

PT-IQ-1X2+F-48DC-UT - Surge protection device



2800979

<https://www.phoenixcontact.com/us/products/2800979>

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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 signal circuit. Indirect grounding via gas-filled surge arrester.

Commercial data

Item number	2800979
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	CL22
Product key	CL2151
Catalog page	Page 97 (C-4-2017)
GTIN	4046356665797
Weight per piece (including packing)	111 g
Weight per piece (excluding packing)	111 g
Customs tariff number	85363010
Country of origin	DE

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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.
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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
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2

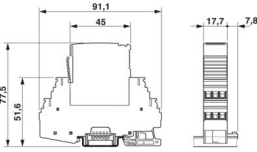
Electrical properties

Nominal voltage U_N	48 V DC
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Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 Nm
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section rigid	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	17.7 mm
Height	91.1 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)

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Horizontal pitch	1 Div.
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Material specifications

Flammability rating according to UL 94	V-0
Housing material	PA 6.6

Mechanical properties

Mechanical data

Open side panel	No
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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	$\leq 5 \mu A$ (in the signal circuit)
Residual current I_{PE}	$\leq 1 \mu A$
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge current I_n (8/20) μs (line-ground)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	2.5 kA
Total discharge current I_{total} (8/20) μs	20 kA
Voltage protection level U_p (line-line)	$\leq 100 V$ (C1 - 1 kV / 500 A)
	$\leq 150 V$ (C2 - 10 kV / 5 kA)
	$\leq 170 V$ (C2 - 10 kA)
	$\leq 90 V$ (C3 - 25 A)
	$\leq 95 V$ (C3 - 100 A)
Voltage protection level U_p (line-earth)	$\leq 900 V$ (C1 - 1 kV / 500 A)
	$\leq 1300 V$ (C2 - 10 kV / 5 kA)
	$\leq 1200 V$ (C2 - 10 kA)
	$\leq 1000 V$ (C3 - 25 A)
	$\leq 1300 V$ (C3 - 100 A)
Voltage protection level U_p (line-signalground)	$\leq 600 V$ (C1 - 1 kV / 500 A)
	$\leq 750 V$ (C2 - 10 kV / 5 kA)
	$\leq 800 V$ (C2 - 10 kA)
	$\leq 700 V$ (C3 - 25 A)
	$\leq 800 V$ (C3 - 100 A)
Voltage protection level U_p static (line-line)	$\leq 85 V$ (C2 - 10 kA)
Response time t_A (line-line)	$\leq 1 ns$
Response time t_A (line-earth)	$\leq 100 ns$
Response time t_A (line-signalground)	$\leq 100 ns$
Input attenuation aE, sym.	typ. 0.3 dB ($\leq 450 kHz/150 \Omega$)
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 1.9 MHz
Capacity (Core-Earth)	typ. 1.5 nF

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Resistance per path	1.2 Ω $\pm$ 5 %
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	315 mA (FF)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 100 A
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 100 A
	D1 - 2.5 kA
Impulse durability (line-signalground)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 100 A
	D1 - 2,5 kA
Pulse reset time (line-line)	$\leq$ 300 ms
Pulse reset time (line-earth)	$\leq$ 30 ms
Pulse reset time (line-signalground)	$\leq$ 4000 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	$\leq$ 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
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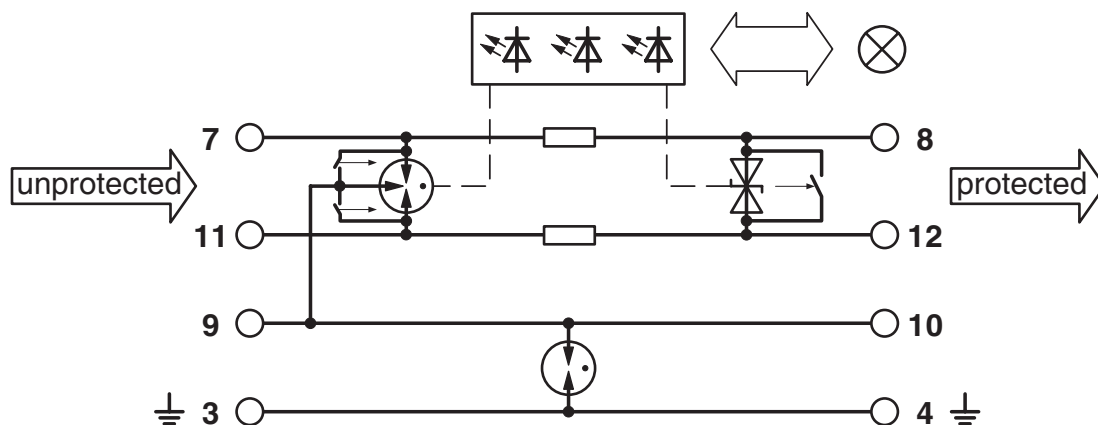
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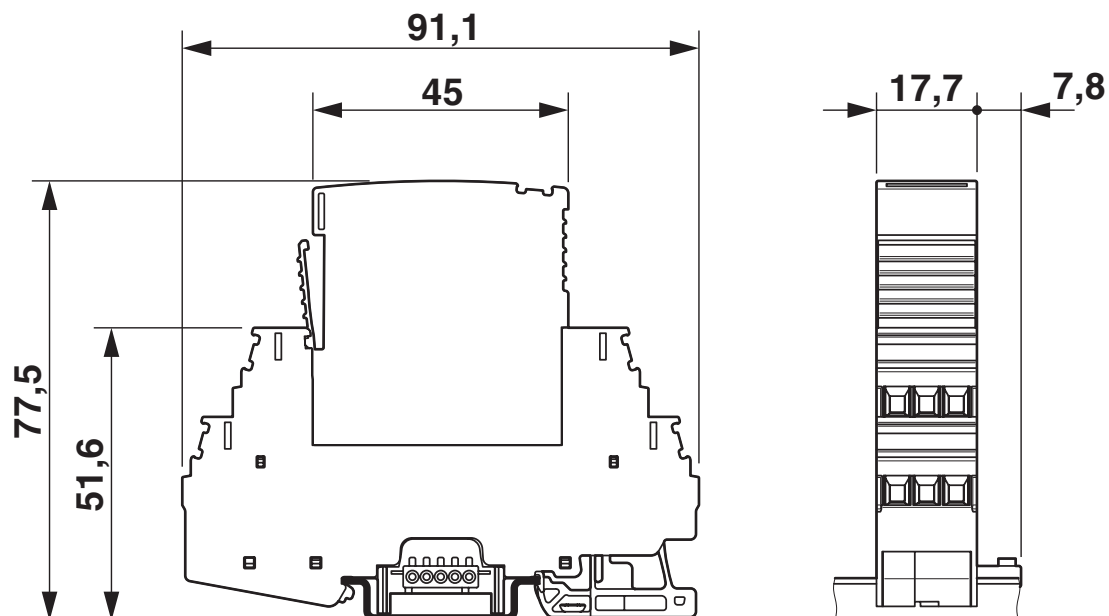
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Drawings

Circuit diagram



Dimensional drawing



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%

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Mandatory accessories

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

2800768

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



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

Accessories

X-PEN 0,35 - Marker pen

0811228

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



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

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ZBF 5:UNBEDRUCKT - Zack Marker strip, flat

0808642

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

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

0808668

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



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

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

0808671

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

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

0810821

<https://www.phoenixcontact.com/us/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: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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

0810863

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



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

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

0808697

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



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

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ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

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



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

E/ME TBUS NS35 GY - End bracket

2713780

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



End clamp, stable construction for DIN rail bus connector

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

1881354

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



PCB connector, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, 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: without, type of packaging: packed in cardboard

SSA 3-6 - Shield connection

2839295

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

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SSA 5-10 - Shield connection

2839512

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

PT-IQ-1X2-48DC-P - Surge protection plug

2800773

<https://www.phoenixcontact.com/us/products/2800773>



Surge protection plug with integrated multi-stage status indicator on the module
for a 2-wire floating signal circuit. 48 V DC nominal voltage.

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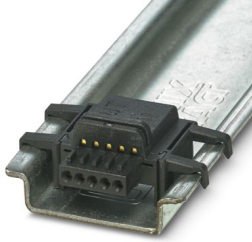
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PT-IQ-17,5-TBUS-5-2.0 - DIN rail bus connectors

2906878

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

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