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PT 2X2-HF-12 DC-ST - Surge protection plug

2839570

https://www.phoenixcontact.com/gb/products/2839570

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Surge protection plug for the base element, normal mode voltage coarse and fine protection for two floating double wires in IT. Design: 12 V DC

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	2839570
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	CL3121
Product key	CL3121
Catalog page	Page 185 (C-4-2019)
GTIN	4017918591113
Weight per piece (including packing)	25.87 g
Weight per piece (excluding packing)	22.149 g
Customs tariff number	85363010
Country of origin	DE

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Technical data

Product properties

Product type	Surge protection for information technology
Product family	PLUGTRAB PT
IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Type	Male
Number of positions	5
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00
Wire pairs per module	2

Insulation characteristics

Overvoltage category	III
Pollution degree	2

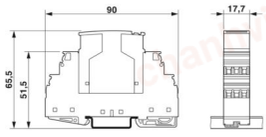
Electrical properties

Nominal voltage U_N	12 V DC

Connection data

Connection method	Screw connection (in connection with the base element)
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	45 mm
Depth	52 mm
Horizontal pitch	1 Div.

Material specifications

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Color	black (RAL 9005)
	Copper
Flammability rating according to UL 94	V-0
Housing material	PA

Mechanical properties

Mechanical data

Open side panel	No

Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
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}	≤ 4 µA (with PT 2X2-BE)
	≤ 1 µA (with PT 2X2+F-BE)
Nominal discharge current I_n (8/20) µs (line-line)	10 kA
Nominal discharge current I_n (8/20) µs (line-ground)	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 Ian (10/1000) µs (line-line)	67 A
Output voltage limitation at 1 kV/µs (line-line) spike	≤ 50 V
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 450 V
	≤ 1 kV (with PT 2X2+F-BE)
Output voltage limitation at 1 kV/µs (line-line) static	≤ 25 V
Output voltage limitation at 1 kV/µs (line-signalground) static	≤ 450 V
Residual voltage at I_n (conductor-conductor)	≤ 25 V
Residual voltage with Ian (10/1000) µs (line-line)	≤ 23 V
Voltage protection level U_p (line-line)	≤ 100 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (line-earth)	≤ 450 V (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	≤ 500 ns
Response time t_A (line-earth)	≤ 500 ns
Input attenuation aE, sym.	0.2 dB (≤ 5 MHz)
Cut-off frequency fg (3 dB), sym. in 100 Ω system	typ. 70 MHz
Capacity (Core-Core)	typ. 30 pF
Resistance per path	2.2 Ω
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C2 - 10 kV / 5 kA
Impulse durability (line-earth)	C2 - 10 kV / 5 kA

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	D1 - 2.5 kA

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C

Standards and regulations

VDE requirement class	C1
	C2
	C3
	D1

Air clearances and creepage distances

Standards/regulations	DIN VDE 0110-1 / IEC 60664-1

Standards Information technology specification

Standards/regulations	IEC 61643-21
	IEC 61643-21
Standards/specifications	IEC 61643-21
Note	2000

Mounting

Mounting type	on base element

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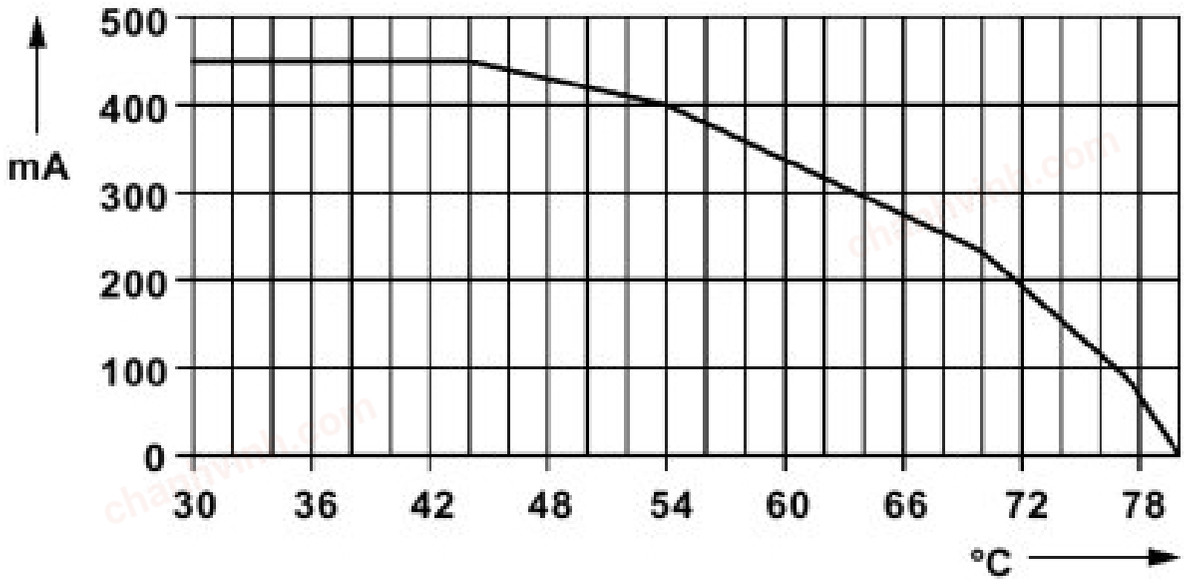
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Drawings

Diagram



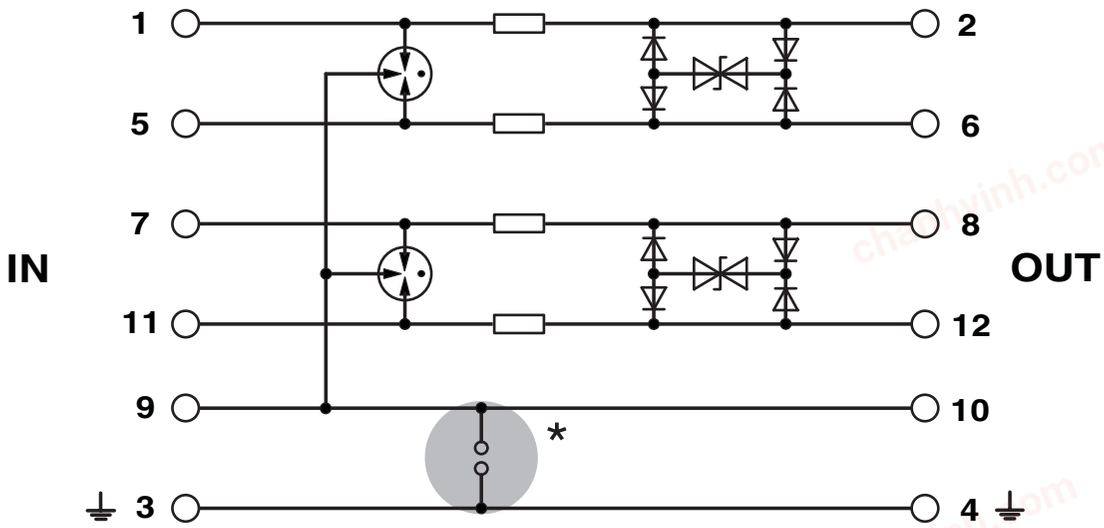
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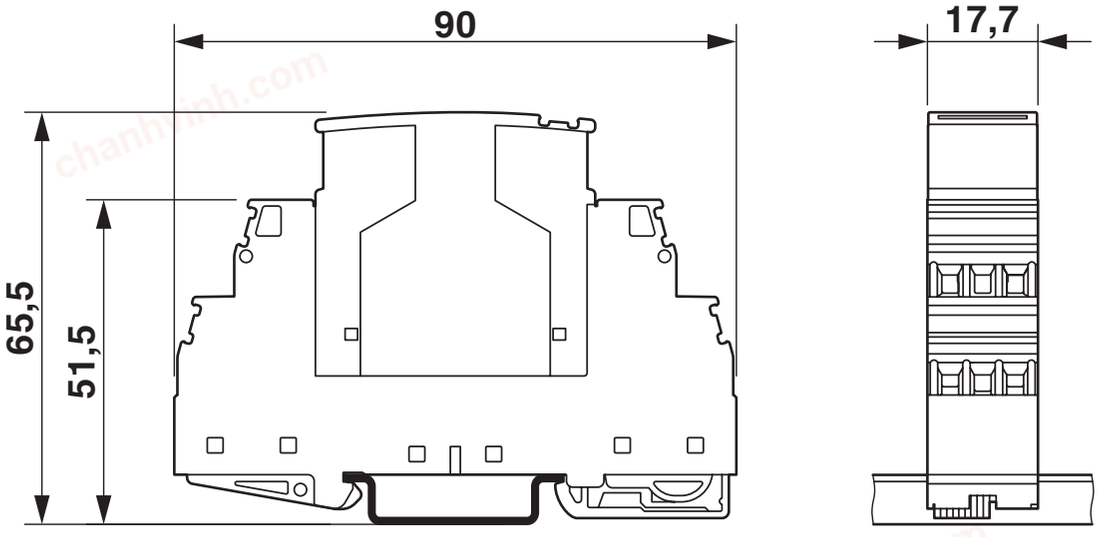
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Circuit diagram



Dimensional drawing



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

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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/2839570

EAC
Approval ID: EAC-Zulassung

DNV GL
Approval ID: TAE00001N6

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

UL Listed
Approval ID: FILE E 138168

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	24 V	0.45 A	-	-

cUL Listed
Approval ID: FILE E 333250

UL Listed
Approval ID: FILE E 333250

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171503

ETIM

ETIM 9.0	EC001466

UNSPSC

UNSPSC 21.0	39121600

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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	4bfc8851-b716-42ce-bd16-816e5b206168

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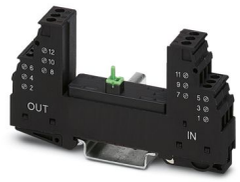
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Mandatory accessories

PT 2X2+F-BE - Surge protection base-element

2839224

https://www.phoenixcontact.com/gb/products/2839224



Base element for protective plug PT with protective circuit for two 2-wire floating signal circuit, gas-filled surge arrester between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

Accessories

ZBF 5:UNBEDRUCKT - Zack Marker strip, flat

0808642

https://www.phoenixcontact.com/gb/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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ZBF 5/WH-100:UNBEDRUCKT - Zack Marker strip, flat

0808668

https://www.phoenixcontact.com/gb/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

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

https://www.phoenixcontact.com/gb/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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ZBN 18 CUS - Zack marker strip

0825059

https://www.phoenixcontact.com/gb/products/0825059



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

SSA 3-6 - Shield connection

2839295

https://www.phoenixcontact.com/gb/products/2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm^2, color: black

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SSA 5-10 - Shield connection

2839512

https://www.phoenixcontact.com/gb/products/2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm^2, color: black

X-PEN 0,35 - Marker pen

0811228

https://www.phoenixcontact.com/gb/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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