

# PT-IQ-2X2+F-12DC-UT - Surge protection device



2800985

<https://www.phoenixcontact.com/us/products/2800985>

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Surge protection, consisting of protective plug and base element, with integrated multi-stage status indicator on the module for two 2-wire floating signal circuits. Indirect grounding via gas-filled surge arrester.

## 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	2800985
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL22
Product key	CL2151
Catalog page	Page 121 (C-4-2019)
GTIN	4046356665735
Weight per piece (including packing)	126.9 g
Weight per piece (excluding packing)	121.6 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 MCR technology
Product family	PLUGTRAB IQ
Surge protection fault message	Optical, multi-stage
Wire pairs per module	2

#### 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 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
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)

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Horizontal pitch	1 Div.
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## 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
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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	700 mA (50 °C)
Operating effective current $I_C$ at $U_C$	$\leq 1 \mu\text{A}$ (in the signal circuit)
Residual current $I_{PE}$	$\leq 1 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-line)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-signal ground)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-earth)	2.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$ (line-signalground)	2.5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	20 kA
Voltage protection level $U_p$ (line-line)	$\leq 65 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 95 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 110 \text{ V}$ (C2 - 10 kA)
	$\leq 35 \text{ V}$ (C3 - 25 A)
	$\leq 40 \text{ V}$ (C3 - 50 A)
Voltage protection level $U_p$ (line-earth)	$\leq 900 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 1300 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 1200 \text{ V}$ (C2 - 10 kA)
	$\leq 1000 \text{ V}$ (C3 - 25 A)
	$\leq 1300 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ (line-signalground)	$\leq 600 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 750 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 800 \text{ V}$ (C2 - 10 kA)
	$\leq 700 \text{ V}$ (C3 - 25 A)
	$\leq 800 \text{ V}$ (C3 - 100 A)
Voltage protection level $U_p$ static (line-line)	$\leq 45 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 50 \text{ V}$ (C2 - 10 kA)
Response time $t_A$ (line-line)	$\leq 1 \text{ ns}$

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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 ( $\leq 95$ kHz/150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 600 kHz
Capacity (Core-Core)	typ. 4 nF
Resistance per path	1.2 $\Omega \pm 5$ %
Surge protection fault message	Optical, multi-stage
Max. required back-up fuse	800 mA (FF)
Impulse durability (line-line)	C1 - 1 kV / 500 A C2 - 10 kV / 5 kA C2 - 10 kA C3 - 50 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)	$\leq 25$ ms
Pulse reset time (line-earth)	$\leq 50$ ms
Pulse reset time (line-signalground)	$\leq 50$ 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 61000-6-2
Note	2007 + A1:2011
Standards/specifications	EN 61000-6-3
Note	2005

## Mounting

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Mounting type	DIN rail: 35 mm
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## Classifications

### ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

### ETIM

ETIM 9.0	EC001625
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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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