

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

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Maximum ease of maintenance thanks to the two-piece design
- ✓ Base element remains an integral part of the installation
- ✓ Tailored to the special requirements of intrinsically safe circuits
- ✓ Consistent plug-in signal circuit protection
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes



Key Commercial Data

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	
GTIN	4017918182878
Weight per Piece (excluding packing)	26.150 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm

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Technical data

Dimensions

Horizontal pitch	1 Div.
Complete module height	90 mm
Complete module width	17.7 mm
Complete module depth	65.5 mm

Ambient conditions

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

General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	sky blue RAL 5015
Mounting type	on base element
Type	Male
Number of positions	4
Direction of action	Line-Line & Line-Signal Ground/Shield & Signal Ground/Shield-Earth Ground
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V DC
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	≤ 5 μA
Residual current I_{PE}	≤ 4 μA
Nominal discharge current I_n (8/20) μs (line-line)	308 A
Nominal discharge current I_n (8/20) μs (line-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

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Technical data

Protective circuit

Max. discharge current I_{max} (8/20) μ s maximum (line-line)	308 A
Max. discharge current I_{max} (8/20) μ s maximum (line-earth)	20 kA (in total)
Nominal pulse current I_{an} (10/1000) μ s (line-line)	59 A
Output voltage limitation at 1 kV/ μ s (line-line) spike	≤ 45 V
Output voltage limitation at 1 kV/ μ s (line-earth) spike	≤ 1 kV
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 (line-line)	≤ 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 Ohm system	typ. 7 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 2.5 MHz
Cut-off frequency f_g (3 dB), sym. in 600 Ohm 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

Connection data

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Technical data

Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
Stripping length	8 mm
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

Standards and Regulations

Standards/specifications	EN 61643-21 A2:2013
	EN 60079-0 2012
	EN 60079-11 2012
	EN 60079-26 2007
	IEC 61643-21 A2:2012
	IEC 60079-0 2011
	IEC 60079-11 2011
	IEC 60079-26 2006

General

Maximum inner capacitance C_i	1.1 nF
Max. internal inductance L_i	1 μ H
Maximum inner time factor (R_i/L_i)	$\leq 10 \mu$ s
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 / $\leq 40^\circ\text{C}$)
Ambient temperature (operation)	-40 $^\circ\text{C}$... 80 $^\circ\text{C}$ (T4)
	-40 $^\circ\text{C}$... 55 $^\circ\text{C}$ (T5)
	-40 $^\circ\text{C}$... 40 $^\circ\text{C}$ (T6)

Conformity / approvals

ATEX	# II 1G Ex ia IIC T4...T6 Ga
	# II 1D Ex ia IIIC T135 $^\circ\text{C}$...T85 $^\circ\text{C}$ Da
IECEX	Ex ia IIC T4...T6 Ga
	Ex ia IIIC T135 $^\circ\text{C}$...T85 $^\circ\text{C}$ Da

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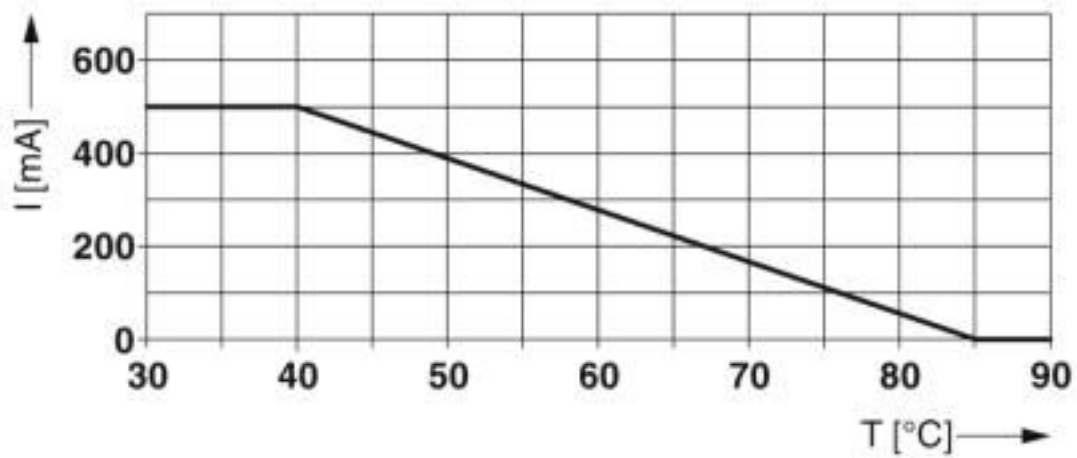
Technical data

Environmental Product Compliance

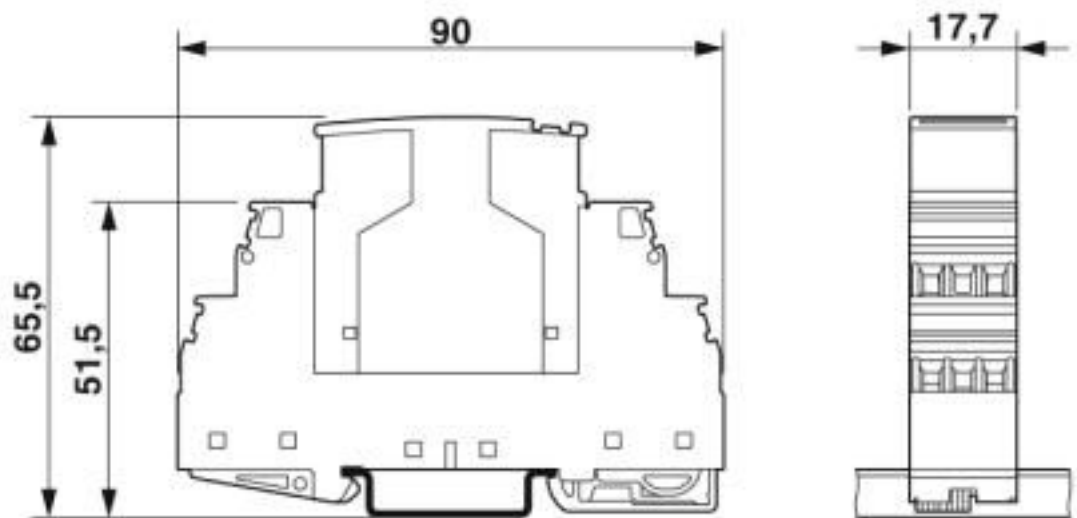
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Diagram



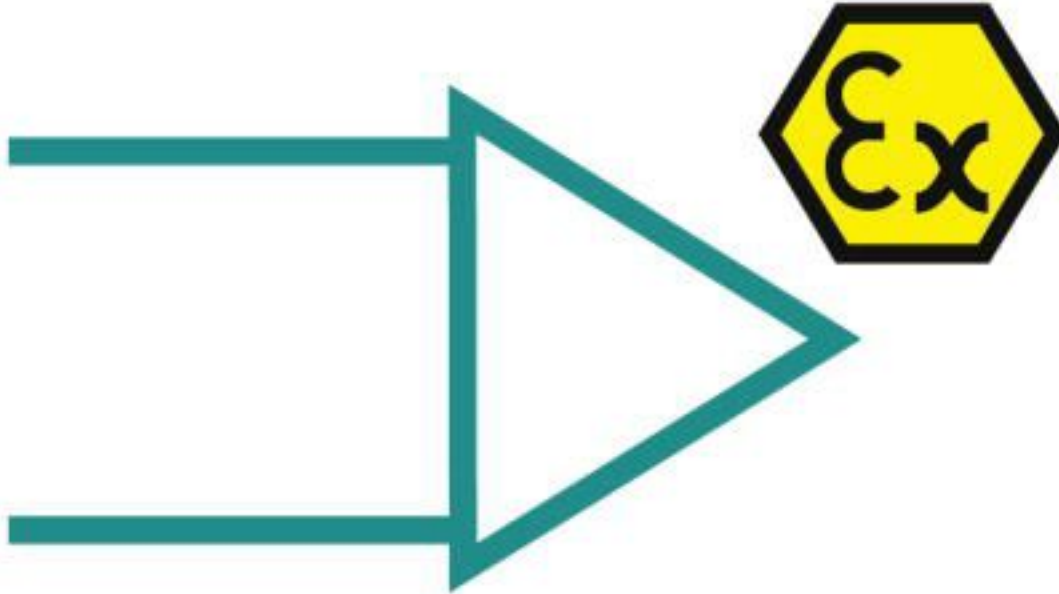
Dimensional drawing



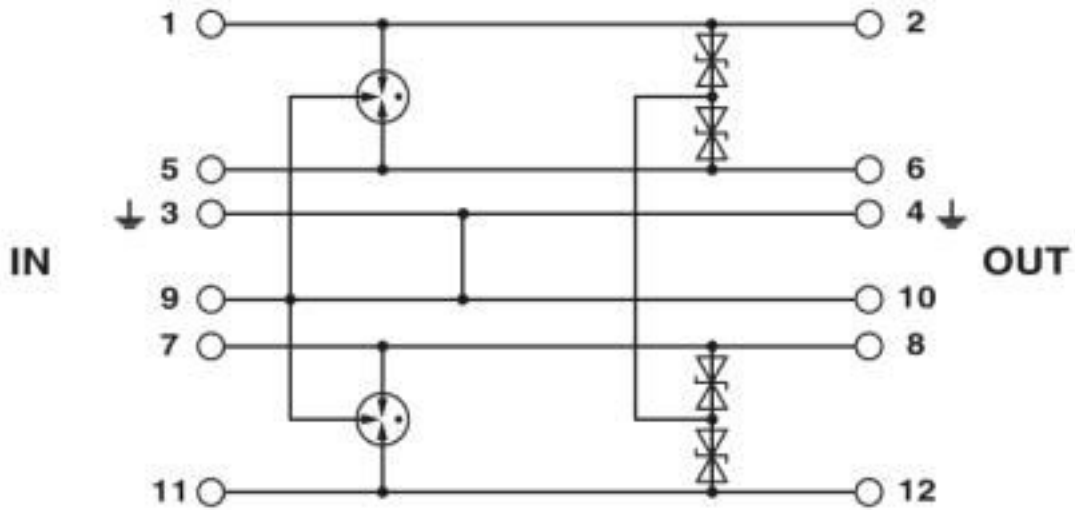
The figure shows the complete module consisting of a base element and connector

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Pictogram



Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800

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Classifications

eCl@ss

eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943
ETIM 6.0	EC000943
ETIM 7.0	EC000943

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

Approvals

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DNV GL / EAC / EAC

Ex Approvals

IECEX / ATEX / EAC Ex / INMETRO

Approval details

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Approvals

DNV GL		https://approvalfinder.dnvgl.com/	TAE00001N6
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EAC			EAC-Zulassung
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EAC			RU C- DE.A*30.B01561
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Accessories

Accessories

Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, 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

Labeled terminal marker

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



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

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



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

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Accessories

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



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

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



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

Marker pen

Marker pen - X-PEN 0,35 - 0811228



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

Terminal marking

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

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Accessories

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

Necessary add-on products

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