

Surge protection plug - PT 2XEX(I)-24DC-ST - 2838225

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PT protective plug with protective circuit for two 2-wire floating Ex i signal circuits. Nominal voltage: 24 V DC, HART-compatible.

Your advantages

- ✓ Plugs can be checked with CHECKMASTER
- ✓ Maximum ease of maintenance thanks to the two-piece design
- ✓ Tailored to the special requirements of intrinsically safe circuits
- ✓ Base element remains an integral part of the installation
- ✓ 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	4017918182861
Weight per Piece (excluding packing)	27.250 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	44.8 mm
Width	17.5 mm
Depth	51.7 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	325 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)	10 kA
Nominal discharge current I_n (8/20) μs (line-earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-line)	1 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	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)	10 kA
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)	30 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)	≤ 45 V
Residual voltage with I_{an} (10/1000) μ s (line-line)	≤ 50 V
Voltage protection level U_p (line-line)	≤ 45 V (C1 - 0.5 kV / 250 A)
	≤ 50 V (C1 - 1 kV/500 A)
	≤ 60 V (C2 - 2 kV/1 kA)
	≤ 100 V (C2 - 10 kV / 5 kA)
	≤ 50 V (C3 - 10 A)
	≤ 50 V (C3 - 25 A)
	≤ 150 V (D1 - 1 kA)
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. 0.5 dB (≤ 900 kHz / 50 Ω)
	typ. 0.2 dB (≤ 300 kHz / 150 Ω)
	typ. 0.1 dB (≤ 60 kHz / 600 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 4.5 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 1.6 MHz
Cut-off frequency f_g (3 dB), sym. in 600 Ohm system	typ. 400 kHz
Resistance per path	2.2 $\Omega \pm 10$ %
Surge protection fault message	none
Max. required back-up fuse	315 mA (T)
Impulse durability (line-line)	C1 - 0.5 kV / 250 A
	C1 - 1 kV / 500 A
	C2 - 2 kV / 1 kA
	C2 - 10 kV / 5 kA
	C3 - 10 A
	C3 - 25 A

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Technical data

Protective circuit

	D1 - 1 kA
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)	10 A - 1 s

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	1.3 nF
Max. internal inductance L_i	1 μ H
Maximum inner time factor (R_i/L_i)	$\leq 0.2 \mu$ s
Max. input current I_i	325 mA ($T4 / \leq 80^\circ\text{C}$)
	325 mA ($T5 / \leq 55^\circ\text{C}$)
	325 mA ($T6 / \leq 40^\circ\text{C}$)
Max. input voltage U_i	30 V DC
max. input power P_i	3 W
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)

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Technical data

Conformity / approvals

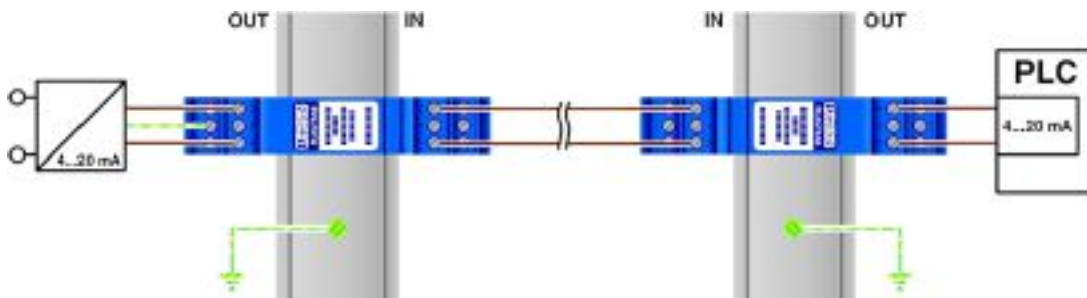
ATEX	# II 1G Ex ia IIC T4...T6 Ga
	# II 1D Ex ia IIIC T135°C...T85°C Da
IECEX	Ex ia IIC T4...T6 Ga
	Ex ia IIIC T135 °C...T85 °C Da

Environmental Product Compliance

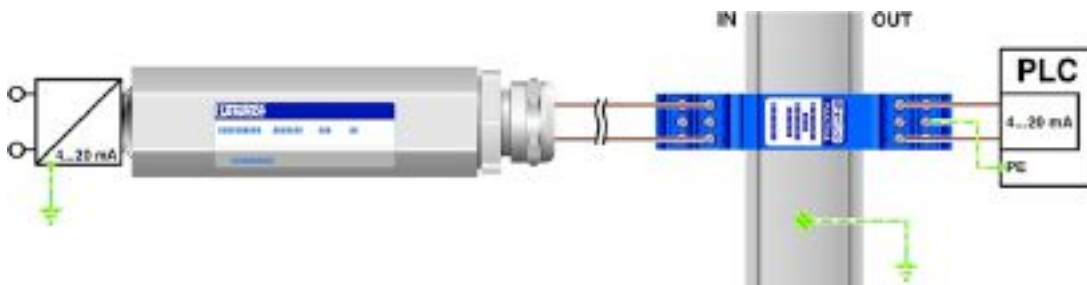
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Application drawing

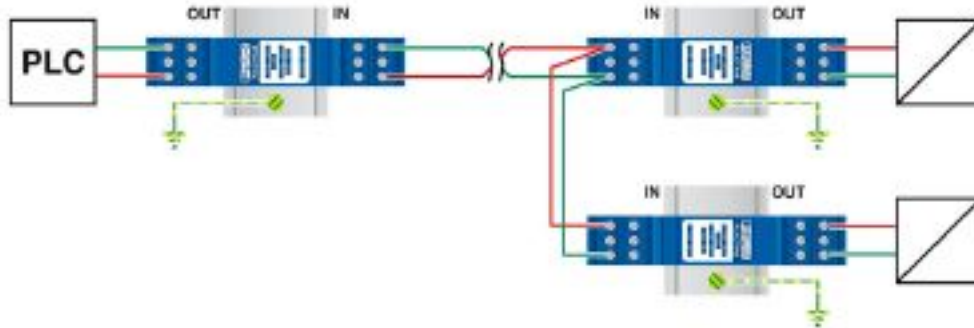


Application drawing

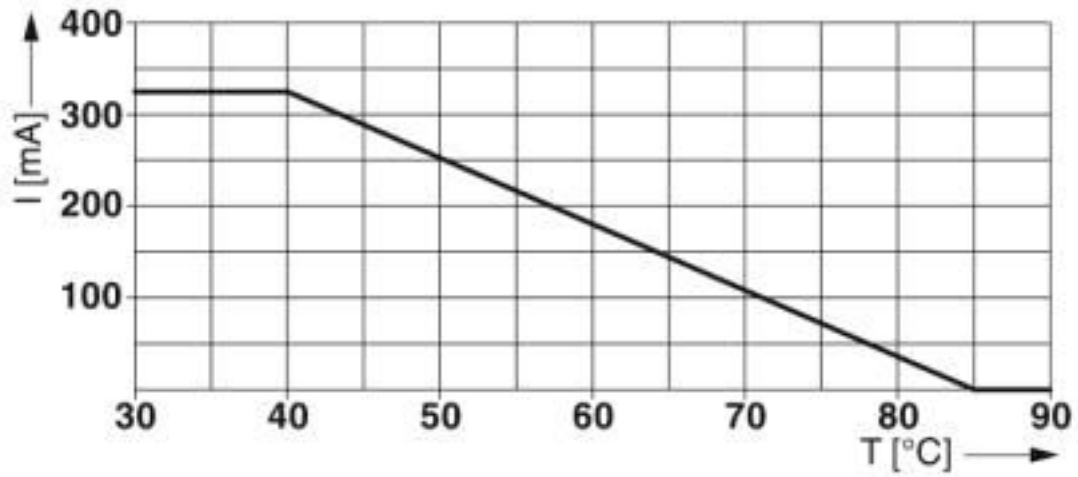


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Application drawing

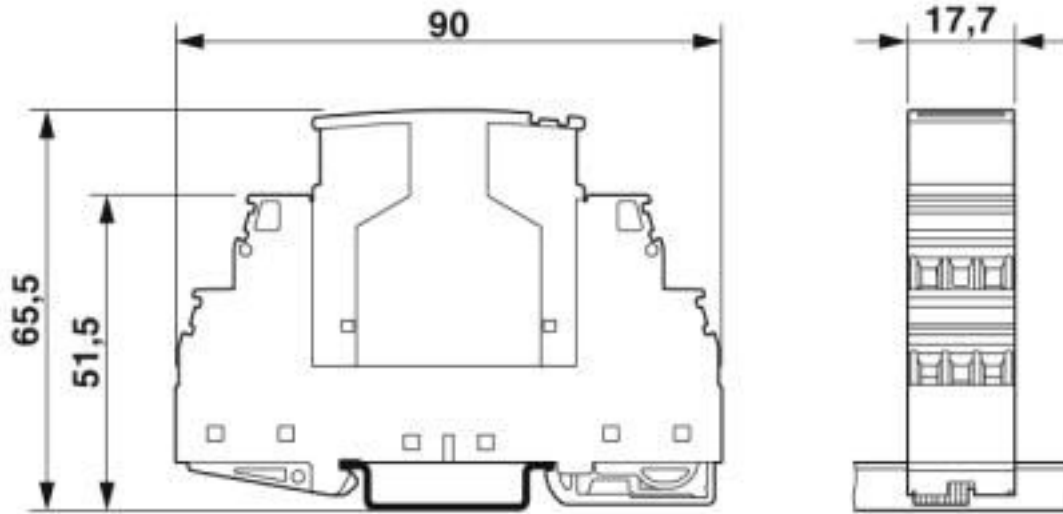


Diagram



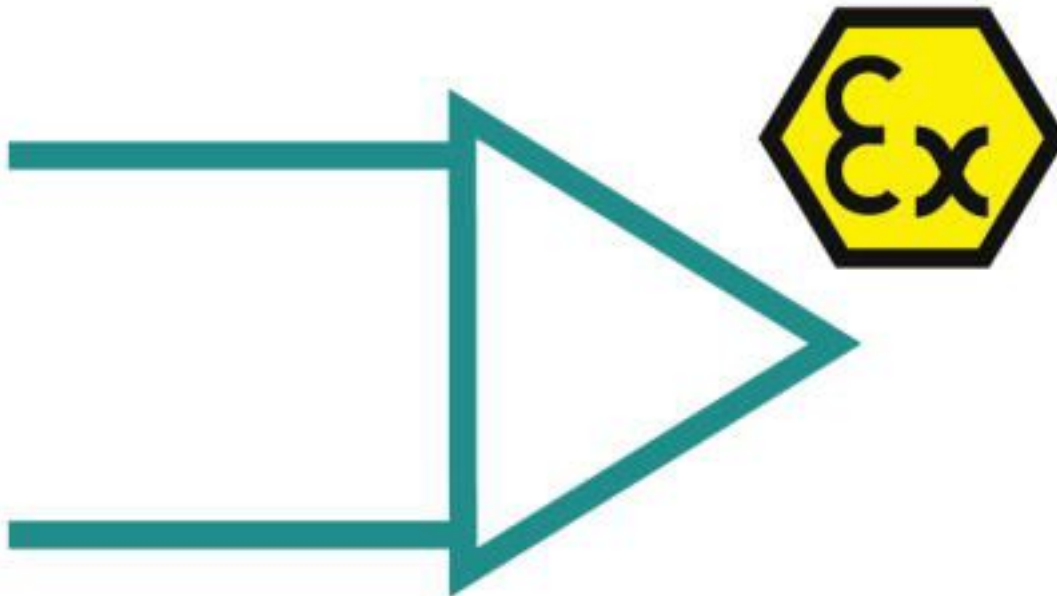
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Dimensional drawing



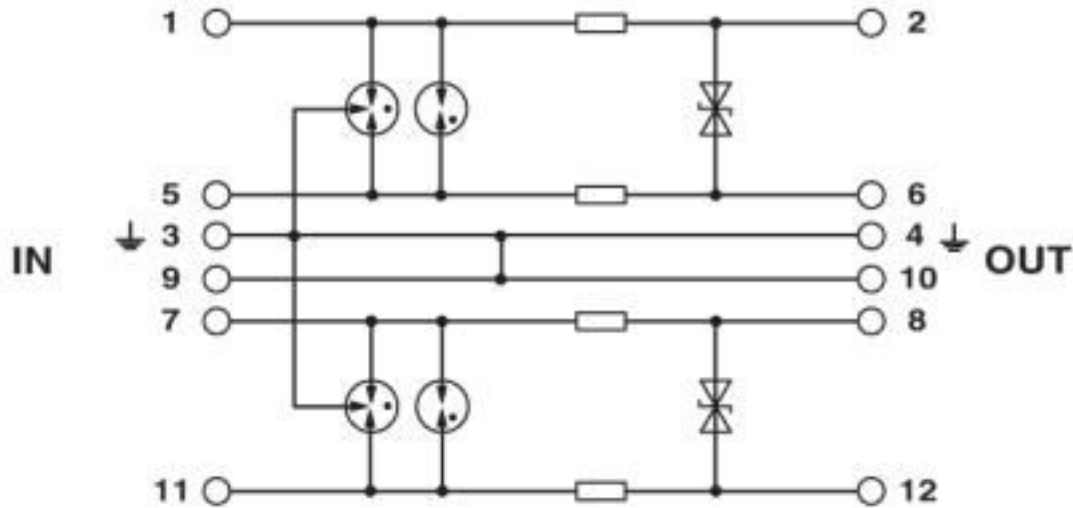
The figure shows the complete module consisting of a base element and connector

Pictogram



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Circuit diagram



Classifications

eCl@ss

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

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Classifications

UNSPSC

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

Approvals

Approvals


DNV GL / UL Listed / EAC / EAC

Ex Approvals

IECEx / ATEX / UL Listed / cUL Listed / EAC Ex / INMETRO / cULus Listed


Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAE00001N6
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
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Nominal voltage UN	24 V
Nominal current IN	0.47 A

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

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

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Accessories

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

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 plug - PT 2XEX(I)-24DC-ST - 2838225

Accessories

Surge protection base element - PT 2XEX(I)-BE - 2839279



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

Additional products

Shield connection - SSA 3-6 - 2839295



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

Shield connection - SSA 5-10 - 2839512



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