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## 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
GTIN	 4 055626 013398

### Technical data

#### 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	V0
Color	black
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

#### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1

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

## Technical data

### Protective circuit

	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
Maximum continuous voltage $U_C$	28 V DC
Nominal current $I_N$	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)
Total surge current (8/20) $\mu\text{s}$	20 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Core)	25 A
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	2.5 kA (with PT 2x2-BE)
	2.5 kA (with PT 2x2+F-BE)
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)
	$\leq 700 \text{ V}$ (C1 - 1 kV / 500 A; BE:+F)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 900 \text{ V}$ (C2 - 10 kV / 5 kA; BE:+F)
	$\leq 450 \text{ V}$ (C2 - 10 kA)
	$\leq 1000 \text{ V}$ (C2 - 10 kA; BE:+F)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 800 \text{ V}$ (C3 - 25 A; BE:+F)
Voltage protection level $U_p$ (core-GND)	$\leq 150 \text{ V}$ (C1 - 1 kV/500 A)
	$\leq 150 \text{ V}$ (C1 - 1 kV / 500 A; BE:+F)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA)
	$\leq 165 \text{ V}$ (C2 - 10 kV / 5 kA; BE:+F)
	$\leq 450 \text{ V}$ (C2 - 10 kA)
	$\leq 450 \text{ V}$ (C2 - 10 kA; BE:+F)
	$\leq 50 \text{ V}$ (C3 - 25 A)
	$\leq 50 \text{ V}$ (C3 - 25 A; BE:+F)
Response time $t_A$ (Core-Core)	$\leq 500 \text{ ns}$
Response time $t_A$ (Core-Earth)	$\leq 500 \text{ ns}$
Input attenuation aE, sym.	typ. 0.3 dB ( $\leq 13 \text{ MHz}$ / 100 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 100 Ohm system	typ. 70 MHz

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## Technical data

### Protective circuit

Capacity (Core-Core)	typ. 23 pF
Resistance in series	2.2 Ω ±10 % (1-2/5-6/7-8/11-12)
	≤ 1 Ω (9-10)
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 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
eCl@ss 9.0	27130807

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

## Classifications

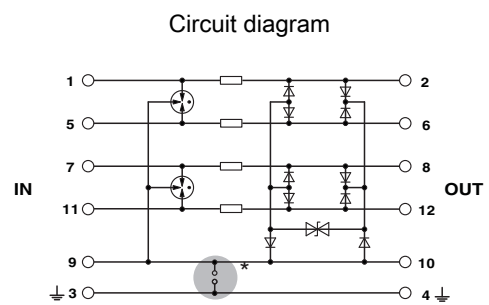
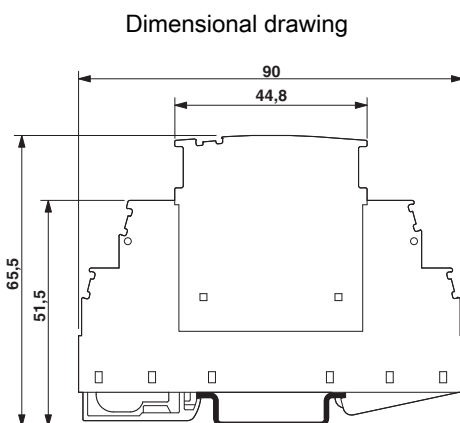
### ETIM

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

## Drawings



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

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