

# PT 2X1VA/S1-230AC-ST - Surge protection plug



2880024

<https://www.phoenixcontact.com/us/products/2880024>

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PT protective plug with protective circuit for higher signal voltages, 2-channel. Nominal voltage: 230 V AC

## Your advantages

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance, thanks to the 2-piece design
- Easy selection for all possible demands in MCR applications with a complete product portfolio
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

## Commercial data

Item number	2880024
Packing unit	10 pc
Minimum order quantity	1 pc
Product key	CL2111
GTIN	4017918956899
Weight per piece (including packing)	31.1 g
Weight per piece (excluding packing)	27.283 g
Country of origin	DE

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## Technical data

### Notes

#### General

Note	Technical data is valid in association with the following specified base elements: PT -BE/ FM 2839282
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### Product properties

Product type	Surge protection for MCR technology
Product family	PLUGTRAB PT
IEC test classification	C1
	C2
	C3
	D1
Type	Male
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 2.20

### Insulation characteristics

Overvoltage category	III ( $U_C \leq 300$ V DC / 300 V AC)
	II ( $U_C = 320$ V DC / 320 V AC)
Pollution degree	2

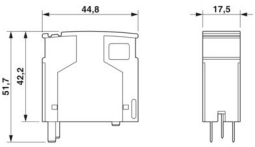
### Electrical properties

Nominal voltage $U_N$	230 V AC (50/60 Hz)
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### Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.8 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	17.5 mm
Height	44.8 mm
Depth	51.7 mm

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Horizontal pitch	1 Div.
Complete module width	17.7 mm
Complete module height	90 mm
Complete module depth	65.5 mm

## Material specifications

Color	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-Earth Ground
Nominal voltage $U_N$	230 V AC (50/60 Hz)
Maximum continuous operating voltage $U_C$	320 V DC
	320 V AC (50/60 Hz)
Rated current	26 A AC (30 °C)
	1 A DC
Operating effective current $I_C$ at $U_C$	$\leq 200 \mu\text{A AC}$
	$\leq 10 \mu\text{A DC}$
Protective conductor current $I_{PE}$	$\leq 400 \mu\text{A AC}$
	$\leq 20 \mu\text{A DC}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	2.5 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$	500 A (per path)
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	5 kA
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 850 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static	$\leq 850 \text{ V}$
Voltage protection level $U_p$ (line-earth)	$\leq 850 \text{ V}$ (C1 - 1.4 kV / 0.7 kA)
	$\leq 1050 \text{ V}$ (C2 - 5 kV/2,5 kA)
	$\leq 820 \text{ V}$ (C3 - 100 A)
Response time $t_A$ (line-earth)	$\leq 25 \text{ ns}$
Input attenuation aE, asym.	typ. 0.3 dB ( $\leq 500 \text{ kHz} / 150 \Omega$ )
Cut-off frequency $f_g$ (3 dB), asym. (signal ground) in 150 $\Omega$ system	typ. 1.7 MHz
Capacity (Core-Earth)	typ. 2 nF
Surge protection fault message	optical
Max. required back-up fuse	25 A AC (gL/gG)
	1 A DC (T)
Impulse durability (line-earth)	C1 - 1,4 kV / 0,7 kA
	C2 - 5 kV / 2.5 kA
	C3 - 100 A

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	D1 - 500 A
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl)

## Standards and regulations

Standards/specifications	IEC 61643-21
Note	2000 + corrigendum 2001 + A1:2008, modified + A2:2012
Standards/specifications	EN 61643-21
Note	2001 + A1:2009 + A2:2013

## Mounting

Mounting type	on base element
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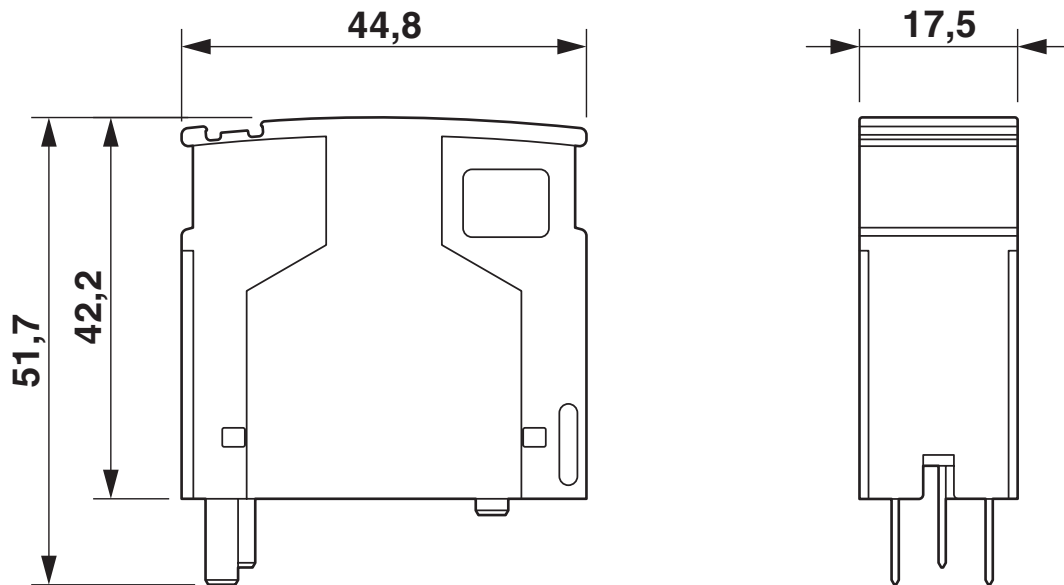


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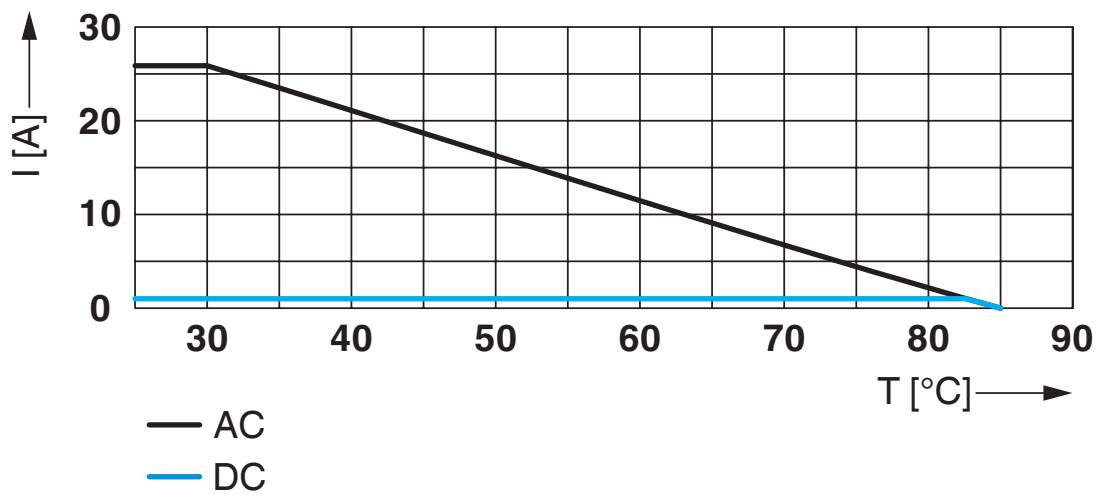
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## Drawings

Dimensional drawing



Diagram

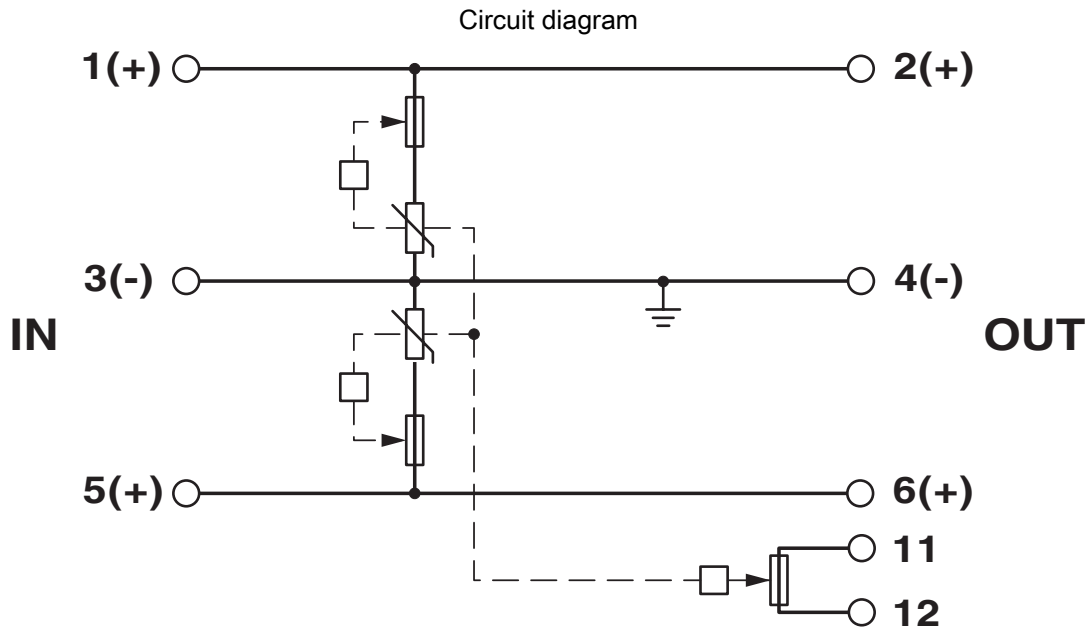


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## Classifications

### ECLASS

ECLASS-13.0	27171501
ECLASS-15.0	27171501

### ETIM

ETIM 10.0	EC001466
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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### EF3.1 Climate Change

CO2e kg	2.634 kg CO2e
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