

PT-IQ-4X1+F-12DC-PT - Surge protection device



2801270

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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.

The figure shows the PT-IQ-2x2-24DC-PT version

Commercial data

Item number	2801270
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	CL22
Product key	CL2153
GTIN	4046356766524
Weight per piece (including packing)	151.1 g
Weight per piece (excluding packing)	151.1 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

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Electrical properties

Nominal voltage U_N	12 V DC
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Connection data

Connection method	Push-in connection
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section rigid	0.5 mm ² ... 4 mm ²
Conductor cross-section AWG	24 ... 12

Dimensions

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

Material specifications

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

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Nominal voltage U_N	12 V DC
Maximum continuous operating voltage U_C	15 V DC 10 V AC
Rated current	700 mA (50 °C)
Operating effective current I_C at U_C	≤ 1 mA (per path)
Protective conductor current I_{PE}	≤ 1 μA
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)	≤ 750 V (C1 - 1 kV / 500 A) ≤ 850 V (C2 - 10 kV / 5 kA) ≤ 810 V (C3 - 25 A) ≤ 950 V (C3 - 50 A)
Voltage protection level U_p (line-signal ground)	≤ 90 V (C1 - 1 kV / 500 A) ≤ 135 V (C2 - 10 kV / 5 kA) ≤ 35 V (C3 - 25 A) ≤ 35 V (C3 - 50 A)
Voltage protection level U_p static (line-earth)	≤ 300 V (C2 - 10 kV / 5 kA) ≤ 60 V (C3 - 25 A) ≤ 60 V (C3 - 50 A)
Voltage protection level U_p static (line-signal ground)	≤ 45 V (C1 - 1 kV / 500 A) ≤ 100 V (C2 - 10 kV / 5 kA)
Response time t_A (line-earth)	≤ 100 ns
Response time t_A (line-signal ground)	≤ 1 ns
Input attenuation aE, asym.	typ. 0.3 dB (≤ 130 kHz/150 Ω)
Cut-off frequency f_g (3 dB), asym. (signal ground) in 150 Ω system	typ. 600 kHz
Capacitance (line-signal ground)	typ. 4 nF
Resistance per path	1.2 Ω ±5 %
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	800 mA (FF)
Impulse durability (line-earth)	C1 - 1 kV / 500 A C2 - 10 kV / 5 kA C2 - 10 kA C3 - 50 A D1 - 2.5 kA C1 - 1 kV / 500 A

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Impulse durability (line-signal ground)	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 50 A
	D1 - 2,5 kA
Pulse reset time (line-earth)	≤ 10 ms
Pulse reset time (line-signal ground)	≤ 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)

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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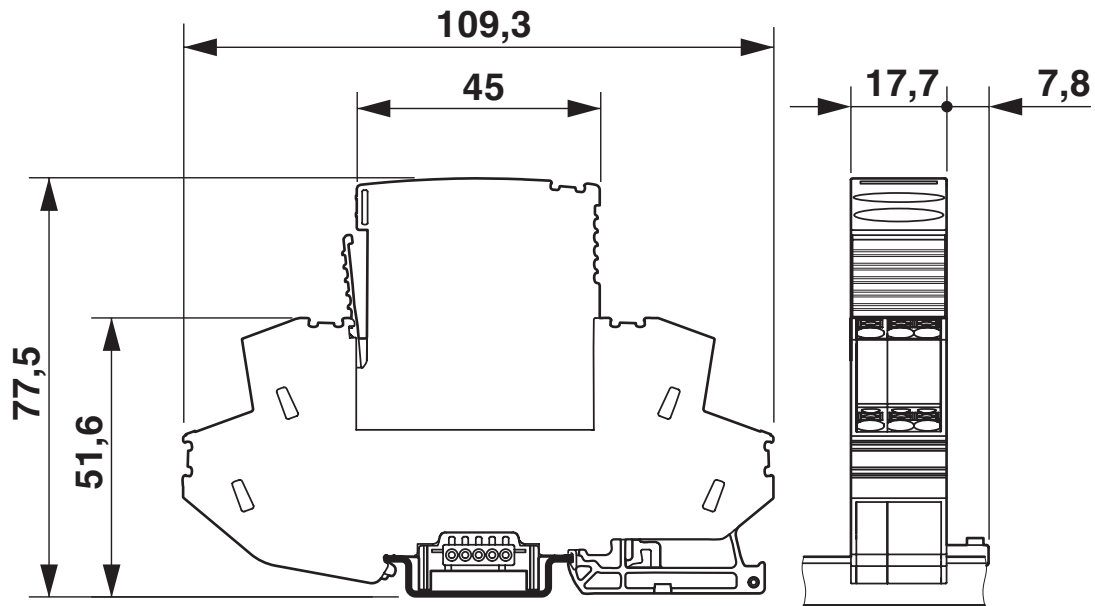


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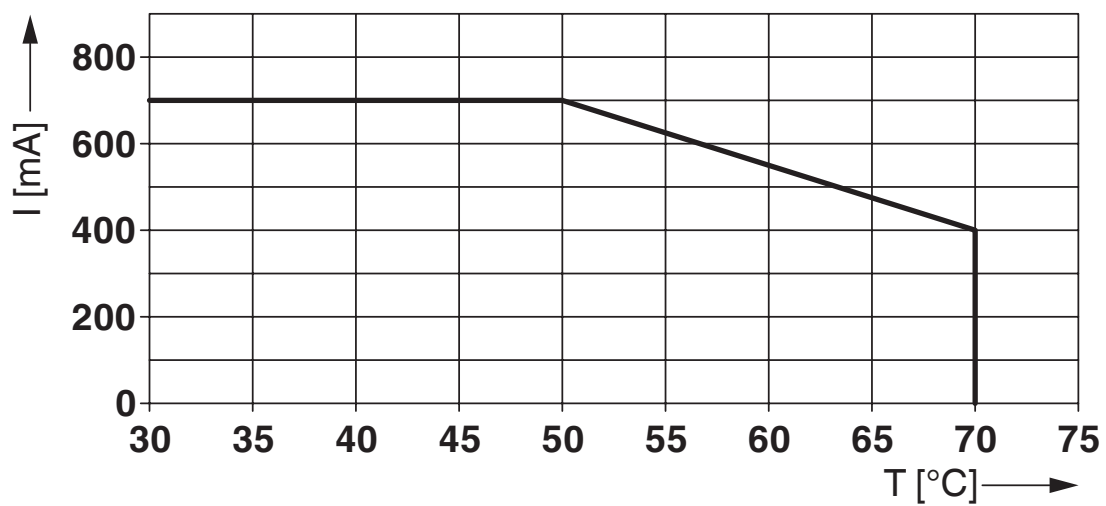
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Drawings

Dimensional drawing



Diagram



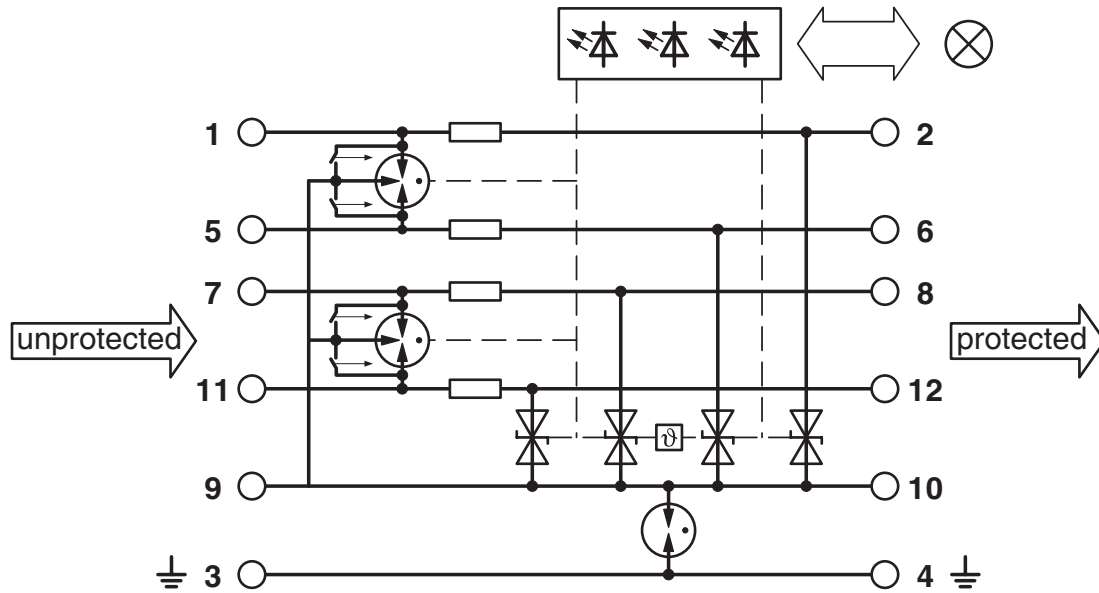
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Circuit diagram



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Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	
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	No substance above 0.1 wt%
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