

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

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. Indirect grounding via gas discharge tube. 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	2801220
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL2
Product key	CL2151
Catalog page	Page 133 (C-4-2019)
GTIN	4046356743716
Weight per piece (including packing)	126.7 g
Weight per piece (excluding packing)	123.3 g
Customs tariff number	85363010
Country of origin	DE

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

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 ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 4 mm ²
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+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

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
Maximum continuous 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)
Residual current I_{PE}	$\leq 1 \mu\text{A}$
Nominal discharge current I_n (8/20) μs (line-ground)	10 kA
Nominal discharge current I_n (8/20) μs (line-signal ground)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	2.5 kA
Pulse discharge current I_{imp} (10/350) μs (line-signal ground)	2.5 kA
Total discharge current I_{total} (8/20) μs	20 kA
Voltage protection level U_p (line-earth)	$\leq 750 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 950 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 850 \text{ V}$ (C3 - 25 A)
Voltage protection level U_p (line-signal ground)	$\leq 105 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 160 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 90 \text{ V}$ (C3 - 25 A)
Voltage protection level U_p static (line-earth)	$\leq 200 \text{ V}$ (C2 - 10 kV)
Response time t_A (line-earth)	$\leq 100 \text{ ns}$
Response time t_A (line-signal ground)	$\leq 1 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 530 \text{ kHz}$ / 150 Ω)
Cut-off frequency f_g (3 dB), asym. (signal ground) in 150 Ω system	typ. 1.9 MHz
Capacity (line-signal ground)	typ. 1.5 nF
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

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

	D1 - 2.5 kA
Impulse durability (line-signal ground)	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)	≤ 250 ms
Pulse reset time (line-signal ground)	≤ 1500 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
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+F-48DC-UT - Surge protection device

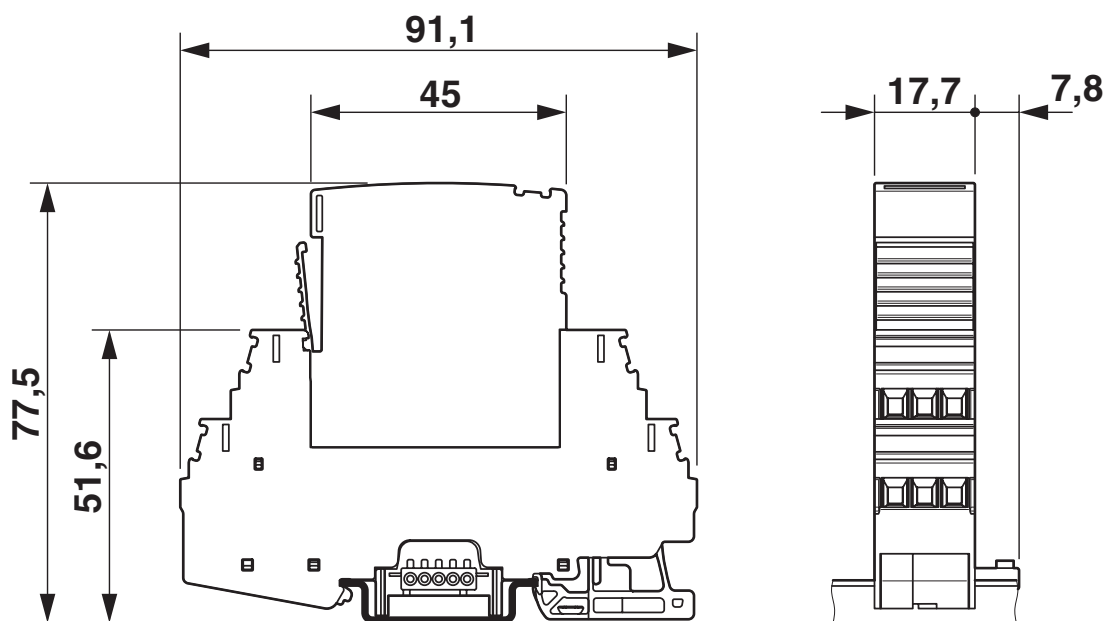


2801220

<https://www.phoenixcontact.com/in/products/2801220>

Drawings

Dimensional drawing



Schematic diagram

PT-IQ-4X1+F-...DC-UT(PT)									
Category	1oo1 architecture, HFT=0				1oo2 architecture, HFT=1				
	PFD _{AVG}	PFH	Used budget of SIL 2 SIF		PFD _{AVG}	PFH	CCF	Used budget of SIL 3 SIF	
			PFD _{AVG}	PFH				PFD _{AVG}	PFH
	1.46 _{x10} ⁻⁵	2.60 _{x10} ⁻⁹ 1/h	0.1 %	0.3 %	7.31 _{x10} ⁻⁷	1.30 _{x10} ⁻¹⁰ 1/h	5 %	0.1 %	0.1 %
					1.46 _{x10} ⁻⁶	2.60 _{x10} ⁻¹⁰ 1/h	10 %	0.1 %	0.3 %
Calculation based on exida report, Phoenix Contact 13/04-032 R017 V4R0 exida Profile 1, FMEDA Analysis 2, T _{proof} : 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

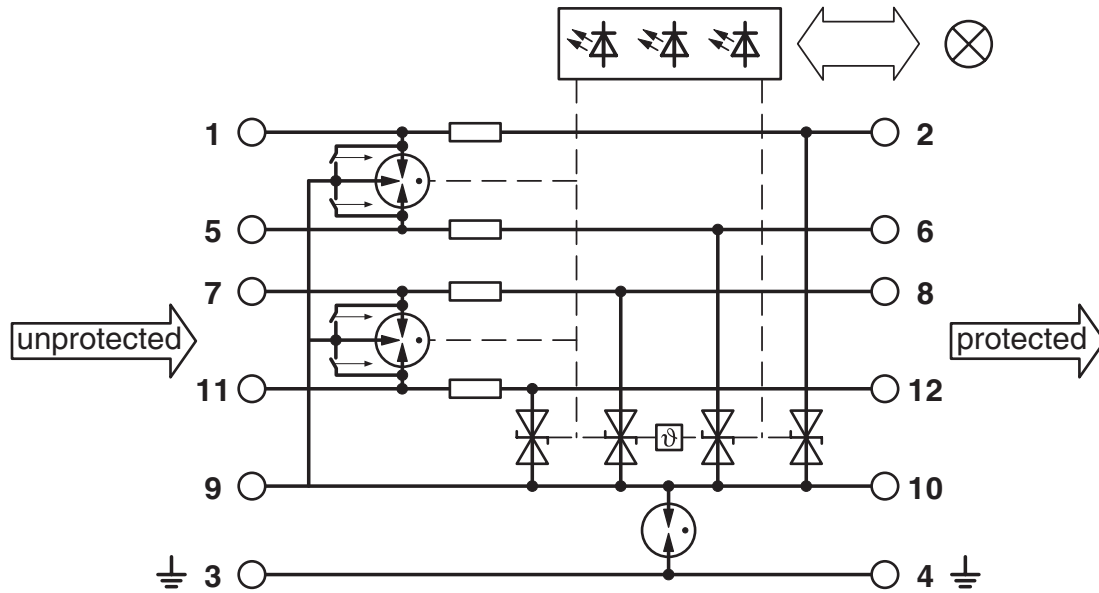
PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

Circuit diagram



PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/2801220>



UL Listed

Approval ID: FILE E 138168

Functional Safety

Approval ID: 13-04-032 R017 V4R0

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC000943
----------	----------

UNSPSC

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

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

Environmental product compliance

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.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

Mandatory accessories

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

2800768

<https://www.phoenixcontact.com/in/products/2800768>



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

Accessories

ZBF 5:UNBEDRUCKT - Zack Marker strip, flat

0808642

<https://www.phoenixcontact.com/in/products/0808642>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: latching, for terminal block width: 5 mm, Number of individual labels: 10, text field height: 5.15 mm, text field width: 5.15 mm

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

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

0808668

<https://www.phoenixcontact.com/in/products/0808668>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: latching, for terminal block width: 5 mm, Number of individual labels: 1000, text field height: 5.15 mm, text field width: 5.15 mm

ZBF 5,LGS:FORTL.ZAHLEN - Zack Marker strip, flat

0808671

<https://www.phoenixcontact.com/in/products/0808671>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: latching, for terminal block width: 5 mm, Number of individual labels: 10, text field height: 5.15 mm, text field width: 5.15 mm

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

ZBF 5,LGS:GERADE ZAHLEN - Zack Marker strip, flat

0810821

<https://www.phoenixcontact.com/in/products/0810821>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive even numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: latching, for terminal block width: 5 mm, Number of individual labels: 10, text field height: 5.15 mm, text field width: 5.15 mm

ZBF 5,LGS:UNGERADE ZAHLEN - Zack Marker strip, flat

0810863

<https://www.phoenixcontact.com/in/products/0810863>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: latching, for terminal block width: 5 mm, Number of individual labels: 10, text field height: 5.15 mm, text field width: 5.15 mm

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

ZBF 5,QR:FORTL.ZAHLEN - Zack Marker strip, flat

0808697

<https://www.phoenixcontact.com/in/products/0808697>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: latching, for terminal block width: 5 mm, Number of individual labels: 10, text field height: 5.15 mm, text field width: 5.15 mm

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/in/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: latching, for terminal block width: 18 mm, Number of individual labels: 5, text field height: 5 mm, text field width: 18 mm

PT-IQ-4X1+F-48DC-UT - Surge protection device

2801220

<https://www.phoenixcontact.com/in/products/2801220>

E/ME TBUS NS35 GY - End bracket

2713780

<https://www.phoenixcontact.com/in/products/2713780>

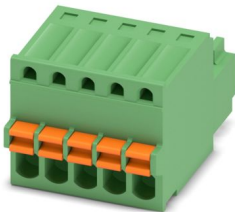


End clamp, stable construction for DIN rail bus connector

FK-MC 0,5/ 5-ST-2,5 - PCB connector

1881354

<https://www.phoenixcontact.com/in/products/1881354>



PCB connector, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FK-MC 0,5/..-ST, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON FK-MC 0,5, locking: without, mounting method: without, type of packaging: packed in cardboard

PT-IQ-4X1+F-48DC-UT - Surge protection device



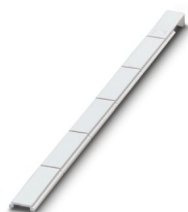
2801220

<https://www.phoenixcontact.com/in/products/2801220>

ZBN 18 CUS - Zack marker strip

0825059

<https://www.phoenixcontact.com/in/products/0825059>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 18 mm, Number of individual labels: 5, text field height: 5 mm, text field width: 18 mm

SSA 3-6 - Shield connection

2839295

<https://www.phoenixcontact.com/in/products/2839295>



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

SSA 5-10 - Shield connection

2839512

<https://www.phoenixcontact.com/in/products/2839512>



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/in/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

PT-IQ-4X1+F-48DC-UT - Surge protection device



2801220

<https://www.phoenixcontact.com/in/products/2801220>

SZS 0,6X3,5 VDE - Screwdriver

1212602

<https://www.phoenixcontact.com/in/products/1212602>



Screwdriver, slot-headed, VDE insulated, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

PT-IQ-4X1-48DC-P - Surge protection plug

2800814

<https://www.phoenixcontact.com/in/products/2800814>



Surge protection plug with integrated multi-stage status indicator on the module for four signal wires with common reference potential. Nominal voltage: 48 V DC

PT-IQ-4X1+F-48DC-UT - Surge protection device



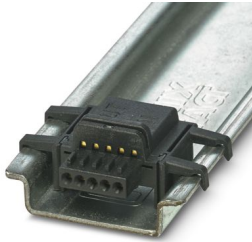
2801220

<https://www.phoenixcontact.com/in/products/2801220>

PT-IQ-17,5-TBUS-5-2.0 - DIN rail bus connectors

2906878

<https://www.phoenixcontact.com/in/products/2906878>



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

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.

A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420

info@phoenixcontact.co.in