

PT-IQ-2X1+F-12DC-UT - Surge protection device



2800781

<https://www.phoenixcontact.com/il/products/2800781>

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for two signal wires with common reference potential. Indirect grounding via gas-filled surge arrester.

Commercial data

Item number	2800781
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	CL2151
Catalog page	Page 75 (C-6-2015)
GTIN	4046356645287
Weight per piece (including packing)	137.2 g
Weight per piece (excluding packing)	137.2 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

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	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)
Horizontal pitch	1 Div.

Material specifications

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

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	1000 mA (40 °C)
Operating effective current I_C at U_C	≤ 1 mA (per path)
Residual current I_{PE}	≤ 1 μ A
Nominal discharge current I_n (8/20) μ s (line-ground)	10 kA
Pulse discharge current I_{imp} (10/350) μ s (line-earth)	2.5 kA
Total discharge current I_{total} (8/20) μ s	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-signalground)	≤ 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-signalground)	≤ 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-signalground)	≤ 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
Capacity (Core-Earth)	typ. 4 nF
Resistance per path	1.2 $\Omega \pm 5$ %
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	1 A (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
Impulse durability (line-signalground)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C2 - 10 kA

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	C3 - 50 A
	D1 - 2,5 kA
Pulse reset time (line-earth)	≤ 10 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)

Standards and regulations

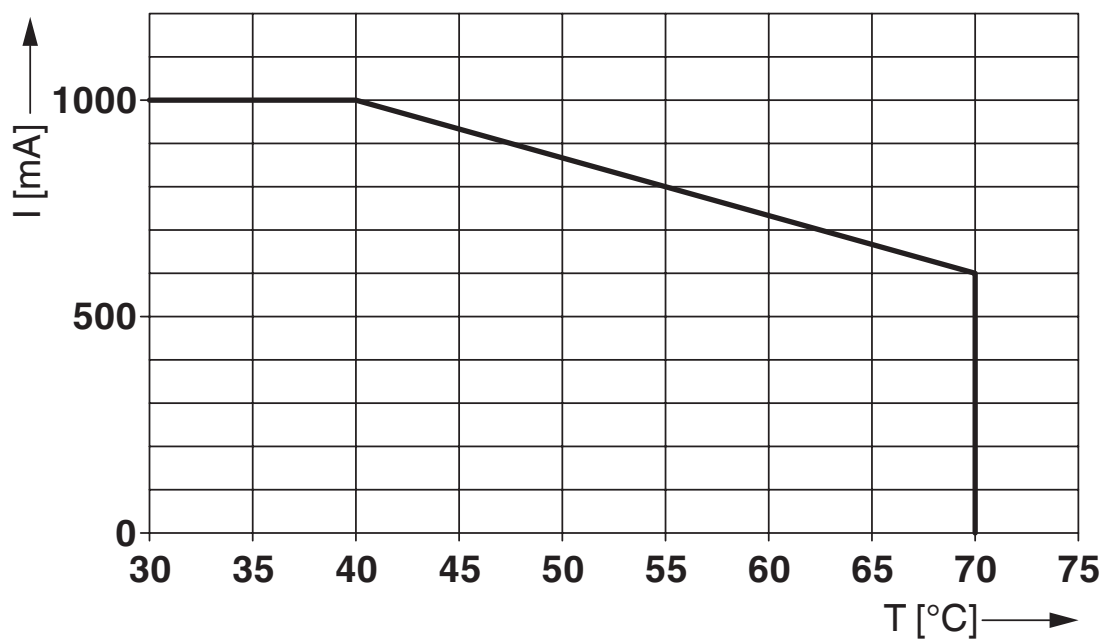
Standards/specifications	IEC 61643-21
Note	2000 + A1:2008, modified
Standards/specifications	EN 61643-21
Note	2001 + A1:2009
Standards/specifications	EN 61000-6-3
Note	2007 + A1:2011
Standards/specifications	EN 61000-6-2
Note	2005

Mounting

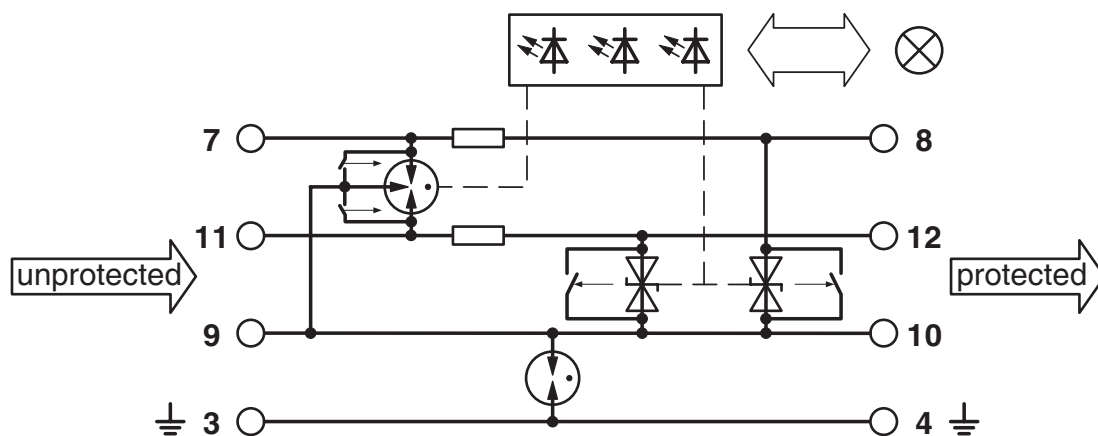
Mounting type	DIN rail: 35 mm
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Drawings

Diagram



Circuit diagram



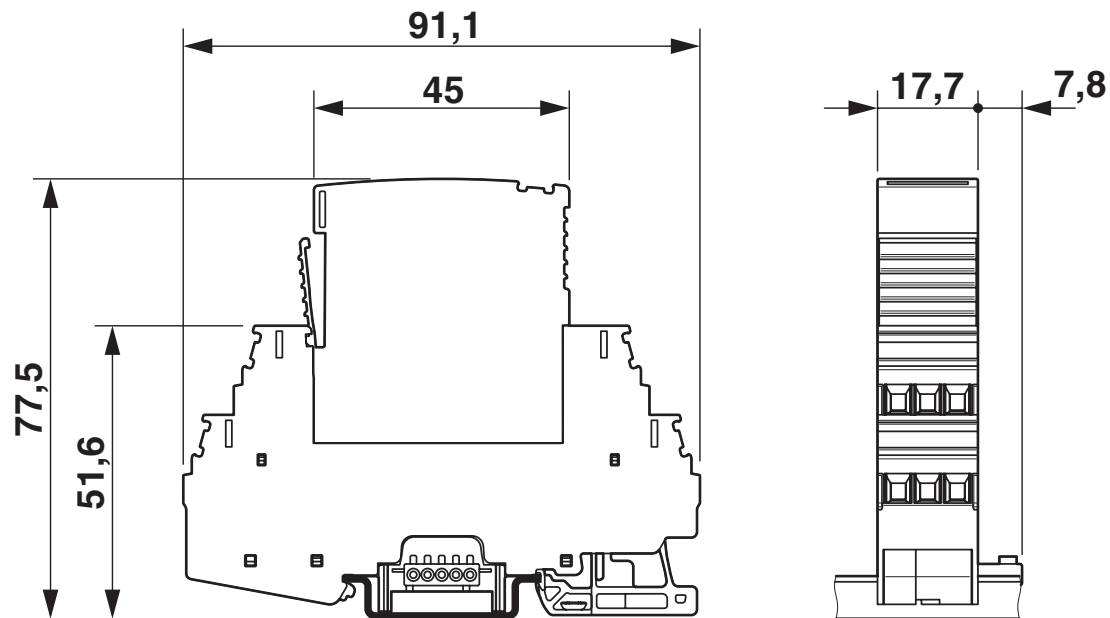
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Dimensional drawing



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Environmental product compliance

EU REACH SVHC

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