

Surge protection device - PT-IQ-3-HF+F-12DC-PT



2801289

<https://www.phoenixcontact.com/us/products/2801289>

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for three signal wires with common reference potential. For HF applications and telecommunications interfaces without supply voltage (up to 90 Mbps).

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

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Commercial Data

Item number	2801289
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C07
Product Key	CL2153
Catalog Page	Page 169 (C-4-2019)
GTIN	4046356766708
Weight per Piece (including packing)	115.3 g
Weight per Piece (excluding packing)	109.9 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

IEC test classification	C1
	C2
	C3
	D1
Type	DIN rail module, two-section, divisible
Product type	Surge protection for information technology

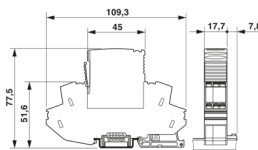
Insulation characteristics

Overvoltage category	III
Pollution degree	2

Connection data

Connection method	Push-in connection
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	17.7 mm
Width	17.7 mm
Height	109.3 mm
Height	109.3 mm
Depth	77.5 mm (incl. DIN rail 7.5 mm)
Depth	77.5 mm
Horizontal pitch	1 Div.

Material specifications

Color	jet black RAL 9005
Flammability rating according to UL 94	V-0

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Housing material	PA 6.6
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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	15 V DC 10 V AC
Rated current	600 mA (40 °C)
Operating effective current I_C at U_C	$\leq 100 \mu A$ (per path)
Residual current I_{PE}	$\leq 10 \mu A$ (per path)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge surge current I_n (8/20) μs (Core-Earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	2.5 kA
Pulse discharge current I_{imp} (10/350) μs (line-signalground)	2.5 kA
Total discharge current I_{total} (8/20) μs	20 kA
Voltage protection level U_p (line-line)	$\leq 40 V$ (C3 - 25 A) $\leq 90 V$ (C1 - 1 kV / 500 A) $\leq 145 V$ (C2 - 10 kV / 5 kA) $\leq 40 V$ (C3 - 50 A)
Voltage protection level U_p (line-earth)	$\leq 900 V$ (C3 - 25 A) $\leq 730 V$ (C1 - 1 kV / 500 A) $\leq 900 V$ (C2 - 10 kV / 5 kA) $\leq 900 V$ (C3 - 50 A)
Voltage protection level U_p (line-signalground)	$\leq 90 V$ (C1 - 1 kV / 500 A) $\leq 145 V$ (C2 - 10 kV / 5 kA) $\leq 40 V$ (C3 - 25 A) $\leq 40 V$ (C3 - 50 A)
Voltage protection level U_p static (line-line)	$\leq 55 V$ (C1 - 1 kV / 500 A)
Voltage protection level U_p static (line-signalground)	$\leq 55 V$ (C1 - 1 kV / 500 A)
Response time t_A (line-line)	$\leq 1 ns$
Response time t_A (line-earth)	$\leq 100 ns$
Response time t_A (line-signalground)	$\leq 1 ns$
Input attenuation aE, sym.	typ. 0.3 dB ($\leq 10 MHz/150 \Omega$)
Input attenuation aE, asym.	typ. 0.3 dB ($\leq 10 MHz/150 \Omega$)
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 60 MHz
Cut-off frequency f_g (3 dB), asym. (signal ground) in 150 Ω system	typ. 60 MHz
Capacity (Core-Core)	typ. 30 pF
Capacity (line-signalground)	typ. 30 pF
Resistance per path	1.2 $\Omega \pm 5 \%$

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Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	600 mA (FF)
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 50 A
	D1 - 2.5 kA
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 50 A
	D1 - 2.5 kA
Impulse durability (line-signalground)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 50 A
	D1 - 2,5 kA
Pulse reset time (line-line)	≤ 15 ms
Pulse reset time (line-earth)	≤ 15 ms
Pulse reset time (line-signalground)	≤ 15 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 (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %

Standards and regulations

Standards/specifications	IEC 61643-21
Standards/specifications	EN 61643-21
Standards/specifications	EN 61000-6-2
Standards/specifications	EN 61000-6-3

Mounting

Mounting type	DIN rail: 35 mm
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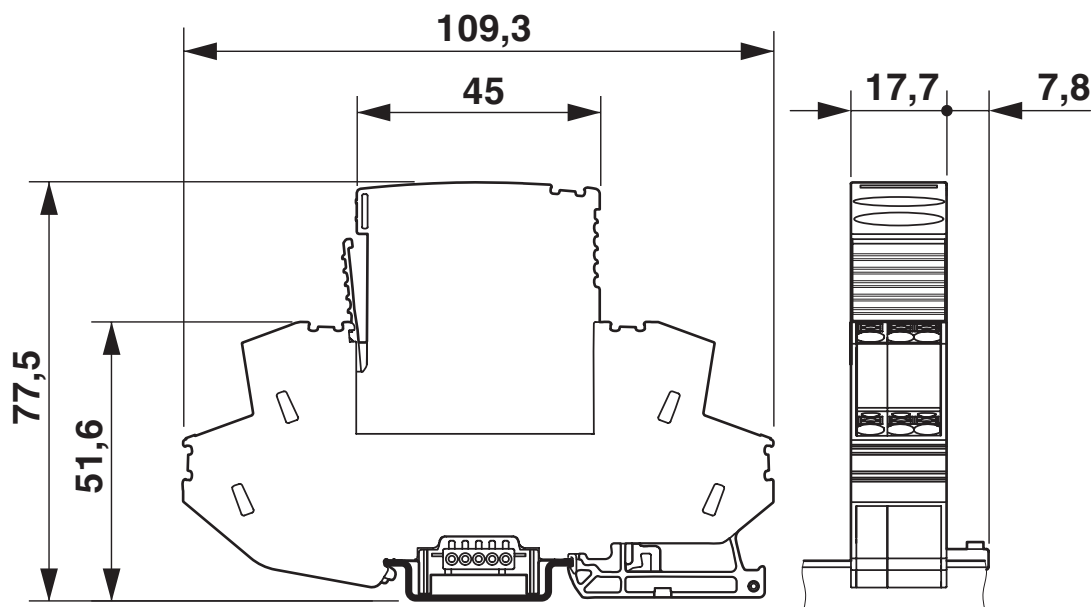


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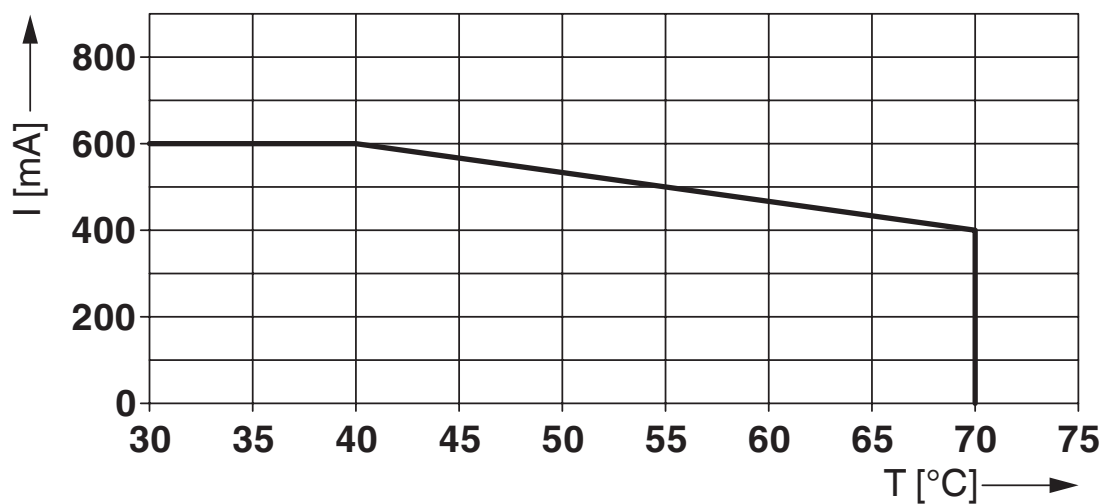
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Drawings

Dimensional drawing



Diagram



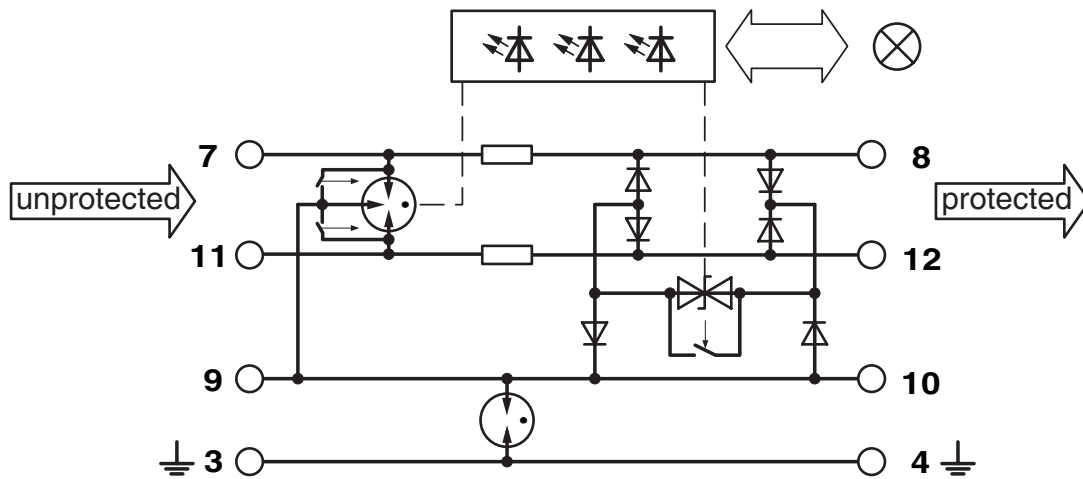
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Circuit diagram



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Approvals



UL Listed

Approval ID: FILE E 138168

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Classifications

ECLASS

ECLASS-9.0	27130807
ECLASS-10.0.1	27130807
ECLASS-11.0	27130807

ETIM

ETIM 8.0	EC000943
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UNSPSC

UNSPSC 21.0	39121600
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Mandatory Accessories

Supply and remote module

Supply and remote module - PT-IQ-PTB-PT - 2801296

<https://www.phoenixcontact.com/us/products/2801296>



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

Accessories

Marker pen

Marker pen - X-PEN 0,35 - 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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Zack Marker strip, flat

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

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



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

Zack Marker strip, flat

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

Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671

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



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

Zack Marker strip, flat

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

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

Zack Marker strip, flat

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

Zack marker strip - ZBN 18:UNBEDRUCKT - 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

End clamp

End clamp - E/ME TBUS NS35 GY - 2713780

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



End clamp, stable construction for DIN rail bus connector

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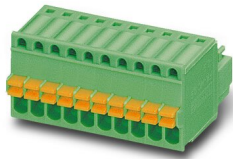
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PCB connector

PCB connector - FK-MC 0,5/ 5-ST-2,5 - 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, type of contact: Female connector, 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 °, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, locking: without, mounting: without, type of packaging: packed in cardboard

Shield connection

Shield connection - SSA 3-6 - 2839295

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



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

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Shield connection

Shield connection - SSA 5-10 - 2839512

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



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

Surge protection plug

Surge protection plug - PT-IQ-3-HF-12DC-P - 2800784

<https://www.phoenixcontact.com/us/products/2800784>



Surge protection plug with integrated multi-stage status indicator on the module
for three signal wires. For HF applications. Nominal voltage: 12 V DC

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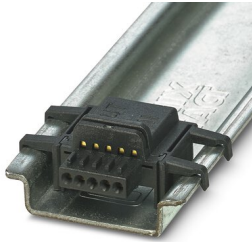
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DIN rail bus connectors

DIN rail bus connectors - PT-IQ-17,5-TBUS-5-2.0 - 2906878

<https://www.phoenixcontact.com/us/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.

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