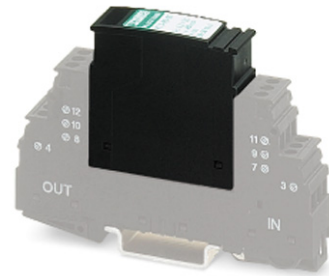



PT 3-PB-ST

Order No.: 2858030

<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2858030>

Surge protection plug for the base element, normal mode voltage coarse and fine protection for two floating signal wires in IT, common mode voltage coarse protection to ground.



Commercial data	
GTIN (EAN)	 4 017918 878030
sales group	J430
Pack	10 pcs.
Customs tariff	85363090
Catalog page information	Page 95 (TT-2009)

Product notes

WEEE/RoHS-compliant since:
05/23/2006

<http://www.download.phoenixcontact.com>
Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation. The General Terms and Conditions of Use apply to Internet downloads.

Technical data

General

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

Standards for air and creepage distances	DIN VDE 0110-1
	IEC 60664-1: 1992-10
Total surge current (8/20) μ s	20 kA
Ambient temperature (operation)	-40 °C ... 85 °C
Mounting type	On base element
Design	DIN rail module, two-section, divisible
Number of positions	2
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. 1.10
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	C1
	C2
	C3
	D1
Nominal voltage U_N	5 V DC
Maximum continuous operating voltage U_C	5.2 V DC
	3.6 V AC
Maximum continuous voltage U_C (wire-wire)	5.2 V DC
	3.6 V AC
Maximum continuous voltage U_C (wire-ground)	5.2 V DC (PT 1x2-BE)
	3.6 V AC (PT 1x2-BE)
Nominal current I_N	450 mA (45°C)
Operating effective current I_C at U_C	$\leq 300 \mu$ A
Ground conductor current I_{PE}	$\leq 300 \mu$ A (with PT 2x2-BE)
	$\leq 1 \mu$ A (with PT 2x2+F-BE)

Nominal discharge surge current I_n (8/20) μs (Core-Core)	10 kA
Nominal discharge surge current I_n (8/20) μs (Core-Earth)	10 kA
Total surge current (8/20) μs	20 kA
Max. discharge surge current I_{max} (8/20) μs maximum (Core-Core)	10 kA
Max. discharge surge current I_{max} (8/20) μs maximum (Core-Earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	90 A
Lightning test current (10/350) μs , peak value I_{imp}	2.5 kA
Output voltage limitation at 1 kV/ μs (Core-Core) spike	≤ 55 V
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	≤ 55 V
	≤ 700 V (with PT 2x2+F-BE)
Output voltage limitation at 1 kV/ μs (Core-Core) static	≤ 15 V
Output voltage limitation at 1 kV/ μs (Core-Earth) static	≤ 15 V
Output voltage limitation at 1 kV/ μs (Core-GND) static	≤ 30 V
Residual voltage at I_n , (conductor-conductor)	≤ 15 V
Residual voltage at I_n , (conductor-ground)	≤ 30 V
Residual voltage at I_n , (conductor-GND)	≤ 15 V (with PT 2x2-BE)
Residual voltage with I_{an} (10/1000) μs (conductor-conductor)	≤ 15 V
Residual voltage with I_{an} (10/1000) μs (conductor-GND)	≤ 15 V
Protection level U_p (Core-Core)	≤ 100 V (C2 (10 kV/5 kA))
Protection level U_p (Core-Earth)	≤ 100 V (C2 (10 kV/5 kA))
Response time t_A (Core-Core)	≤ 500 ns
Response time t_A (Core-Earth)	≤ 500 ns
	≤ 500 ns
Input attenuation a_E , sym.	0.2 dB (≤ 5 MHz)
Cut-off frequency f_g (3 dB), sym. in 100 Ohm system	Typ. 70 MHz
Capacity (Core-Core)	Typ. 30 pF
Resistance in series	2.2 Ω

Message: Surge protection fault	Optical
Max. required back-up fuse	500 mA (e.g. T in acc. with IEC 127-2/III)
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
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12

Connection, protective circuit

Standards/regulations	IEC 61643-21
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Certificates / Approvals

Certification

GOST, UL Listed

Accessories

Item	Designation	Description
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

Marking

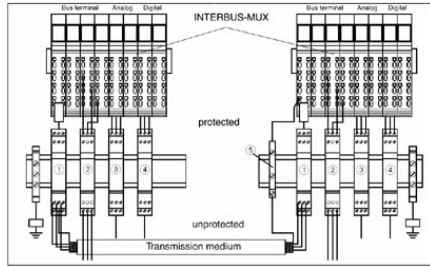
0808671	ZBF 5,LGS:FORTL.ZAHLEN	Zack marker strip, flat, printed horizontally: 10-section, with the numbers 1 - 10, 11 - 20, and so on up to 491 - 500, color: white
0810821	ZBF 5,LGS:GERADE ZAHLEN	Zack marker strip, flat, printed horizontally: 10-section, with even numbers, printed with the numbers: 2-20, 22-40, etc. up to 82-100
0810863	ZBF 5,LGS:UNGERADE ZAHLEN	Zack strip, flat, printed horizontally: 10-section, with odd numbers, 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		
2856126	PT 1X2+F-BE	Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Integrated gas arrester as coarse protection between GND and PE. Mounting on NS 35/7.5 und NS 35/15, housing width: 17.5 mm.
2856113	PT 1X2-BE	Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Mounting on NS 35/7.5 und NS 35/15, housing width: 17.5 mm.

Diagrams/Drawings

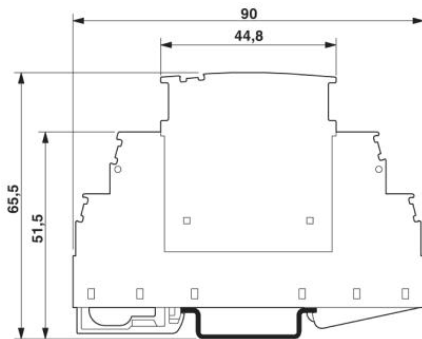
Application drawing



Connecting M-UFB IBS-MUX to the field multiplexer

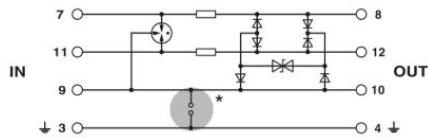
- ① PT 3-PB-ST to PT 1x2x4-F-BE
 - ② PT 2-PE/S-24AC-ST to PT BE/FM
 - ③ PT 2x2-24DC-ST to PT 2x2-BE
 - ④ PT 4x1-24DC-ST to PT 4x1-BE
 - ⑤ TT-SLKK5-F110AC
- When the ground potential is the same, the shield can be connected to terminal 3 of the PT 3-PB. The TT-SLKK5-F... is no longer necessary

Dimensioned drawing



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

Circuit diagram



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