

## Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513


Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for two 2-wire floating Ex-i signal circuits. HART-compatible.



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 801232
GTIN	4046356801232
Weight per Piece (excluding packing)	154.000 g
Custom tariff number	85363010
Country of origin	Germany

### 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

# Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

## Technical data

### 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
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 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) $\mu\text{s}$ (line-earth)	2 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	20 kA
Voltage protection level $U_p$ (line-line)	$\leq 60 \text{ V}$ (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 $U_p$ (line-earth)	$\leq 1.3 \text{ kV}$ (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 aE, 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 (line-earth)	typ. 2 nF
Resistance per path	1.2 $\Omega \pm 5 \%$

## Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

### Technical data

#### Protective circuit

Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	350 mA (F)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kA
	C3 - 100 A
Impulse durability (line-earth)	C2 - 10 kA
	D1 - 2 kA
Pulse reset time (line-line)	≤ 30 ms
Pulse reset time (line-earth)	≤ 30 ms

#### 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
-------------------	---------------

#### Remote indication contact

Switching function	via DIN rail connector
--------------------	------------------------

#### 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

# Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

## Technical data

### General

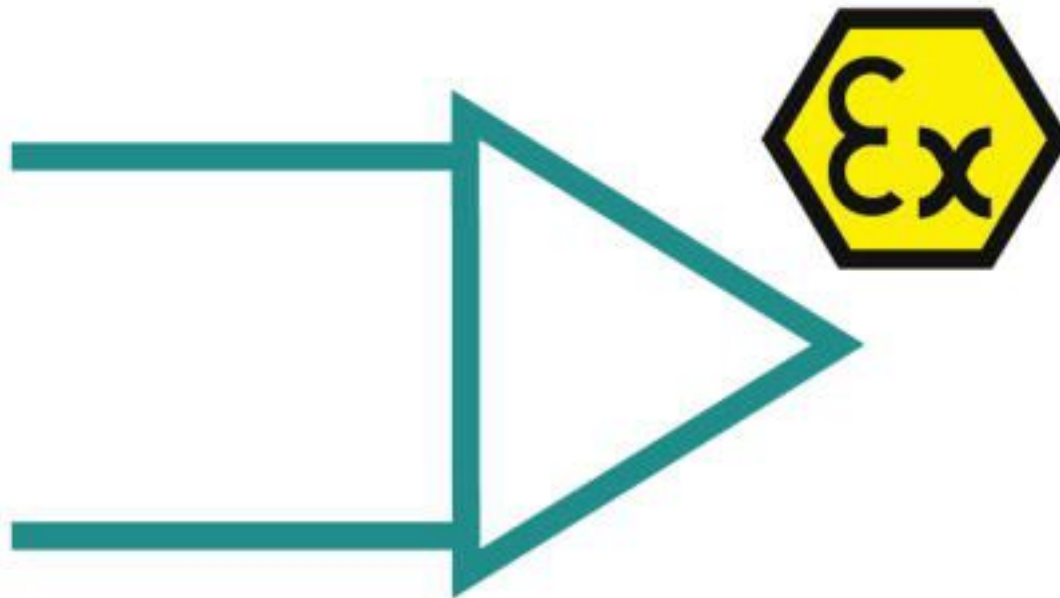
	EN 60079-15 2010
	IEC 60079-0 2012
	IEC 60079-11 2012
	IEC 60079-15 2010
Ambient temperature (operation)	-40 °C ... 50 °C (T6)
	-40 °C ... 70 °C (T4)

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

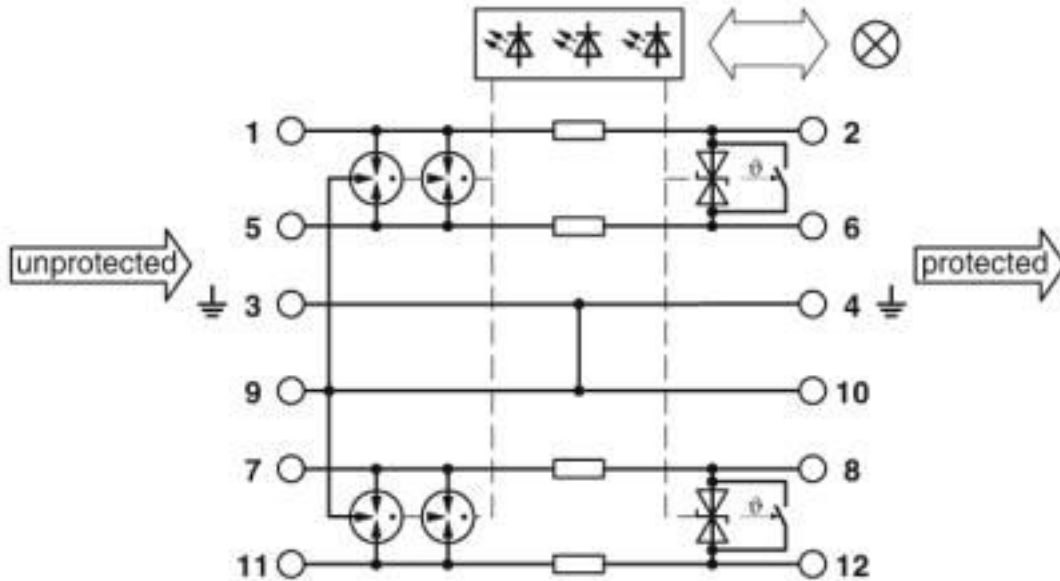
## Drawings

Pictogram



# Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

Circuit diagram



## Classifications

### eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
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
ETIM 6.0	EC000943
ETIM 7.0	EC000943

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610

# Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

## Classifications

### UNSPSC

UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

## Approvals

### Approvals

Approvals

UL Listed

Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / EAC Ex / cULus Listed

### 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
-----------	--	---	---------------

## Accessories

### Accessories

#### Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

### Labeled terminal marker

## Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

### Accessories

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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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 size: 5.15 x 5.15 mm, Number of individual labels: 10

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 size: 5.15 x 5.15 mm, Number of individual labels: 10

### 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

## Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

### Accessories

#### Mounting material

End clamp - E/ME TBUS NS35 GY - 2713780



End clamp, stable construction for DIN rail bus connector

---

#### Terminal marking

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

---

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

---

#### Necessary add-on products

Separating plate - PT-IQ-EX-L-PP - 2905023



Partition plate for NS-35/7,5 DIN rails to ensure a clearance of 50 mm between the controller and surge protection for PT-IQ-EX systems.

---

## Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

### Accessories

Separating plate - PT-IQ-EX-H-PP - 2905024



Partition plate for NS-35/7,5 isolated DIN rails (DIN rail is isolated using the AB/NS support bracket) to ensure a clearance of 50 mm between the controller and surge protection for PT-IQ-EX systems.

---

Supply and remote module - PT-IQ-PTB-UT - 2800768



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

---

### Additional products

Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

---

Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

---

### Spare parts

Surge protection plug - PT-IQ-2X2-EX-24DC-P - 2801515



Surge protection plug with integrated multi-stage status indicator on the module for two 2-wire floating Ex-i signal circuits.  
Nominal voltage: 24 V DC

## Surge protection device - PT-IQ-2X2-EX-24DC-UT - 2801513

### Accessories

---

Surge protection base element - PT-IQ-5-EX-BE-UT - 2905497



Base element for protective plug PLUGTRAB PT-IQ-2X2-EX

---

DIN rail bus connectors - 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.