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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Extract from the online catalog

# **PT 2X2-12AC-ST**

Order No.: 2838270

The illustration shows version PT 2x2- 5DC-ST



http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2838270

Surge protection plug for the base element, for two floating double wires, common mode voltage coarse protection to ground. Nominal voltage: 12 V AC



Commercial data	
GTIN (EAN)	4 017918 182670
sales group	J204
Pack	10 pcs.
Customs tariff	85363010
Catalog page information	Page 87 (TT-2009)



Product notes

WEEE/RoHS-compliant since: 07/14/2006



#### http://

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#### **Technical data**

#### General

Housing material	PA 6.6
Inflammability class acc. to UL 94	V0
Color	black

Standards for air and creepage distances	VDE 0110-1
	IEC 60664-1: 1992-10
Total surge current (8/20) μs	20 kA
Ambient temperature (operation)	-40 °C 85 °C
Mounting type	On base element
Design	DIN rail module, two-section, divisible
Degree of protection	IP20
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
Width	17.70 mm
Height	52.00 mm
Length	45.00 mm
Pitch unit	1 Div.
Protective circuit	
IEC category	C1
	C2
	C3
	D1
VDE requirement class	D1
Nominal voltage $U_{\scriptscriptstyle N}$	12 V AC
Maximum continuous operating voltage $\ensuremath{\text{U}}_{\ensuremath{\text{c}}}$	18 V DC
	13 V AC
Maximum continuous voltage UC (wire-wire)	18 V DC
	13 V AC
Maximum continuous voltage $U_{\text{\tiny C}}$ (wire-ground)	18 V DC
	13 V AC
Nominal current I <sub>N</sub>	450 mA (45°C)
Operating effective current $I_{\text{c}}$ at $U_{\text{c}}$	≤ 5 µA
Ground conductor current I <sub>PE</sub>	≤ 1 µA (BE: 2x2-F)
	≤ 4 µA
Nominal discharge surge current $I_n$ (8/20) $\mu$ s (Core-Core)	10 kA
Nominal discharge surge current I <sub>n</sub> (8/20) μs (Core-Earth)	10 kA

Total surge current (8/20) μs	20 kA
Max. discharge surge current Imax (8/20) μs maximum (Core-Core)	10 kA
Max. discharge surge current Imax (8/20) μs maximum (Core-Earth)	10 kA
Nominal pulse current lan (10/1000) μs (Core-Core)	49 A
Lightning test current (10/350) $\mu$ s, peak value $I_{imp}$	2.5 kA (per path)
Output voltage limitation at 1 kV/µs (Core-Core) spike	≤ 25 V
Output voltage limitation at 1 kV/µs (Core-Earth) spike	≤ 450 V
Output voltage limitation at 1 kV/µs (Core-Core) static	≤ 25 V
Output voltage limitation at 1 kV/µs (Core-Earth) static	≤ 450 V
Residual voltage at In, (conductor-conductor)	≤ 25 V
Protection level U <sub>P</sub> (Core-Core)	≤ 55 V
Protection level U <sub>P</sub> (Core-Earth)	≤ 450 V
Response time tA (Core-Core)	≤ 1 ns
Response time tA (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	Typ. 0.5 dB (≤ 700 kHz)
Cut-off frequency fg (3 dB), sym. in 50 Ohm system	Typ. 4 MHz
Capacity (Core-Core)	2.5 nF
Resistance in series	2.2 Ω (Path 1-2/5-6)
	2.2 Ω (Path 7-8, 11-12)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
	D1 (2.5 kA)

### **Connection data**

Type of connection	Screw connection (in connection with the base element)
Connection type IN	PLUGTRAB plug-in system
Connection type OUT	PLUGTRAB plug-in system
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm

Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12

#### Connection, protective circuit

Standards/regulations	IEC 61643-21
	DIN EN 61643-21
	UL 497B

#### **Certificates / Approvals**





Certification GOST, UL Listed

Certification Ex: CUL-EX LIS, UL-EX LIS

#### Accessories Item Designation Description Marking 0811228 X-PEN 0,35 Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm 0814717 ZBF 15:SO/CMS Zack strip, flat, 10-section, divisible, special printing, marking according to customer requirements 0808671 ZBF 5,LGS:FORTL.ZAHLEN Zack marker strip, flat, printed horizontally: 10-section, with the numbers 1 - 10, 11 - 20, and so on up to 491 - 500, color: white 0810821 ZBF 5,LGS:GERADE ZAHLEN Zack marker strip, flat, printed horizontally: 10-section, with even numbers, printed with the numbers: 2-20, 22-40, etc. up to 82-100 0810863 ZBF 5,LGS:UNGERADE Zack strip, flat, printed horizontally: 10-section, with odd numbers, **ZAHLEN** printed with the numbers: 1-19, 21-39 etc. up to 81-99 0808697 ZBF 5,QR:FORTL.ZAHLEN Zack marker strip, flat, printed vertically: 10-section, with the numbers 1 - 10, 11 - 20, and so on up to 91 - 100, color: white

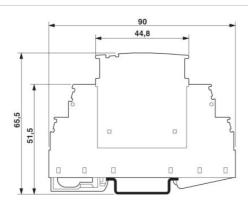
0808668	ZBF 5/WH-100:UNBEDRUCKT	Zack strip, flat, unprinted: 10-section, for individual labeling with M-PEN or ZBF-T, large batch, sufficient for labeling 1000 terminal blocks, color: white
0808642	ZBF 5:UNBEDRUCKT	Zack strip, flat, unprinted: 10-section, for individual labeling with M-PEN or ZBF-T, sufficient for 100 terminal blocks, color: white
0800763	ZBN 18:SO/CMS	Marker labels, 5-section, special printing, labeled according to customer requirements (Please specify the required marking with order), for terminal width: 17.5 mm, color: White
2809128	ZBN 18:UNBEDRUCKT	Unprinted marker labels, strips with 5 labels for individual labeling with M-PEN or CMS system, for terminal block width: 17.5 mm, color: White

# **Additional products**

Item	Designation	Description
Assembly		
2839295	SSA 3-6	shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black
2839512	SSA 5-10	Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black
General		
2839224	PT 2X2+F-BE	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
2839208	PT 2X2-BE	Base element for protective plug PT with protective circuit for two 2-wire floating signal circuit, bridge 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

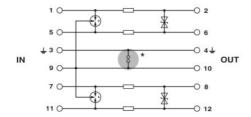
# Diagrams/Drawings

#### Dimensioned drawing



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

# Circuit diagram



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