

## Surge protection plug - PT 5-HF- 5 DC-ST - 2838762

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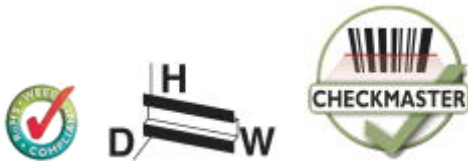


Protective plug PT with HF protective circuit for 4 signal wires. Nominal voltage: 5 V DC

The illustration shows variant PT 5-HF-12 DC-ST

### Product Features

- ✓ Protection for up to five signal wires
- ✓ Fast response time
- ✓ For high transmission speeds
- ✓ High discharge capacity
- ✓ Plugs can be checked with CHECKMASTER



### Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	25.45 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm
Horizontal pitch	1 Div.
Complete module height	90 mm
Complete module width	17.7 mm

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### Technical data

#### Dimensions

Complete module depth	65.5 mm
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#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
Degree of protection	IP20

#### General

Housing material	PA
Inflammability class according to UL 94	V0
Color	black
Standards for clearances and creepage distances	DIN EN 61664-1 IEC 60664-1
Mounting type	On base element
Type	DIN rail module, two-section, divisible
Number of positions	5
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

#### Protective circuit

IEC test classification	C1 C2 C3 D1
VDE requirement class	C1 C2 C3 D1
Nominal voltage $U_N$	5 V DC
Maximum continuous voltage $U_C$	5.2 V DC 3.6 V AC
Maximum continuous voltage $U_C$ (wire-wire)	5.2 V DC 3.6 V AC
Maximum continuous voltage $U_C$ (wire-ground)	5.2 V DC (with PT 2x2-BE)
Nominal current $I_N$	450 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 300 \mu\text{A}$
Residual current $I_{PE}$	$\leq 300 \mu\text{A}$ (with PT 2x2-BE) $\leq 1 \mu\text{A}$ (with PT 2x2+F-BE)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Core)	10 kA

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### Technical data

#### Protective circuit

Nominal discharge current $I_n$ (8/20) $\mu$ s (Core-Earth)	10 kA
Total surge current (8/20) $\mu$ s	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Core)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (Core-Core)	90 A
Impulse discharge current (10/350) $\mu$ s, peak value $I_{imp}$	2.5 kA
Output voltage limitation at 1 kV/ $\mu$ s (Core-Core) spike	$\leq 55$ V
Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) spike	$\leq 55$ V (PT 2x2-BE)
	$\leq 700$ V (with PT 2x2+F-BE)
Output voltage limitation at 1 kV/ $\mu$ s (Core-Core) static	$\leq 15$ V
Output voltage limitation at 1 kV/ $\mu$ s (Core-Earth) static	$\leq 15$ V
	$\leq 30$ V (PT 2x2+F-BE)
Residual voltage at $I_n$ (conductor-conductor)	$\leq 15$ V
Residual voltage at $I_n$ (conductor-ground)	$\leq 30$ V (with PT 2x2-BE)
Residual voltage at $I_n$ (conductor-GND)	$\leq 15$ V (with PT 2x2-BE)
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (conductor-conductor)	$\leq 15$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (conductor-GND)	$\leq 15$ V
Voltage protection level $U_p$ (core-core)	$\leq 70$ V (C1 - 1 kV/500 A)
	$\leq 45$ V (C3 - 25 A)
	$\leq 100$ V (C2 - 10 kV/5 kA)
	$\leq 70$ V (6 kV/3 kA)
Voltage protection level $U_p$ (core-ground)	$\leq 80$ V (C1 - 1 kV/500 A)
	$\leq 110$ V (C2 - 10 kV/5 kA)
	$\leq 100$ V (6 kV/3 kA)
	$\leq 45$ V (C3 - 25 A)
Voltage protection level $U_p$ (core-GND)	$\leq 45$ V (C3 - 25 A)
Response time $t_A$ (Core-Core)	$\leq 500$ ns
Response time $t_A$ (Core-Earth)	$\leq 500$ ns
	$\leq 500$ ns
Input attenuation $a_E$ , sym.	typ. 0.3 dB ( $\leq 5$ MHz / 100 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 100 Ohm system	typ. 60 MHz
Capacity (Core-Core)	typ. 30 pF
Resistance in series	2.2 $\Omega \pm 10$ % (1-2/5-6/7-8/11-12)
Surge protection fault message	None
Max. required back-up fuse	500 mA (e.g. T in acc. with IEC 127-2/III)
Impulse durability (conductor-conductor)	C2 - 10 kV/5 kA
	C3 (90 A)

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### Technical data

#### Protective circuit

Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	C3 (90 A)
	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
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12

#### Connection, equipotential bonding

Stripping length	8 mm
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12

### 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
eCl@ss 8.0	27130807

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## Classifications

### 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

#### Approvals

UL Listed / EAC / EAC

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

#### Approvals submitted

### Approval details

UL Listed	
Nominal current IN	0.45 A
Nominal voltage UN	5 V

EAC
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## Surge protection plug - PT 5-HF- 5 DC-ST - 2838762

### Approvals

EAC

### Accessories

#### Accessories

#### Device marking

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

#### 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: 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

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### 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

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### Terminal marking

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

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### Required add-on products

# Surge protection plug - PT 5-HF- 5 DC-ST - 2838762

## Accessories

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

## Additional products

Shield connection - SSA 3-6 - 2839295



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

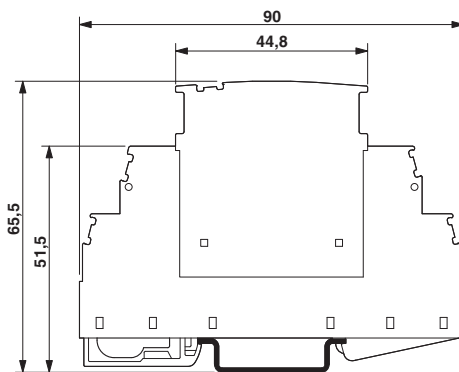
Shield connection - SSA 5-10 - 2839512



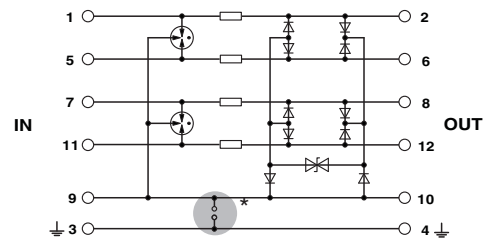
Shield fast connection for conductor diameters 5 - 10 mm. Potential connection cable: 200 mm, black

## Drawings

Dimensional drawing



Circuit diagram



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



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Diagram

