

Surge protection plug - PT 3-PB-ST

2858030

<https://www.phoenixcontact.com/us/products/2858030>



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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.

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

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Commercial Data

Item number	2858030
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C08
Product Key	CL3121
Catalog Page	Page 178 (C-4-2019)
GTIN	4017918878030
Weight per Piece (including packing)	29.37 g
Weight per Piece (excluding packing)	20.53 g
Customs tariff number	85363090
Country of origin	DE

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Technical Data

Product properties

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Type	Male
Product type	Surge protection for information technology
Number of positions	2
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.10
Wire pairs per module	3

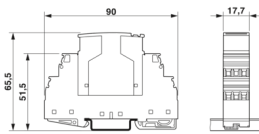
Insulation characteristics

Overvoltage category	III
Pollution degree	2

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 ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	17.7 mm
Width	17.7 mm
Height	45 mm
Height	45 mm
Depth	52 mm
Depth	52 mm
Horizontal pitch	1 Div.
Complete module width	17.7 mm

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Complete module height	90 mm
Complete module depth	65.5 mm

Material specifications

Color	black
Flammability rating according to UL 94	V-0
Housing material	PA

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Maximum continuous voltage U_C	5.2 V DC 3.6 V AC
Rated current	450 mA (45 °C)
Operating effective current I_C at U_C	$\leq 300 \mu A$
Residual current I_{PE}	$\leq 300 \mu A$ (with PT 1X2-BE) $\leq 1 \mu A$ (with PT 1X2+F-BE)
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge surge current I_n (8/20) μs (Core-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)	90 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 55 V$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 55 V$ (with PT 1X2-BE) $\leq 700 V$ (with PT 1X2+F-BE)
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 15 V$
Output voltage limitation at 1 kV/ μs (line-earth) static	$\leq 15 V$ $\leq 30 V$ (with PT 1X2+F-BE)
Residual voltage at I_n (conductor-conductor)	$\leq 15 V$
Residual voltage at I_n (conductor-ground)	$\leq 30 V$ (with PT 1X2-BE)
Residual voltage at I_n (line-signalground)	$\leq 15 V$ (with PT 1X2-BE)
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 15 V$
Residual voltage with I_{an} (10/1000) μs (line-signalground)	$\leq 15 V$
Voltage protection level U_p (line-line)	$\leq 70 V$ (C1 - 1 kV / 500 A) $\leq 45 V$ (C3 - 25 A) $\leq 100 V$ (C2 - 10 kV / 5 kA) $\leq 70 V$ (6 kV / 3 kA) $\leq 80 V$ (C1 - 1 kV / 500 A)

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Voltage protection level U_p (line-earth)	≤ 110 V (C2 - 10 kV / 5 kA)
	≤ 100 V (6 kV / 3 kA)
	≤ 45 V (C3 - 25 A)
Voltage protection level U_p (line-signalground)	≤ 45 V (C3 - 25 A)
Response time t_A (line-line)	≤ 500 ns
Response time t_A (line-earth)	≤ 500 ns
Response time t_A (line-signalground)	≤ 500 ns
Input attenuation aE, sym.	typ. 0.3 dB (≤ 5 MHz / 100 Ω)
Cut-off frequency f_g (3 dB), sym. in 100 Ω system	typ. 60 MHz
Capacity (Core-Core)	typ. 30 pF
Resistance per path	2.2 $\Omega \pm 10$ % (7-8/11-12)
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C2 - 10 kV / 5 kA
	C3 - 90 A
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	C3 - 90 A
	D1 - 2.5 kA

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C
Altitude	max. 2000 m

Standards and regulations

VDE requirement class	C1
	C2
	C3
	D1

Air clearances and creepage distances

Standards/regulations	DIN EN 61664-1 / IEC 60664-1
Standards/specifications	EN 61643-21/A1
Standards/specifications	IEC 61643-21/A1

Mounting

Mounting type	on base element
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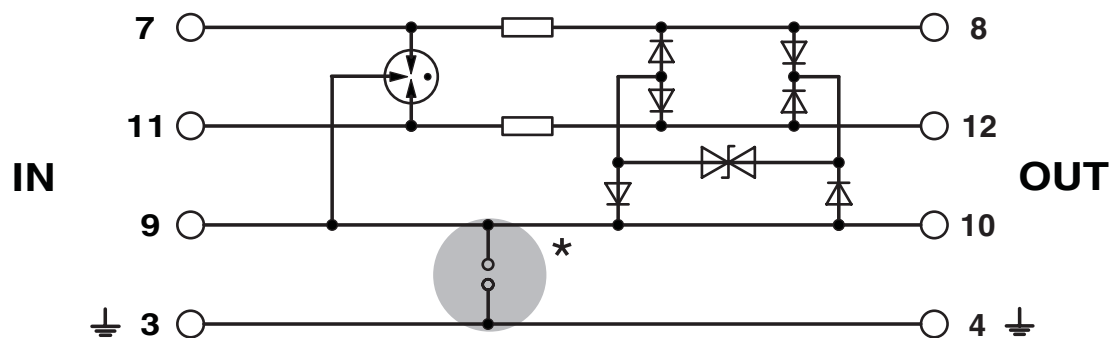
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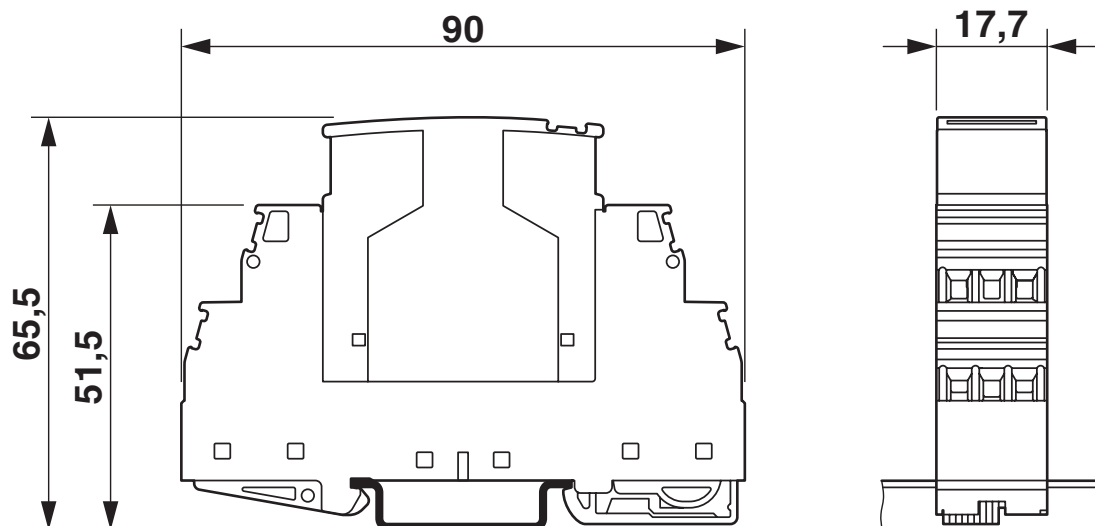


Drawings

Circuit diagram



Dimensional drawing



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


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Approvals




EAC
Approval ID: EAC-Zulassung

		DNV GL Approval ID: TAE00001N6			
		Nominal Voltage U _N	Nominal Current I _N	Cross Section AWG	Cross Section mm ²
				-	-



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



UL Listed
Approval ID: FILE E 138168

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Classifications

ECLASS

ECLASS-9.0	27130807
ECLASS-10.0.1	27130807
ECLASS-11.0	27130807

ETIM

ETIM 8.0	EC000943
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UNSPSC

UNSPSC 21.0	39121600
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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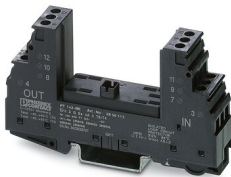
Mandatory Accessories

Surge protection base-element

Surge protection base-element - PT 1X2-BE - 2856113

<https://www.phoenixcontact.com/us/products/2856113>

Base element for protective plug PT with protective circuit for a 2-core floating signal circuit. Mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm.

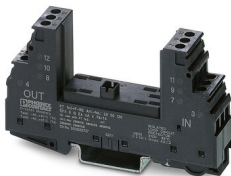


Surge protection base-element

Surge protection base-element - PT 1X2+F-BE - 2856126

<https://www.phoenixcontact.com/us/products/2856126>

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.



Accessories

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Marker pen

Marker pen - X-PEN 0,35 - 0811228

<https://www.phoenixcontact.com/us/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642

<https://www.phoenixcontact.com/us/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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Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5/WH-100:UNBEDRUCKT - 0808668

<https://www.phoenixcontact.com/us/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

Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5,LGS:FORTL.ZAHLEN - 0808671

<https://www.phoenixcontact.com/us/products/0808671>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5,LGS:GERADE ZAHLEN - 0810821

<https://www.phoenixcontact.com/us/products/0810821>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive even numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5,LGS:UNGERADE ZAHLEN - 0810863

<https://www.phoenixcontact.com/us/products/0810863>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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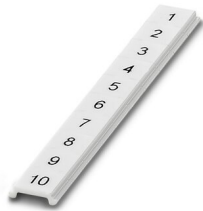
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Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5,QR:FORTL.ZAHLEN - 0808697

<https://www.phoenixcontact.com/us/products/0808697>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128

<https://www.phoenixcontact.com/us/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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Shield connection

Shield connection - SSA 3-6 - 2839295

<https://www.phoenixcontact.com/us/products/2839295>

Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



Shield connection

Shield connection - SSA 5-10 - 2839512

<https://www.phoenixcontact.com/us/products/2839512>

Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable:
200 mm, 1 mm², color: black



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