

# Surge protection device - PT-IQ-2X2-24DC-UT



2800980

<https://www.phoenixcontact.com/us/products/2800980>

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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, HART-compatible.

## 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	2800980
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C07
Product Key	CL2151
Catalog Page	Page 121 (C-4-2019)
GTIN	4046356665803
Weight per Piece (including packing)	124.8 g
Weight per Piece (excluding packing)	120 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
Surge protection fault message	Optical, multi-stage
Wire pairs per module	2

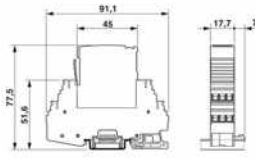
#### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### 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 solid	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)
Horizontal pitch	1 Div.

### Material specifications

Color	jet black RAL 9005
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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 $U_C$	30 V DC
	21 V AC
Rated current	700 mA (50 °C)
Operating effective current $I_C$ at $U_C$	$\leq 1$ mA (in the signal circuit)
Residual current $I_{PE}$	$\leq 2$ $\mu$ A (per signal circuit)
Nominal discharge current $I_n$ (8/20) $\mu$ s (line-line)	10 kA
Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu$ s (line-earth)	2.5 kA
Total discharge current $I_{total}$ (8/20) $\mu$ s	20 kA
Voltage protection level $U_p$ (line-line)	$\leq 80$ V (C1 - 1 kV / 500 A)
	$\leq 130$ V (C2 - 10 kV / 5 kA)
	$\leq 150$ V (C2 - 10 kA)
	$\leq 55$ V (C3 - 25 A)
	$\leq 60$ V (C3 - 100 A)
Voltage protection level $U_p$ (line-earth)	$\leq 600$ 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)	$\leq 65$ V (C1 - 1 kV / 500 A)
	$\leq 65$ V (C2 - 10 kA)
Response time $t_A$ (line-line)	$\leq 1$ ns
Response time $t_A$ (line-earth)	$\leq 100$ ns
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 270$ kHz/150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 150 $\Omega$ system	typ. 1.1 MHz
Capacity (Core-Earth)	typ. 2 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 - 100 A
	C1 - 1 kV / 500 A

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Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	C2 - 10 kA
	C3 - 100 A
	D1 - 2.5 kA
Pulse reset time (line-line)	≤ 4000 ms
Pulse reset time (line-earth)	≤ 2600 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 61000-6-3
Standards/specifications	EN 61000-6-2

## Mounting

Mounting type	DIN rail: 35 mm
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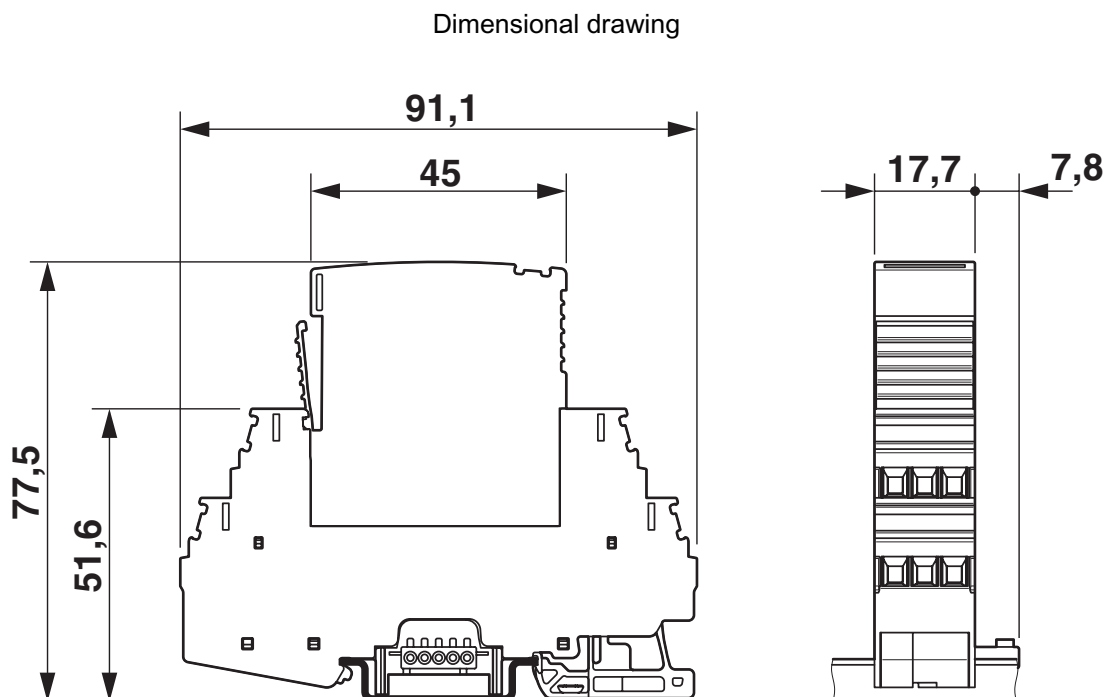
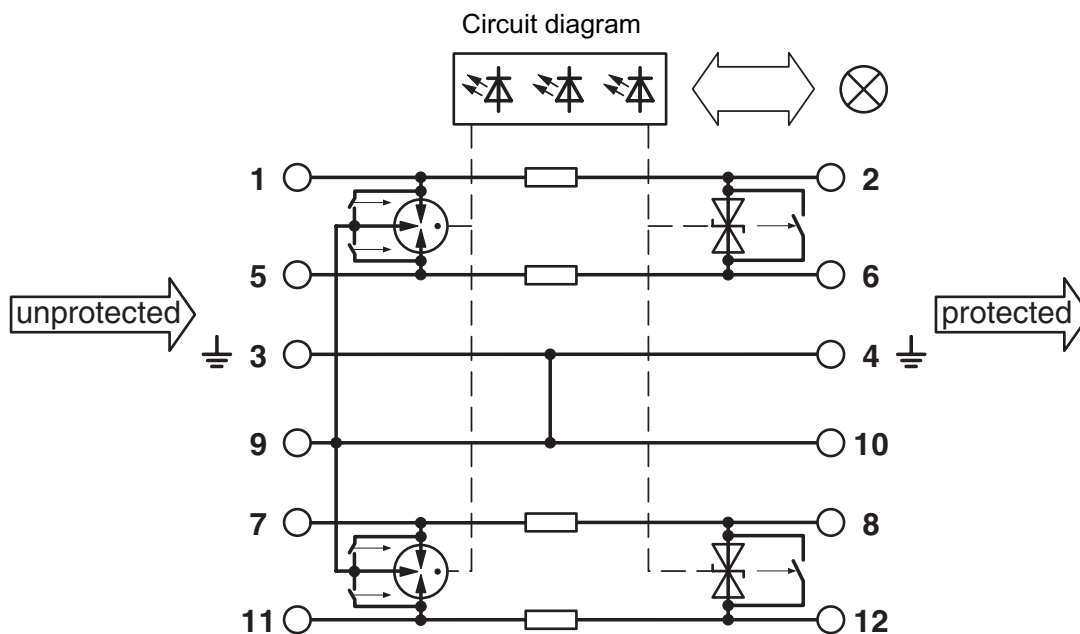
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## Drawings

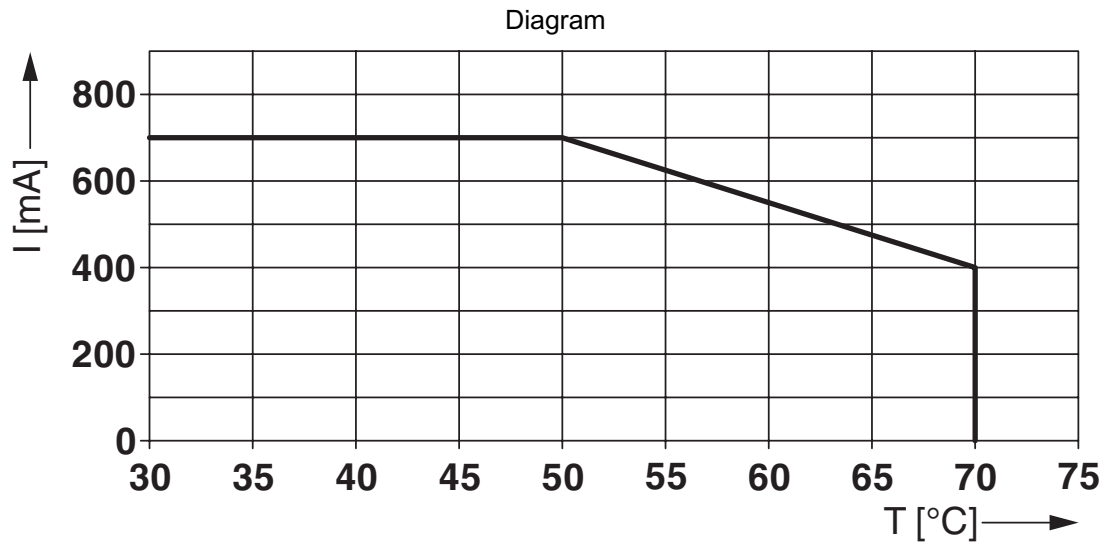


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## Approvals



**CSA**

Approval ID: 2761632



**EAC**

Approval ID: RU C-DE.\*09.B.00169



**UL Listed**

Approval ID: FILE E 138168



**CSAus**

Approval ID: 2761632

**cCSAus**

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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-UT - 2800768

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



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

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## 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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<https://www.phoenixcontact.com/us/products/2800980>

## 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

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## 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

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## 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

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## 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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<https://www.phoenixcontact.com/us/products/2800980>

## 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

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## 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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## 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 mm<sup>2</sup>, 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

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## 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 mm<sup>2</sup>, color: black

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<https://www.phoenixcontact.com/us/products/2800980>

## 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 mm<sup>2</sup>, color: black

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## Surge protection plug

Surge protection plug - PT-IQ-2X2-24DC-P - 2800804

<https://www.phoenixcontact.com/us/products/2800804>



Surge protection plug with integrated multi-stage status indicator on the module for two 2-wire floating signal circuits. 24 V DC nominal voltage.

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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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