

## Surge protection device - PT 5-HF-24DC-ST - 2906002

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PT protective plug with HF protective circuit for 4 signal wires. Nominal voltage: 24 V DC

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



### Key Commercial Data

Packing unit	1 STK
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Environmental Product Compliance

China RoHS	No hazardous substances above threshold values
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#### Dimensions

Height	45 mm
Width	17.7 mm
Depth	52 mm

#### Ambient conditions

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

#### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	black
Type	Male

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### Technical data

#### General

Number of positions	5
Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground

#### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous voltage $U_C$	28 V DC
Rated current	450 mA (45°C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Residual current $I_{PE}$	$\leq 5 \mu\text{A}$ (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
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	10 kA (with PT 2x2+F-BE)
	10 kA (with PT 2x2-BE)
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$	2.5 kA (with PT 2x2-BE)
	2.5 kA (with PT 2x2+F-BE)
Total discharge current $I_{Total}$ (8/20) $\mu\text{s}$	20 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Core)	25 A
Voltage protection level $U_p$ (core-core)	$\leq 150 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 450 \text{ V}$ (C2 - 10 kA)
	$\leq 50 \text{ V}$ (C3 - 25 A)
Voltage protection level $U_p$ (core-ground)	$\leq 150 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 700 \text{ V}$ ()
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 900 \text{ V}$ ()
	$\leq 450 \text{ V}$ (C2 - 10 kA)
	$\leq 1000 \text{ V}$ ()
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 800 \text{ V}$ ()

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### Technical data

#### Protective circuit

Voltage protection level $U_p$ (core-GND)	$\leq 150$ V (C1 - 1 kV/500 A)
	$\leq 150$ V ()
	$\leq 165$ V (C2 - 10 kV / 5 kA)
	$\leq 165$ V ()
	$\leq 450$ V (C2 - 10 kA)
	$\leq 450$ V ()
	$\leq 50$ V (C3 - 25 A)
	$\leq 50$ V ()
Response time $t_A$ (Core-Core)	$\leq 500$ ns
Response time $t_A$ (Core-Earth)	$\leq 500$ ns
Input attenuation $a_E$ , sym.	typ. 0.3 dB ( $\leq 13$ MHz/100 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 100 Ohm system	typ. 70 MHz
Capacity (Core-Core)	typ. 23 pF
Resistance in series	2.2 $\Omega \pm 10$ %
Surge protection fault message	None
Max. required back-up fuse	500 mA (e.g. T in acc. with IEC 127-2/III)

#### 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	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section AWG	24 ... 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

#### Standards and Regulations

Standards/specifications	EN 61643-21/A2 2013
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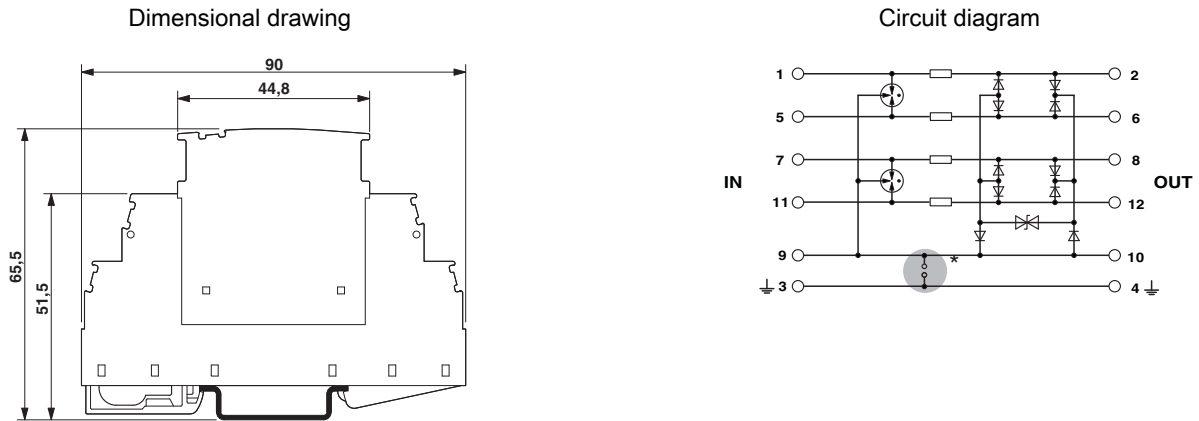
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## Technical data

### Standards and Regulations

	IEC 61643-21/A2 2012
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## Drawings



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

## 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
eCl@ss 9.0	27130807

### ETIM

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

### UNSPSC

UNSPSC 6.01	30212010
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## Classifications

### UNSPSC

UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

## 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

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#### 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

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### Accessories

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

### 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

### 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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### Accessories

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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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#### 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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