bonding

Connection method	DIN rail NS35
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### Remote indication contact

Switching function	via DIN rail connector
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### Standards and Regulations

Standards/specifications	EN 61643-21/A2 2013
	IEC 61643-21/A2 2012
	EN 61000-6-2 2005
	EN 61000-6-3/A1 2011

### General

Maximum inner capacitance $C_i$	negligible
Max. internal inductance $L_i$	negligible
Max. input current $I_i$	350 mA
max. input voltage $U_i$	30 V DC
max. input power $P_i$	1.2 W
Insulation voltage to ground	> 500 V AC
Standards/specifications	EN 60079-0 2012
	EN 60079-11 2012
	EN 60079-15 2010
	IEC 60079-0 2012
	IEC 60079-11 2012
	IEC 60079-15 2010
Ambient temperature (operation)	-40 °C ... 50 °C (T6)
	-40 °C ... 70 °C (T4)

### Conformity / approvals

UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D T5
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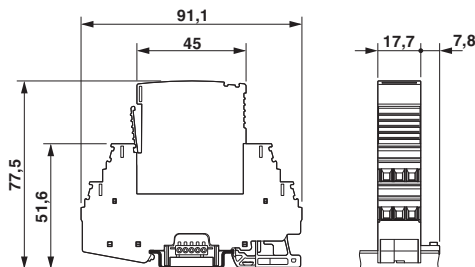
## Drawings

# Surge protection device - PT-IQ-1X2-EX-24DC-UT - 2801512

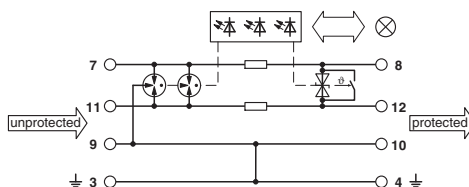
Pictogram



Dimensional drawing



Circuit diagram



## Approvals

### Approvals

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Approvals

UL Listed

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Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / cULus Listed

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
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