

# Surge protection connector - PT 2X2-24AC-ST - 2838283

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PT protective connector with protective circuit for two 2-wire floating signal circuits. 24 V AC nominal voltage. HART-compatible.


The illustration shows version PT 2x2- 5DC-ST

## Why buy this product

- Plugs can be checked with CHECKMASTER
- Installed in conjunction with the PT 2x2...-BE base element
- Maximum ease of maintenance thanks to the two-piece design
- Base element remains an integral part of the installation
- Consistent plug-in signal circuit protection
- Protection for two separate floating signal circuits
- Impedance-neutral disconnection of plug for test and maintenance purposes



## Key commercial data

Packing unit	1
Minimum order quantity	1
Catalog page	Page 93 (TT-2011)
GTIN	 4 017918 182687
Custom tariff number	85363010
Country of origin	GERMANY

## Technical data

### General

Housing material	PA 6.6
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	VDE 0110-1
Standards for air and creepage distances	IEC 60664-1
Total surge current (8/20) $\mu$ s	20 kA
Ambient temperature (operation)	-40 °C ... 85 °C

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## Technical data

### General

Mounting type	On base element
Design	DIN rail module, two-section, divisible
Degree of protection	IP20
Direction of action	Line-Line & Line-Signal Ground/Shield & optional 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	D1
Nominal voltage UN	24 V AC
Maximum continuous operating voltage UC	40 V DC
Maximum continuous operating voltage UC	28 V AC
Maximum continuous voltage UC (wire-wire)	40 V DC
Maximum continuous voltage UC (wire-wire)	28 V AC
Maximum continuous voltage UC (wire-ground)	40 V DC
Maximum continuous voltage UC (wire-ground)	28 V AC
Nominal current IN	450 mA (45°C)
Operating effective current IC at UC	≤ 5 µA
Ground conductor current IPE	≤ 1 µA (BE: 2x2-F)
Ground conductor current IPE	≤ 4 µA
Nominal discharge surge current In (8/20) µs (Core-Core)	10 kA
Nominal discharge surge current In (8/20) µs (Core-Earth)	10 kA
Total surge current (8/20) µs	20 kA
Max. discharge surge current Imax (8/20) µs maximum (Core-Core)	10 kA
Max. discharge surge current Imax (8/20) µs maximum (Core-Earth)	10 kA
Nominal pulse current Ian (10/1000) µs (Core-Core)	23 A
Lightning test current (10/350) µs, peak value limp	2.5 kA (per path)
Output voltage limitation at 1 kV/µs (Core-Core) spike	≤ 55 V
Output voltage limitation at 1 kV/µs (Core-Earth) spike	≤ 450 V
Output voltage limitation at 1 kV/µs (Core-Core) static	≤ 55 V
Residual voltage at In, (conductor-conductor)	≤ 55 V
Protection level UP (Core-Core)	≤ 80 V
Protection level UP (Core-Earth)	≤ 450 V

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## Technical data

### Protective circuit

Response time tA (Core-Core)	≤ 1 ns
Response time tA (Core-Earth)	≤ 100 ns
Input attenuation aE, sym.	Typ. 0.5 dB (≤ 1.5 MHz)
Cut-off frequency fg (3 dB), sym. in 50 Ohm system	Typ. 8 MHz
Capacity (Core-Core)	Typ. 1.1 nF
Resistance in series	2.2 Ω (Path 1-2/5-6)
Resistance in series	2.2 Ω (Path 7-8, 11-12)
Message: Surge protection fault	None
Max. required back-up fuse	500 mA (e.g. T ( IEC 127-2/III))
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C2 (10 kV/5 kA)
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 (2.5 kA)

### 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

### Connection, protective circuit

Standards/regulations	IEC 61643-21
Standards/regulations	DIN EN 61643-21
Standards/regulations	UL 497B

## Classifications

### eclass

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

### unspsc

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

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## Approvals

### Approvals

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#### Approvals

UL Listed / GOST / GL

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#### Ex Approvals


UL Listed / cUL Listed / ATEX / cULus Recognized

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#### Approvals submitted

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## Approval details

UL Listed 	
Nominal current I <sub>N</sub>	0.45 A
Nominal voltage U <sub>N</sub>	34 V

GOST 
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GL
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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

## Surge protection connector - PT 2X2-24AC-ST - 2838283

### 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

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

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### Accessories

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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

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### Necessary add-on products

Surge protection base element - PT 2X2-BE - 2839208



Base element for protective plug PT with protective circuit for two 2-wire floating signal circuit, bridge between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

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Surge protection base element - PT 2X2+F-BE - 2839224



Base element for protective plug PT with protective circuit for two 2-wire floating signal circuit, gas-filled surge arrester between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

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### Additional products

Shield connection - SSA 3-6 - 2839295



shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black

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Shield connection - SSA 3-6 - 2839295



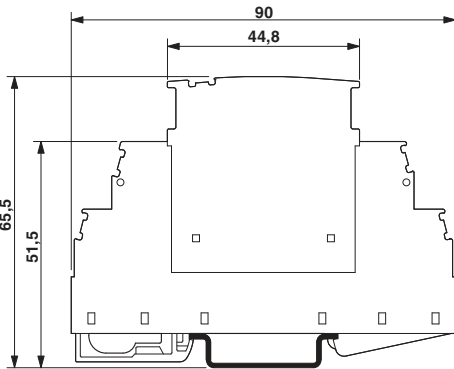
shield fast connections for conductor diameter 3 - 6 mm. Potential connection cable: 200 mm, black

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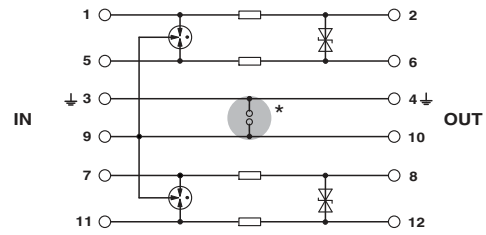
### Drawings

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Dimensioned drawing



Circuit diagram



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