

Surge protection plug - PT 4-EX(I)-24DC-ST

2839253

<https://www.phoenixcontact.com/gb/products/2839253>

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PT protective connector with protective circuit for a 4-wire floating Ex-i signal circuit. Nominal voltage: 24 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	2839253
Packing unit	10 pc
Minimum order quantity	1 pc
Sales Key	CL2113
Product Key	CL2113
Catalog Page	Page 156 (C-4-2019)
GTIN	4017918182878
Weight per Piece (including packing)	44.87 g
Weight per Piece (excluding packing)	26.15 g
Customs tariff number	85363010
Country of origin	DE

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Technical Data

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	Male
Product type	Surge protection for MCR technology
Number of positions	4
Surge protection fault message	none
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00

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	0.5 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

Ex data

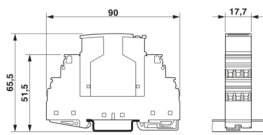
Maximum inner capacitance C_i	1.1 nF
Max. internal inductance L_i	1 μ H
Max. input current I_i	500 mA (T4 / $\leq 80^\circ\text{C}$)
	500 mA (T5 / $\leq 55^\circ\text{C}$)
	500 mA (T6 / $\leq 40^\circ\text{C}$)
Max. input voltage U_i	30 V DC
max. input power P_i	850 mW (T4 / $\leq 80^\circ\text{C}$)
	700 mW (T5 / $\leq 55^\circ\text{C}$)
	700 mW (T6 / $\leq 40^\circ\text{C}$)
Maximum inner time factor (R_i/L_i)	$\leq 10 \mu\text{s}$
Ambient temperature (operation)	-40 °C ... 80 °C (T4)
	-40 °C ... 55 °C (T5)
	-40 °C ... 40 °C (T6)

Dimensions

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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
Complete module height	90 mm
Complete module depth	65.5 mm

Material specifications

Color	sky blue RAL 5015
Flammability rating according to UL 94	V-0
Housing material	PA 6.6

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & Signal Ground/Shield-Earth Ground
Maximum continuous voltage U_C	30 V DC
	21 V AC
Rated current	500 mA (40 °C)
Operating effective current I_C at U_C	$\leq 5 \mu\text{A}$
Residual current I_{PE}	$\leq 4 \mu\text{A}$
Nominal discharge current I_n (8/20) μs (line-line)	308 A
Nominal discharge surge current I_n (8/20) μs (Core-Earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	1 kA
	2 kA (in total)
Total discharge current I_{total} (8/20) μs	20 kA
Total discharge current I_{total} (10/350) μs	2 kA
Max. discharge current I_{max} (8/20) μs maximum (line-line)	308 A
Max. discharge current I_{max} (8/20) μs maximum (line-earth)	20 kA (in total)
Nominal pulse current I_{an} (10/1000) μs (line-line)	59 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 45 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 1 \text{ kV}$

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Output voltage limitation at 1 kV/ μ s (line-line) static	≤ 45 V
Output voltage limitation at 1 kV/ μ s (line-earth) static	≤ 1 kV
Residual voltage at I_n (conductor-conductor)	≤ 70 V
Residual voltage with I_{an} (10/1000) μ s (line-line)	≤ 65 V
Voltage protection level U_p (line-line)	≤ 60 V (C1 - 500 V / 250 A)
	≤ 50 V (C3 - 10 A)
	≤ 50 V (C3 - 25 A)
Voltage protection level U_p (line-earth)	≤ 1 kV (C1 - 1 kV / 500 A)
	≤ 1 kV (C2 - 2 kV/1 kA)
	≤ 1 kV (C2 - 10 kV / 5 kA)
	≤ 1 kV (D1 - 1 kA)
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.1 dB (≤ 1 MHz / 50 Ω)
	typ. 0.1 dB (≤ 500 kHz / 150 Ω)
	typ. 0.1 dB (≤ 100 kHz / 600 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 7 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 2.5 MHz
Cut-off frequency f_g (3 dB), sym. in 600 Ω system	typ. 600 kHz
Resistance per path	0 Ω
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C1 - 0.5 kV / 250 A
	C3 - 10 A
	C3 - 25 A
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 2 kV / 1 kA
	C2 - 10 kV / 5 kA
	D1 - 1 kA
Alternating current carrying capacity (line-earth)	5 A - 1 s

Environmental and real-life conditions

Ambient conditions

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

Approval data

Conformity/Approvals

ATEX	<input type="checkbox"/> II 1G Ex ia IIC T4...T6 Ga
	<input type="checkbox"/> II 1D Ex ia IIIC T135°C...T85°C Da
IECEX	Ex ia IIC T4...T6 Ga

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	Ex ia IIIC T135 °C...T85 °C Da
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Standards and regulations

Standards/specifications	EN 61643-21
Standards/specifications	EN 60079-0
Standards/specifications	EN 60079-11
Standards/specifications	EN 60079-26
Standards/specifications	IEC 61643-21
Standards/specifications	IEC 60079-0
Standards/specifications	IEC 60079-11
Standards/specifications	IEC 60079-26

Mounting

Mounting type	on base element
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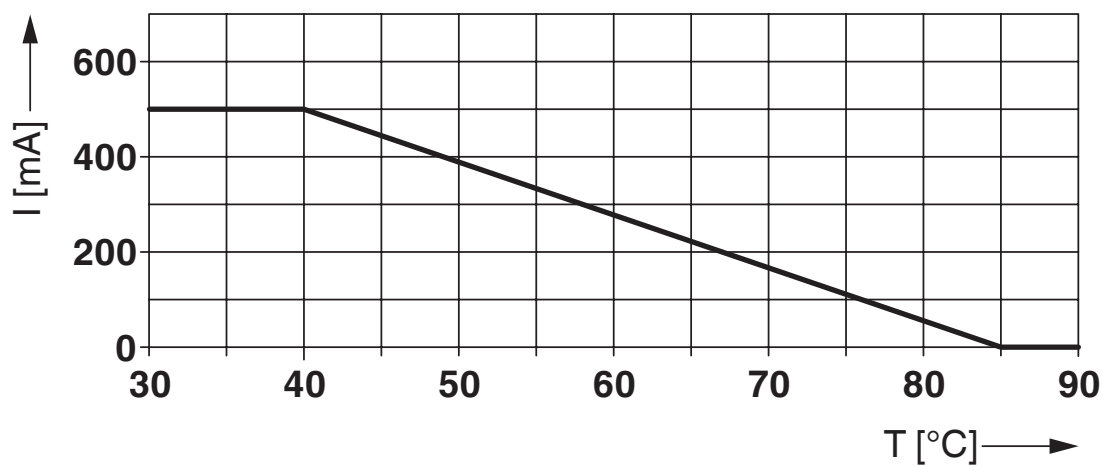


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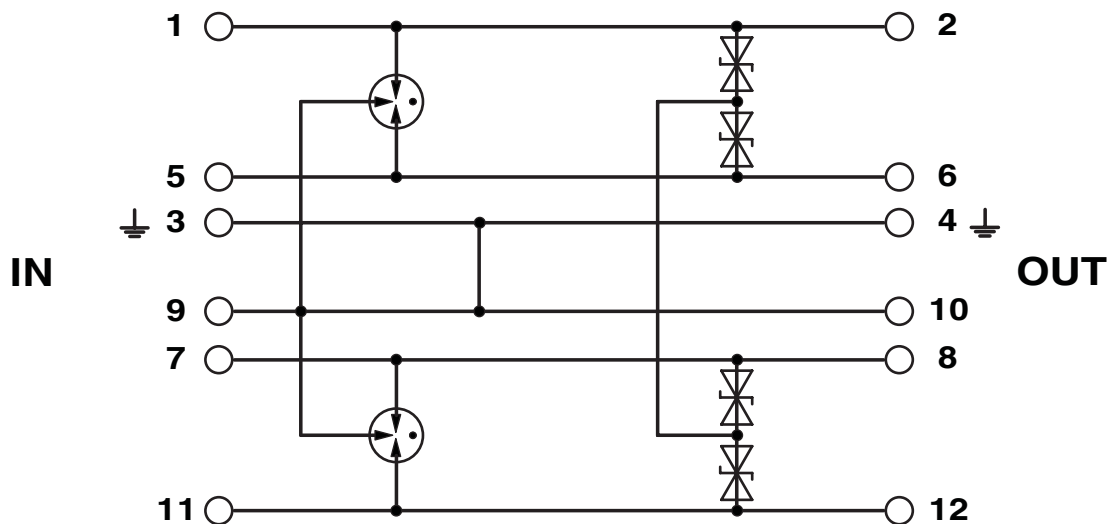
<https://www.phoenixcontact.com/gb/products/2839253>

Drawings

Diagram



Circuit diagram



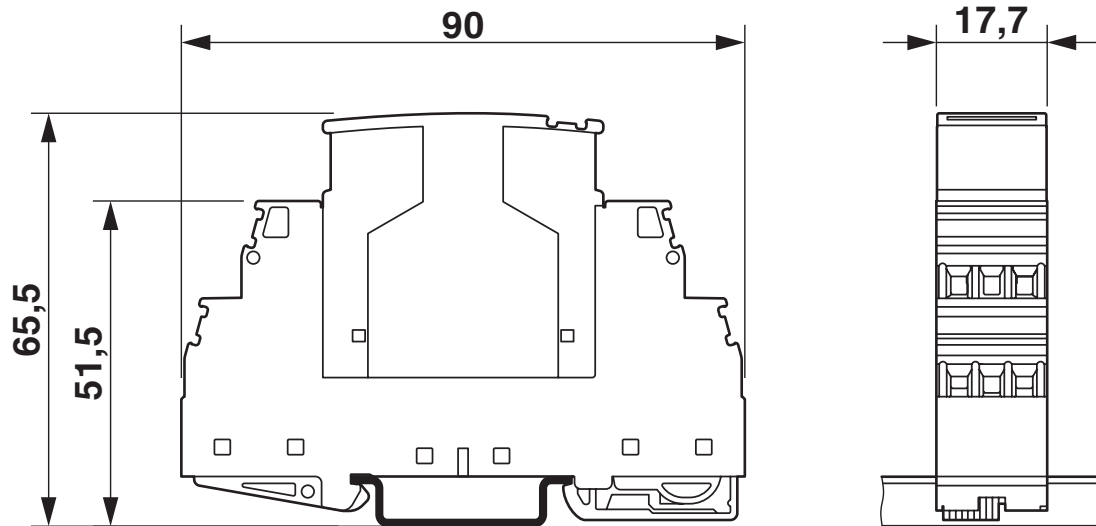
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Dimensional drawing



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



ATEX

Approval ID: KEMA 00ATEX1099 X



EAC Ex

Approval ID: RU C-DE.**87.B.00420



IECEx

Approval ID: IECEx KEM 10.0063X



CCC

Approval ID: 2020322316001009

INMETRO

Approval ID: DNV 19.0031 X



NEPSI

Approval ID: GYJ20.1177X

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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

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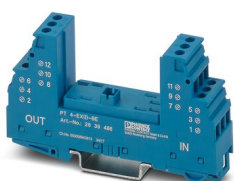
<https://www.phoenixcontact.com/gb/products/2839253>

Mandatory Accessories

Surge protection base-element

Surge protection base-element - PT 4-EX(I)-BE - 2839486

<https://www.phoenixcontact.com/gb/products/2839486>



Base element for protective plug PT with protective circuit for a 4-core floating EEx ia signal circuit. Nominal voltage: 24 V DC, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

Accessories

Marker pen

Marker pen - X-PEN 0,35 - 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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Zack Marker strip, flat

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 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

Zack Marker strip, flat

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

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Zack marker strip

Zack marker strip - ZBN 18:UNBEDRUCKT - 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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