

# 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

## Product Features

- 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

<b>package_quantity</b>	10
<b>GTIN</b>	4017918182687

## Technical data

### Dimensions

<b>Height</b>	45 mm
<b>Width</b>	17.7 mm
<b>Depth</b>	52 mm
<b>Pitch unit</b>	1 Div.
<b>Height</b>	90 mm
<b>Width</b>	17.7 mm
<b>Depth</b>	65.5 mm

### Ambient conditions

<b>Ambient temperature (operation)</b>	-40 °C ... 85 °C
<b>Degree of protection</b>	IP20

### General

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## Technical data

### General

<b>Housing material</b>	PA 6.6
<b>Inflammability class according to UL 94</b>	V0
<b>Color</b>	black
<b>Standards for air and creepage distances</b>	VDE 0110-1
<b>Standards for air and creepage distances</b>	IEC 60664-1
<b>Mounting type</b>	On base element
<b>Design</b>	DIN rail module, two-section, divisible
<b>Direction of action</b>	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/ Shield-Earth Ground
<b>Arrester can be tested with CHECKMASTER from software version:</b>	From SW rev. 1.00

### Protective circuit

<b>IEC test classification</b>	C1
<b>IEC test classification</b>	C2
<b>IEC test classification</b>	C3
<b>IEC test classification</b>	D1
<b>VDE requirement class</b>	D1
<b>Nominal voltage <math>U_N</math></b>	24 V AC
<b>Maximum continuous operating voltage <math>U_c</math></b>	40 V DC
<b>Maximum continuous operating voltage <math>U_c</math></b>	28 V AC
<b>Maximum continuous voltage <math>U_C</math> (wire-wire)</b>	40 V DC
<b>Maximum continuous voltage <math>U_C</math> (wire-wire)</b>	28 V AC
<b>Maximum continuous voltage <math>U_c</math> (wire-ground)</b>	40 V DC
<b>Maximum continuous voltage <math>U_c</math> (wire-ground)</b>	28 V AC
<b>Nominal current <math>I_N</math></b>	450 mA (45°C)
<b>Operating effective current <math>I_c</math> at <math>U_c</math></b>	$\leq 5 \mu A$
<b>Residual current <math>I_{PE}</math></b>	$\leq 1 \mu A$ (BE: 2x2-F)
<b>Residual current <math>I_{PE}</math></b>	$\leq 4 \mu A$
<b>Nominal discharge current <math>I_n</math> (8/20) <math>\mu s</math> (Core-Core)</b>	10 kA
<b>Nominal discharge current <math>I_n</math> (8/20) <math>\mu s</math> (Core-Earth)</b>	10 kA
<b>Total surge current (8/20) <math>\mu s</math></b>	20 kA
<b>Max. discharge current <math>I_{max}</math> (8/20) <math>\mu s</math> maximum (Core-Core)</b>	10 kA
<b>Max. discharge current <math>I_{max}</math> (8/20) <math>\mu s</math> maximum (Core-Earth)</b>	10 kA
<b>Nominal pulse current <math>I_{an}</math> (10/1000) <math>\mu s</math> (Core-Core)</b>	23 A
<b>Impulse discharge current (10/350) <math>\mu s</math>, peak value <math>I_{imp}</math></b>	2.5 kA (per path)
<b>Output voltage limitation at 1 kV/<math>\mu s</math> (Core-Core) spike</b>	$\leq 55 V$
<b>Output voltage limitation at 1 kV/<math>\mu s</math> (Core-Earth) spike</b>	$\leq 450 V$
<b>Output voltage limitation at 1 kV/<math>\mu s</math> (Core-Core) static</b>	$\leq 55 V$
<b>Residual voltage at <math>I_n</math>, (conductor-conductor)</b>	$\leq 55 V$
<b>Voltage protection level <math>U_p</math> (Core-Core)</b>	$\leq 80 V$
<b>Voltage protection level <math>U_p</math> (Core-Earth)</b>	$\leq 450 V$

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## Technical data

### Protective circuit

<b>Response time tA (Core-Core)</b>	≤ 1 ns
<b>Response time tA (Core-Earth)</b>	≤ 100 ns
<b>Input attenuation aE, sym.</b>	typ. 0.5 dB (≤ 1.5 MHz)
<b>Cut-off frequency fg (3 dB), sym. in 50 Ohm system</b>	typ. 8 MHz
<b>Capacity (Core-Core)</b>	typ. 1.1 nF
<b>Resistance in series</b>	2.2 Ω (Path 1-2/5-6)
<b>Resistance in series</b>	2.2 Ω (Path 7-8, 11-12)
<b>Message: Surge protection fault</b>	None
<b>Max. required back-up fuse</b>	500 mA (e.g. T ( IEC 127-2/III))
<b>Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)</b>	C2 (10 kV/5 kA)
<b>Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)</b>	C2 (10 kV/5 kA)
<b>Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)</b>	D1 (2.5 kA)

### Connection data

<b>Connection method</b>	Screw connection (in connection with the base element)
<b>Connection type IN</b>	PLUGTRAB plug-in system
<b>Connection type OUT</b>	PLUGTRAB plug-in system

### Standards and Regulations

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

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27140201
<b>eCl@ss 4.1</b>	27130801
<b>eCl@ss 5.0</b>	27130801
<b>eCl@ss 5.1</b>	27130801
<b>eCl@ss 6.0</b>	27130807
<b>eCl@ss 7.0</b>	27130807
<b>eCl@ss 8.0</b>	27130807

### ETIM

<b>ETIM 2.0</b>	EC000943
<b>ETIM 3.0</b>	EC000943
<b>ETIM 4.0</b>	EC000943
<b>ETIM 5.0</b>	EC000943

### UNSPSC

<b>UNSPSC 6.01</b>	30212010
<b>UNSPSC 7.0901</b>	39121610
<b>UNSPSC 11</b>	39121610

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## classifications

### UNSPSC

UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## approvals

UL Listed / cUL Listed / ATEX / cULus Listed / UL Listed / GOST / GL /

### Approval details

UL Listed

cUL Listed

ATEX

cULus Listed

Nominal voltage UN	34 V
Nominal current IN	0.45 A
mm <sup>2</sup> /AWG/kcmil	

GOST

GL

## accessories

Marker pen

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## accessories

X-PEN 0,35 - 0811228



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## Terminal marking

ZBF 5:UNBEDRUCKT - 0808642



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ZBF 5/WH-100:UNBEDRUCKT - 0808668



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## Labeled terminal marker

ZBF 5,LGS:FORTL.ZAHLEN - 0808671



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ZBF 5,LGS:GERADE ZAHLEN - 0810821



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### accessories

ZBF 5,LGS:UNGERADE ZAHLEN - 0810863



ZBF 5,QR:FORTL.ZAHLEN - 0808697



### Device marking

ZBN 18:UNBEDRUCKT - 2809128



### accessories

ZBF 15:SO/CMS - 0814717



ZBF 5:SO/CMS - 0808707



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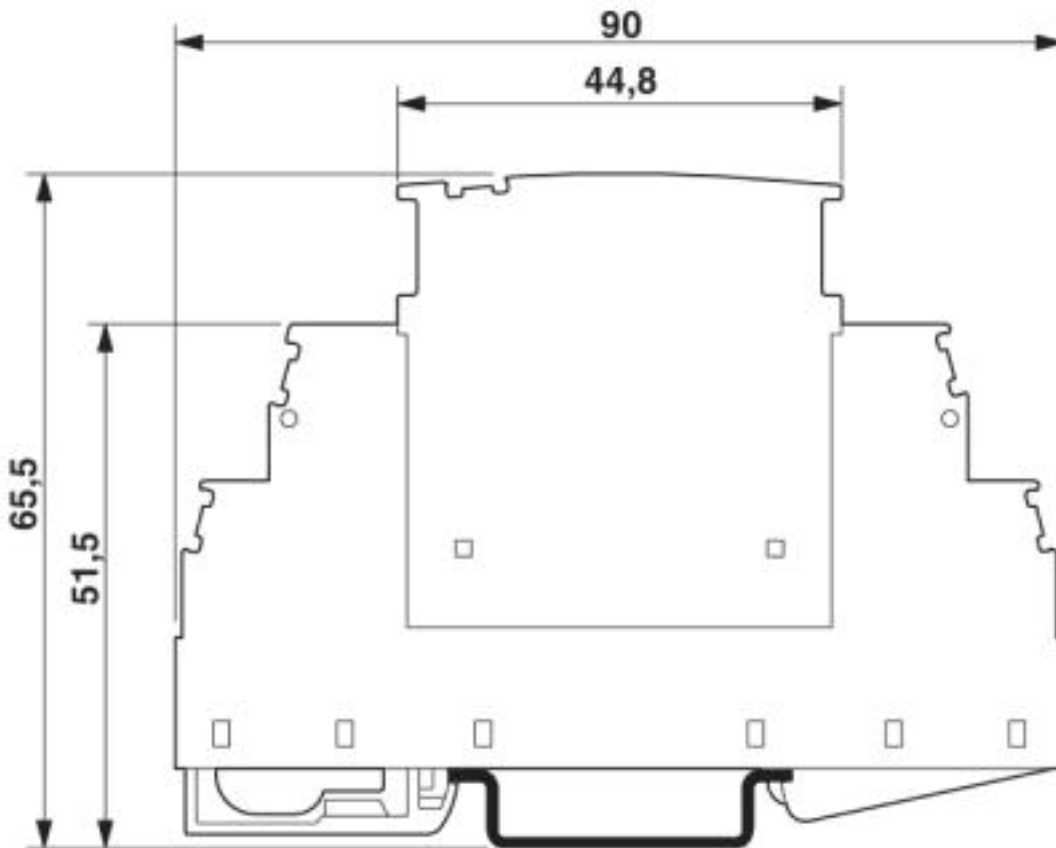
accessories

ZBN 18:SO/CMS - 0800763



## Drawings

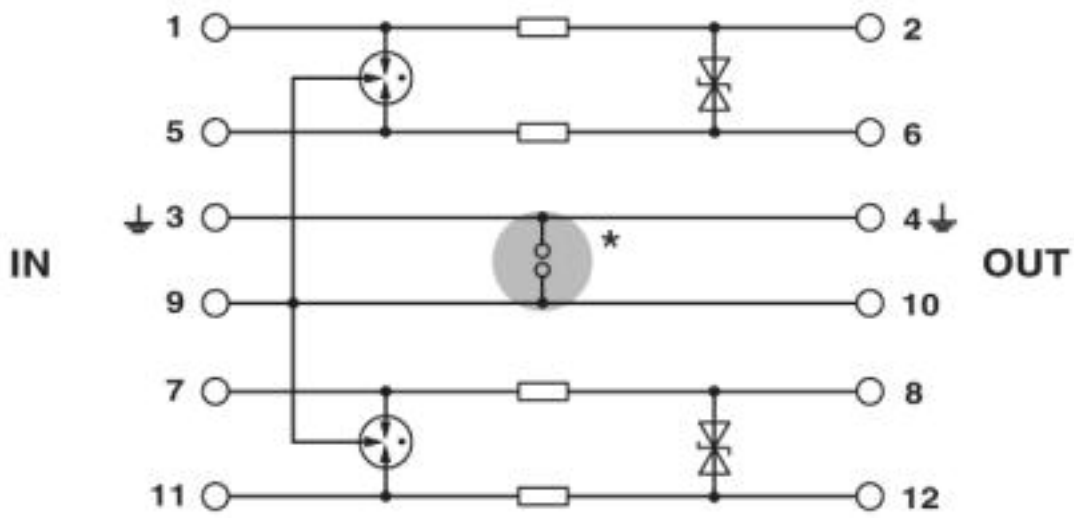
Dimensioned drawing



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

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Circuit diagram



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