

Surge protection plug - PT 1X2-12DC-ST - 2856029

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PT protective connector with protective circuit for a 2-wire floating signal circuit. HART-compatible.

Why buy this product

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Installed in conjunction with the PT 1x2...-BE base element
- ✓ Maximum ease of maintenance thanks to the two-piece design
- ✓ Base element remains an integral part of the installation
- ✓ Consistent plug-in signal circuit protection
- ✓ Protection for a floating signal circuit
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes



Key Commercial Data

Packing unit	10 STK
GTIN	 4 017918 599218
GTIN	4017918599218

Technical data

Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Horizontal pitch	1 Div.
Complete module height	90 mm
Complete module width	17.7 mm
Complete module depth	65.5 mm

Ambient conditions

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Technical data

Ambient conditions

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

General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	jet black RAL 9005
Mounting type	on base element
Type	Male
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00

Additional descriptions

Note	Technical data is valid in association with the following specified base elements:
	PT 1X2+F-BE 2856126
	PT 1X2-BE 2856113

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	12 V DC
Maximum continuous voltage U_C	13 V DC
	9 V AC
Rated current	450 mA (45°C)
Operating effective current I_C at U_C	≤ 5 μA
Residual current I_{PE}	≤ 1 μA (with PT 1X2+F-BE)
	≤ 2 μA (with PT 1X2-BE)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge current I_n (8/20) μs (line-earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs	2.5 kA
Total discharge current I_{total} (8/20) μs	20 kA
Max. discharge current I_{max} (8/20) μs maximum (line-line)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (line-earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (line-line)	67 A
Output voltage limitation at 1 kV/μs (line-line) spike	≤ 20 V
Output voltage limitation at 1 kV/μs (line-earth) spike	≤ 450 V (with PT 1X2-BE)

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Protective circuit

	≤ 1 kV (with PT 1X2+F-BE)
Output voltage limitation at 1 kV/μs (line-line) static	≤ 18 V
Output voltage limitation at 1 kV/μs (line-earth) static	≤ 25 V (with PT 1X2-BE)
	≤ 50 V (with PT 1X2+F-BE)
Residual voltage at I _n (line-line)	≤ 18 V
Residual voltage with I _{an} (10/1000) μs (line-line)	≤ 23 V
Voltage protection level U _p (line-line)	≤ 50 V (C2 - 10 kV / 5 kA)
Voltage protection level U _p (line-earth)	≤ 450 V (C1 - 1 kV / 500 A with PT 1X2-BE)
	≤ 1000 V (C2 - 10 kV / 5 kA with PT 1X2+F-BE)
Voltage protection level U _p static (line-line)	≤ 18 V (C2 - 10 kV / 5 kA)
Voltage protection level U _p static (line-earth)	≤ 50 V (C2 - 10 kV / 5 kA with PT 1X2-BE)
	≤ 100 V (C2 - 10 kV / 5 kA with PT 1X2+F-BE)
Response time t _A (line-line)	≤ 1 ns
Response time t _A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 600 kHz / 50 Ω)
	typ. 0.2 dB (≤ 200 kHz / 150 Ω)
	typ. 0.1 dB (≤ 50 kHz / 600 Ω)
Cut-off frequency f _g (3 dB), sym. in 50 Ohm system	typ. 3 MHz
Cut-off frequency f _g (3 dB), sym. in 150 Ohm system	typ. 1 MHz
Cut-off frequency f _g (3 dB), sym. in 600 Ohm system	typ. 300 kHz
Capacity (line-line)	typ. 3 nF
Capacity (line-earth)	typ. 4 pF (with PT 1X2-BE)
	typ. 2 pF (with PT 1X2+F-BE)
Resistance in series	2.2 Ω ±10 %
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C2 - 10 kV/5 kA
	C3 - 67 A
Impulse durability (line-earth)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	D1 - 2.5 kA

Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

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Technical data

Standards and Regulations

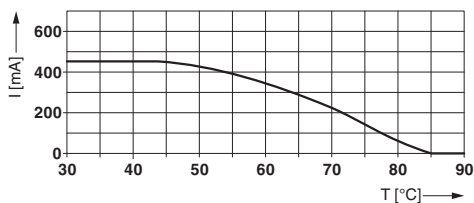
Standards/specifications	IEC 61643-21 2000 + corrigendum 2001 + A1:2008, modified + A2:2012
	EN 61643-21 2001 + A1:2009 + A2:2013

Drawings

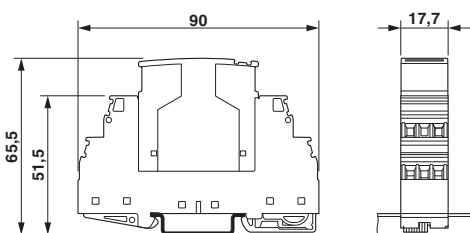
Pictogram



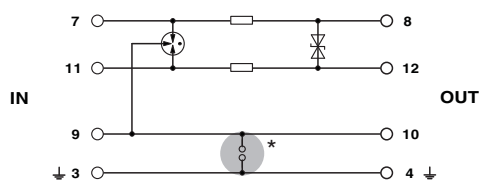
Diagram



Dimensional drawing



Circuit diagram



The figure shows the complete module consisting of a base element and connector

Approvals

Approvals

Approvals

UL Listed / EAC / EAC / DNV GL

Ex Approvals

UL Listed / cUL Listed / ATEX / cULus Listed

Approval details

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Approvals

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
Nominal voltage UN		12 V	
Nominal current IN		0.45 A	

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B01561
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DNV GL	http://exchange.dnv.com/tari/	TAE00001N6
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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>