

Surge protection connector - 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

Product Features

- ✓ 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 PCE
GTIN	 4 017918 182878
Custom tariff number	85363010
Country of origin	GERMANY

Technical data

General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	blue
Standards for air and creepage distances	VDE 0110-1
Standards for air and creepage distances	IEC 60664-1

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Technical data

General

Standards for air and creepage distances	EN 60079-11
Ambient temperature (operation)	-40 °C ... 85 °C
Mounting type	On base element
Design	DIN rail module, two-section, divisible
Number of positions	4
Degree of protection	IP20
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
Width	17.7 mm
Height	45 mm
Depth	52 mm
Pitch unit	1 Div.

Protective circuit

IEC category	C1
IEC category	C2
IEC category	C3
IEC category	D1
VDE requirement class	C1
VDE requirement class	C2
VDE requirement class	C3
VDE requirement class	D1
Nominal voltage U_N	24 V DC
Maximum continuous operating voltage U_C	30 V DC
Maximum continuous operating voltage U_C	21 V AC
Maximum continuous voltage U_C (wire-wire)	30 V DC
Maximum continuous voltage U_C (wire-wire)	21 V AC
Nominal current I_N	500 mA (40°C)
Operating effective current I_C at U_C	$\leq 5 \mu A$
Residual current I_{PE}	$\leq 4 \mu A$
Nominal discharge surge current I_n (8/20) μs (Core-Core)	308 A
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)	308 A
Max. discharge surge current I_{max} (8/20) μs maximum (Core-Earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	59 A
Lightning test current (10/350) μs , peak value I_{imp}	1 kA

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Protective circuit

Output voltage limitation at 1 kV/ μ s (Core-Earth) spike	≤ 1 kV
Output voltage limitation at 1 kV/ μ s (Core-Core) static	≤ 45 V
Output voltage limitation at 1 kV/ μ s (Core-Earth) static	≤ 1 kV
Residual voltage at I_{n1} (conductor-conductor)	≤ 70 V
Residual voltage with I_{an} (10/1000) μ s (conductor-conductor)	≤ 65 V
Voltage protection level U_p (Core-Core)	≤ 60 V (C1 - 500 V / 250 A)
Voltage protection level U_p (Core-Core)	≤ 50 V (C3 - 25 A)
Voltage protection level U_p (Core-Earth)	≤ 1 kV (C2 - 10 kV / 5 kA)
Voltage protection level U_p (Core-Earth)	≤ 1 kV (C1 - 1 kV/500 A)
Voltage protection level U_p (Core-Earth)	≤ 1 kV (D1 - 1 kA)
Response time t_A (Core-Core)	≤ 1 ns
Response time t_A (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.1 dB (1 MHz / 50 Ω)
Input attenuation aE, sym.	typ. 0.1 dB (500 kHz / 150 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
Message: Surge protection fault	None
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)	C1 (500 V / 250 A)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)	D1 (1 kA)
Alternating current carrying capacity in acc. with IEC 61643-21 (Core-Earth)	5 A - 1 s

Connection data

Connection method	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	EN 61643-21
Standards/regulations	EN 60079-0

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Technical data

Connection, protective circuit

Standards/regulations	EN 60079-11
Standards/regulations	EN 60079-26
Standards/regulations	EN 61241-0
Standards/regulations	EN 61241-11

General

Maximum inner capacitance C_i	1.1 nF
Maximum inner 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 ($T4 / \leq 80^\circ\text{C}$)
Max. input current I_i	500 mA ($T5/\leq 55^\circ\text{C}$)
Max. input current I_i	500 mA ($T6 / \leq 40^\circ\text{C}$)
Max. input voltage U_i	30 V DC
Maximum input power P_i	850 mW ($T4 / \leq 80^\circ\text{C}$)
Maximum input power P_i	700 mW ($T5/\leq 55^\circ\text{C}$)
Maximum input power P_i	700 mW ($T6 / \leq 40^\circ\text{C}$)
Insulation voltage to ground	500 V AC

Conformity / approvals

ATEX	# II 1G Ex ia IIC T4...T6 Ga
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Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

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Classifications

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Approvals

Approvals

Approvals

GOST

Ex Approvals

IECEX / ATEX / INMETRO

Approvals submitted

Approval details

GOST 
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Accessories

Accessories

Marking

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

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Accessories

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



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.1 x 5.2 mm

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



Zack Marker strip, flat, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into flat marker groove, For terminal block width: 5 mm, Lettering field: 5.15 x 5.15 mm

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: 5.15 x 5.15 mm

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: 5.15 x 5.15 mm

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: 5.15 x 5.15 mm

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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: 5.15 x 5.15 mm

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, Unlabeled, Can be labeled with: Plotter, Mounting type: Snap into tall marker groove, For terminal block width: 18 mm, Lettering field: 18 x 5 mm

Required add-on products

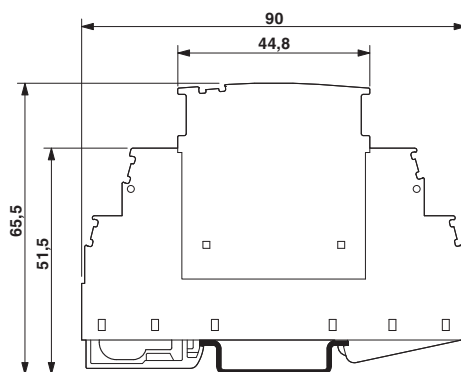
Surge protection base element - PT 4-EX(I)-BE - 2839486



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

Drawings

Dimensioned drawing



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

Circuit diagram

