

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



2906002

<https://www.phoenixcontact.com/us/products/2906002>

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

## Your advantages

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance, thanks to the 2-piece design
- Easy selection for all possible demands in MCR applications with a complete product portfolio
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

## Commercial data

Item number	2906002
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL03
Product key	CL3121
GTIN	4055626013398
Weight per piece (including packing)	35.5 g
Weight per piece (excluding packing)	22.05 g
Customs tariff number	85363010
Country of origin	DE

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## Technical data

### Product properties

Product type	Surge protection for information technology
Product family	PLUGTRAB PT
IEC test classification	C1
	C2
	C3
	D1
Type	Male
Number of positions	5
Wire pairs per module	2

### Insulation characteristics

Overvoltage category	III
Pollution degree	2

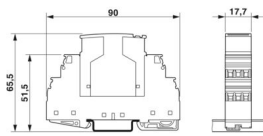
### Electrical properties

Nominal voltage $U_N$	24 V DC
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### Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.8 Nm
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12

### Dimensions

Dimensional drawing	
Width	17.7 mm
Height	45 mm
Depth	52 mm
Horizontal pitch	1 Div.

### Material specifications

Color	black (RAL 9005)
Flammability rating according to UL 94	V-0
Housing material	PA 6.6

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## Mechanical properties

### Mechanical data

Open side panel	No
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### Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
Nominal voltage $U_N$	24 V DC
Maximum continuous operating voltage $U_C$	28 V DC
Rated current	450 mA (45 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Protective conductor 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) $\mu\text{s}$ (line-line)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-ground)	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) $\mu\text{s}$ (line-line)	25 A
Voltage protection level $U_p$ (line-line)	$\leq 150 \text{ V}$ (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 $U_p$ (line-earth)	$\leq 150 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 700 \text{ V}$ (C1 - 1 kV / 500 A with PT 2X2+F-BE)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 900 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2+F-BE)
	$\leq 450 \text{ V}$ (C2 - 10 kA)
	$\leq 1000 \text{ V}$ (C2 - 10 kA with PT 2X2+F-BE)
	$\leq 50 \text{ V}$ (C3 - 25 A)
Voltage protection level $U_p$ (line-signal ground)	$\leq 150 \text{ V}$ (C1 - 1 kV / 500 A)
	$\leq 150 \text{ V}$ (C1 - 1 kV / 500 A with PT 2X2+F-BE)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2-BE)
	$\leq 450 \text{ V}$ (C2 - 10 kA)
	$\leq 450 \text{ V}$ (C2 - 10 kV / 5 kA with PT 2X2-BE)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 50 \text{ V}$ (C3 - 25 A with PT 2X2-BE)
Response time $t_A$ (line-line)	$\leq 500 \text{ ns}$
Response time $t_A$ (line-earth)	$\leq 500 \text{ ns}$
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 13 \text{ MHz}$ / 100 $\Omega$ )

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Cut-off frequency $f_g$ (3 dB), sym. in 100 $\Omega$ system	typ. 70 MHz
Capacity (Core-Core)	typ. 23 pF
Resistance per path	2.2 $\Omega$ $\pm$ 10 %
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq$ 2000 m (amsl)

## Standards and regulations

Standards/specifications	EN 61643-21/A2
Note	2013
Standards/specifications	IEC 61643-21/A2
Note	2012

## Mounting

Mounting type	on base element
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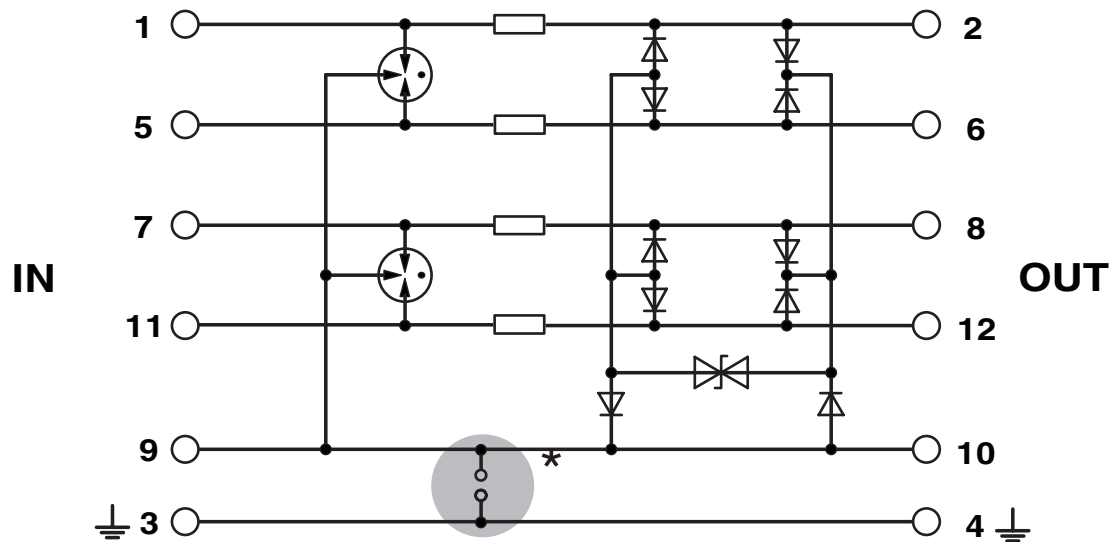
## Drawings

Dimensional drawing



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

Circuit diagram



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## Classifications

### ECLASS

ECLASS-13.0	27171503
ECLASS-15.0	27171503

### ETIM

ETIM 10.0	EC001466
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### UNSPSC

UNSPSC 21.0	39121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	aee37143-61f4-4454-bad8-06e456adba78

### EF3.1 Climate Change

CO2e kg	42.144 kg CO2e
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