

# PT-IQ-4X1-48DC-UT - Surge protection device



2801219

<https://www.phoenixcontact.com/us/products/2801219>

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 documentation. Our general terms of use for downloads are valid.



Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for four signal wires with common reference potential. Can be used in safety-related circuits up to SIL 3.

## Your advantages

- Predictive monitoring with 3-stage LED display
- Integration of the status message into the system controller via group remote signaling
- Install quickly and error-free with DIN rail connectors
- Maximum ease of maintenance, thanks to the 2-piece design
- Maximum protection for MCR applications with high discharge capacity

## Commercial data

Item number	2801219
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL22
Product key	CL2151
GTIN	4046356745093
Weight per piece (including packing)	125.9 g
Weight per piece (excluding packing)	125.9 g
Customs tariff number	85363010
Country of origin	DE

# PT-IQ-4X1-48DC-UT - Surge protection device

2801219

<https://www.phoenixcontact.com/us/products/2801219>

## Technical data

### Notes

#### General

Note	Remote signaling as well as the power supply of the DIN rail connector are established by snapping the module into place on the DIN rail connector.
------	-----------------------------------------------------------------------------------------------------------------------------------------------------

### Product properties

Product type	Surge protection for MCR technology
Product family	PLUGTRAB IQ
IEC test classification	C1 C2 C3 D1
Type	DIN rail module, two-section, divisible
Surge protection fault message	Optical, multi-stage

#### Insulation characteristics

Overvoltage category	III
Pollution degree	2

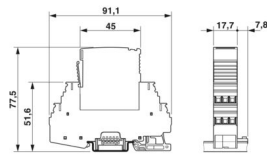
### Electrical properties

Nominal voltage $U_N$	48 V DC
-----------------------	---------

### Connection data

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

### Dimensions

Dimensional drawing	
Width	17.7 mm
Height	91 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Horizontal pitch	1 Div.

# PT-IQ-4X1-48DC-UT - Surge protection device



2801219

<https://www.phoenixcontact.com/us/products/2801219>

## Material specifications

Color	black (RAL 9005)
	black (RAL 9005)
Flammability rating according to UL 94	V-0
Housing material	PA 6.6

## Mechanical properties

### Mechanical data

Open side panel	No
-----------------	----

## Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Nominal voltage $U_N$	48 V DC
Maximum continuous operating voltage $U_C$	53 V DC
	37 V AC
Rated current	300 mA
Operating effective current $I_C$ at $U_C$	$\leq 6 \mu\text{A}$ (per path)
Protective conductor current $I_{PE}$	$\leq 6 \mu\text{A}$ (per path)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	2.5 kA
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	20 kA
Voltage protection level $U_p$ (line-earth)	$\leq 105 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 160 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 90 \text{ V}$ (C3 - 25 A)
Response time $t_A$ (line-earth)	$\leq 1 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB ( $\leq 530 \text{ kHz}$ / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (PE) in 150 $\Omega$ system	typ. 1.9 MHz
Resistance per path	1.2 $\Omega \pm 5 \%$
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	315 mA (FF)
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 25 A
	D1 - 2.5 kA
Pulse reset time (line-earth)	$\leq 1500 \text{ ms}$

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

# PT-IQ-4X1-48DC-UT - Surge protection device



2801219

<https://www.phoenixcontact.com/us/products/2801219>

Altitude	≤ 4000 m (amsl)
----------	-----------------

## Standards and regulations

Standards/specifications	IEC 61643-21
Note	2000 + A1:2008, modified
Standards/specifications	EN 61643-21
Note	2001 + A1:2009
Standards/specifications	EN 61000-6-3
Note	2007 + A1:2011
Standards/specifications	EN 61000-6-2
Note	2005

## Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

# PT-IQ-4X1-48DC-UT - Surge protection device

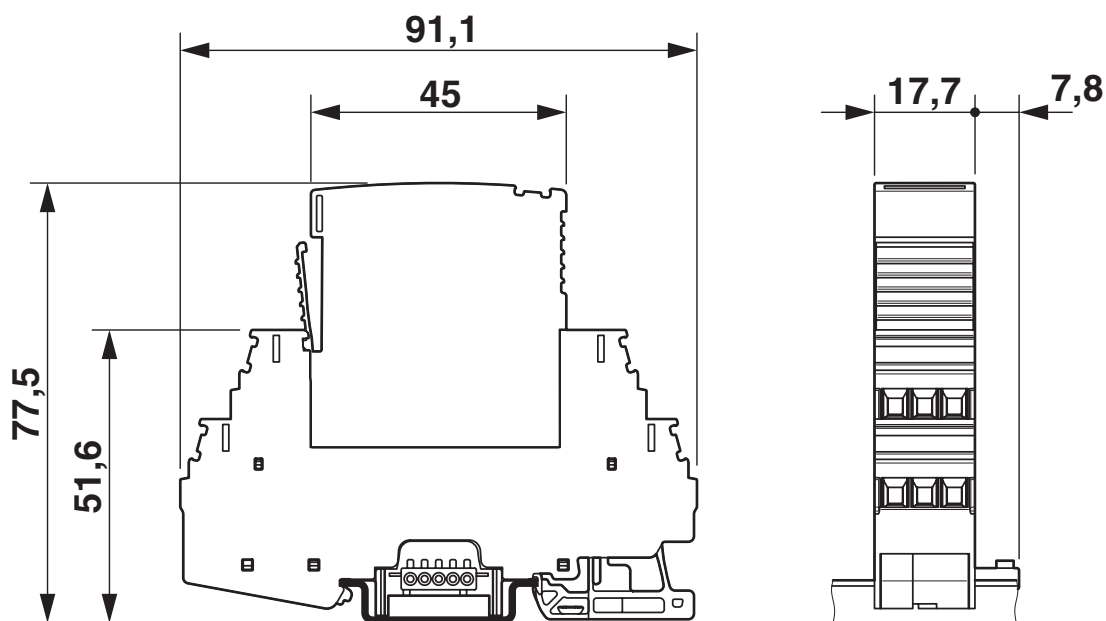


2801219

<https://www.phoenixcontact.com/us/products/2801219>

## Drawings

Dimensional drawing



Schematic diagram

PT-IQ-4X1-...DC-UT(PT)									
Category	1oo1 architecture, HFT=0				1oo2 architecture, HFT=1				
	PFD <sub>AVG</sub>	PFH	Used budget of SIL 2 SIF		PFD <sub>AVG</sub>	PFH	CCF	Used budget of SIL 3 SIF	
			PFD <sub>AVG</sub>	PFH				PFD <sub>AVG</sub>	PFH
	8.99·10 <sup>-6</sup>	1.60·10 <sup>-9</sup> 1/h	0.1 %	0.2 %	4.50·10 <sup>-7</sup>	8.00·10 <sup>-11</sup> 1/h	5 %	0.0 %	0.1 %
					9.00·10 <sup>-7</sup>	1.60·10 <sup>-10</sup> 1/h	10 %	0.1 %	0.2 %
Calculation based on exida report, Phoenix Contact 13/04-032 R017 V4R0 exida Profile 1, FMEDA Analysis 2, T <sub>proof</sub> : 1 year, MT: 10 years, MTTR: 24 hours, PTC: 99% Used standards IEC/EN 61508, edition 2010 (device specific) IEC/EN 61511, edition 2016 + COR1:2016 + A1:2017 (system specific)									

## Functional safety scenarios

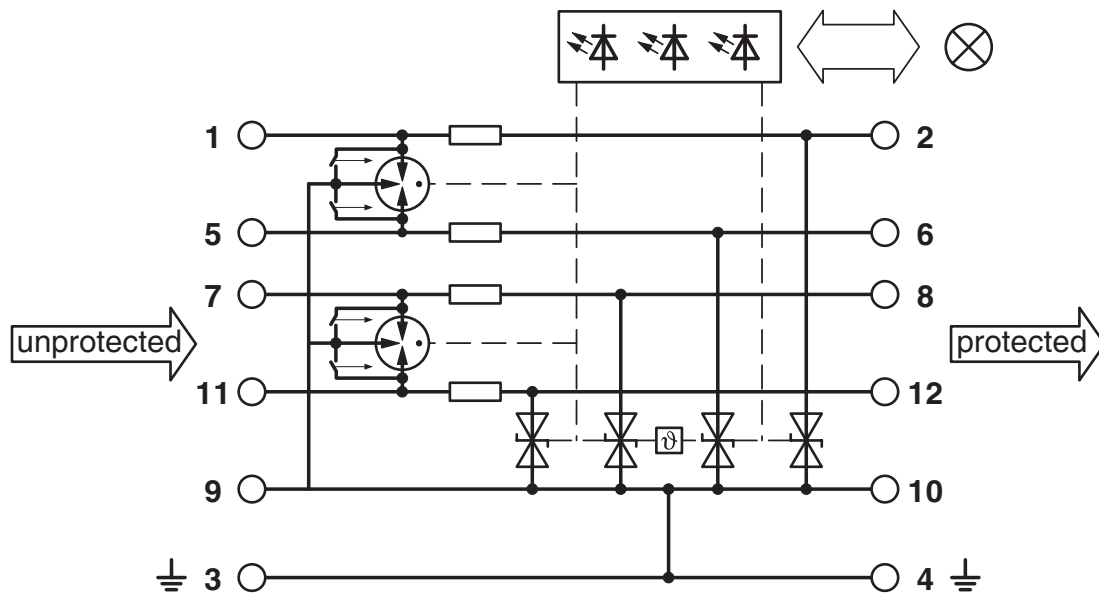
# PT-IQ-4X1-48DC-UT - Surge protection device



2801219

<https://www.phoenixcontact.com/us/products/2801219>

Circuit diagram



# PT-IQ-4X1-48DC-UT - Surge protection device



2801219

<https://www.phoenixcontact.com/us/products/2801219>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2801219>



### UL Listed

Approval ID: FILE E 138168

### Functional Safety

Approval ID: 13-04-032 R017 V4R0

# PT-IQ-4X1-48DC-UT - Surge protection device



2801219

<https://www.phoenixcontact.com/us/products/2801219>

## Classifications

### ECLASS

ECLASS-13.0	27171501
ECLASS-15.0	27171501

### ETIM

ETIM 10.0	EC001466
-----------	----------

### UNSPSC

UNSPSC 21.0	39121600
-------------	----------

2801219

<https://www.phoenixcontact.com/us/products/2801219>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	9ca43d9b-b807-4b99-8f4a-70a639ab6601

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)