

## Surge protection connector - PT 5-HF-12 DC-ST - 2838775

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Protective plug PT with HF protective circuit for 4 signal wires. Nominal voltage: 12 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
- ✓ Protection for fieldbus systems, PROFIBUS, and signal circuits with 3 to 5-wire technology
- ✓ Consistent plug-in signal circuit protection
- ✓ Impedance-neutral disconnection of plug for test and maintenance purposes



### Key commercial data

Packing unit	1 PCE
Minimum order quantity	10 PCE
GTIN	 4 017918 480646
Custom tariff number	85363010
Country of origin	GERMANY

### Technical data

#### General

Housing material	PA
Inflammability class according to UL 94	V0
Color	black
Standards for air and creepage distances	DIN EN 61664-1

# Surge protection connector - PT 5-HF-12 DC-ST - 2838775

## Technical data

### General

Standards for air and creepage distances	IEC 60664-1
Surge voltage category	III
Pollution degree	2
Ambient temperature (operation)	-40 °C ... 85 °C
Mounting type	On base element
Design	DIN rail module, two-section, divisible
Number of positions	5
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	C1
VDE requirement class	C2
VDE requirement class	C3
VDE requirement class	D1
Nominal voltage $U_N$	12 V DC
Maximum continuous operating voltage $U_C$	14 V DC
Maximum continuous operating voltage $U_C$	9.8 V AC
Maximum continuous voltage $U_C$ (wire-wire)	14 V DC
Maximum continuous voltage $U_C$ (wire-wire)	9.8 V AC
Maximum continuous voltage $U_C$ (wire-ground)	14 V DC (with PT 2x2-BE)
Nominal current $I_N$	450 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu A$
Residual current $I_{PE}$	$\leq 5 \mu A$ (with PT 2x2-BE)
Residual current $I_{PE}$	$\leq 1 \mu A$ (with PT 2x2+F-BE)
Nominal discharge surge current $I_n$ (8/20) $\mu s$ (Core-Core)	10 kA
Nominal discharge surge current $I_n$ (8/20) $\mu s$ (Core-Earth)	10 kA
Total surge current (8/20) $\mu s$	20 kA

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## Technical data

### Protective circuit

Max. discharge surge current $I_{\max}$ (8/20) $\mu\text{s}$ maximum (Core-Core)	10 kA
Max. discharge surge current $I_{\max}$ (8/20) $\mu\text{s}$ maximum (Core-Earth)	10 kA
Nominal pulse current $I_{\text{an}}$ (10/1000) $\mu\text{s}$ (Core-Core)	67 A
Lightning test current (10/350) $\mu\text{s}$ , peak value $I_{\text{imp}}$	2.5 kA
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Core) spike	$\leq 55 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 55 \text{ V}$ (PT 2x2-BE)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 700 \text{ V}$ (with PT 2x2+F-BE)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Core) static	$\leq 25 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) static	$\leq 25 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) static	$\leq 40 \text{ V}$ (PT 2x2+F-BE)
Residual voltage at $I_{\text{n}}$ , (conductor-conductor)	$\leq 25 \text{ V}$
Residual voltage at $I_{\text{n}}$ , (conductor-ground)	$\leq 40 \text{ V}$ (with PT 2x2-BE)
Residual voltage at $I_{\text{n}}$ , (conductor-GND)	$\leq 25 \text{ V}$ (with PT 2x2-BE)
Residual voltage with $I_{\text{an}}$ (10/1000) $\mu\text{s}$ (conductor-conductor)	$\leq 25 \text{ V}$
Residual voltage with $I_{\text{an}}$ (10/1000) $\mu\text{s}$ (conductor-GND)	$\leq 25 \text{ V}$
Voltage protection level $U_{\text{p}}$ (Core-Core)	$\leq 100 \text{ V}$ (C2 (10 kV/5 kA))
Voltage protection level $U_{\text{p}}$ (Core-Core)	$\leq 45 \text{ V}$ (C3 - 25 A)
Voltage protection level $U_{\text{p}}$ (Core-Earth)	$\leq 100 \text{ V}$ (C2 (10 kV/5 kA) with BE 2839208)
Voltage protection level $U_{\text{p}}$ (Core-Earth)	$\leq 600 \text{ V}$ (C2 (10 kV/5 kA) with BE 2839224)
Voltage protection level $U_{\text{p}}$ (Core-Earth)	$\leq 45 \text{ V}$ (C3 - 25 A)
Voltage protection level $U_{\text{p}}$ (Core-GND)	$\leq 45 \text{ V}$ (C3 - 25 A)
Response time $t_{\text{A}}$ (Core-Core)	$\leq 500 \text{ ns}$
Response time $t_{\text{A}}$ (Core-Earth)	$\leq 500 \text{ ns}$
Input attenuation $a_{\text{E}}$ , sym.	typ. 0.2 dB ( $\leq 5 \text{ MHz}$ / 100 $\Omega$ )
Cut-off frequency $f_{\text{g}}$ (3 dB), sym. in 100 $\Omega$ system	typ. 70 MHz
Capacity (Core-Core)	typ. 30 pF
Resistance in series	2.2 $\Omega \pm 10 \%$
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)	C2 (10 kV/5 kA)
Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)	C3 (67 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)	C3 (67 A)
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

## Surge protection connector - PT 5-HF-12 DC-ST - 2838775

### Technical data

#### Connection data

Connection type OUT	PLUGTRAB plug-in system
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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

#### UNSPSC

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

### Approvals

#### Approvals

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##### Approvals

UL Listed / GOST / GL

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##### Ex Approvals

UL Listed / cUL Listed / cULus Listed


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Approvals submitted

## Surge protection connector - PT 5-HF-12 DC-ST - 2838775

### Approvals

#### Approval details

UL Listed 	
Nominal current I <sub>N</sub>	0.45 A
Nominal voltage U <sub>N</sub>	12 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

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

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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: Plotter, 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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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

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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

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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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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

## Surge protection connector - PT 5-HF-12 DC-ST - 2838775

### Accessories

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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### Required 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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### 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 5-10 - 2839512



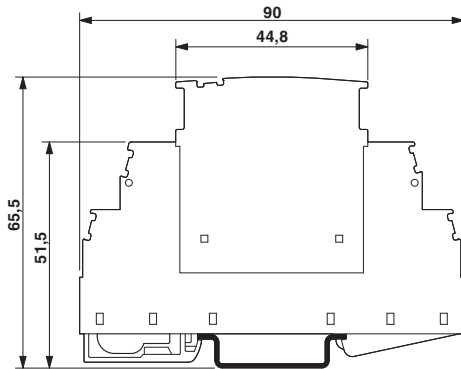
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

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### Drawings

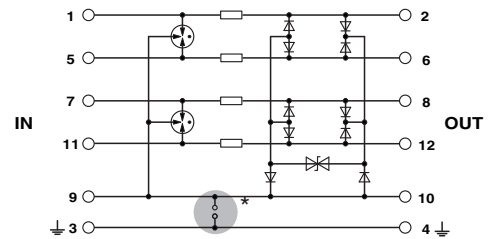
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Dimensioned drawing



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

Circuit diagram



Diagram





## Surge protection connector - PT 5-HF-12 DC-ST - 2838775

Application drawing

