

## Surge protection plug - PT 2X2-HF-24 DC-ST - 2839729

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Protective plug PT with HF protective circuit for two 2-core floating signal circuits. Nominal voltage: 24 V DC

### Your advantages

- ✓ 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	10 pc
GTIN	 4 017918 607210
GTIN	4017918607210

### Technical data

#### Dimensions

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

#### Ambient conditions

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

#### General

Housing material	PA
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## Technical data

### General

Flammability rating according to UL 94	V-0
Color	black
Standards for clearances and creepage distances	DIN VDE 0110-1
	IEC 60664-1
Mounting type	on base element
Type	Male
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 $U_N$	24 V DC
Maximum continuous voltage $U_C$	28 V DC
	19.8 V AC
Rated current	450 mA (45 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Residual current $I_{PE}$	$\leq 4 \mu\text{A}$ (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-earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$	2.5 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-line)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-line)	30 A
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) spike	$\leq 120 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 450 \text{ V}$
	$\leq 1 \text{ kV}$ (with PT 2X2+F-BE)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) static	$\leq 45 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-signalground) static	$\leq 450 \text{ V}$
Residual voltage at $I_n$ (line-line)	$\leq 40 \text{ V}$
Residual voltage with $I_{an}$ (10/1000) $\mu\text{s}$ (line-line)	$\leq 50 \text{ V}$

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#### Protective circuit

Voltage protection level $U_p$ (line-line)	$\leq 120$ V (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ (line-earth)	$\leq 450$ V (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-line)	$\leq 500$ ns
Response time $t_A$ (line-earth)	$\leq 500$ ns
Input attenuation aE, sym.	0.2 dB ( $\leq 5$ MHz)
Cut-off frequency $f_g$ (3 dB), sym. in 100 Ohm system	typ. 70 MHz
Capacity (line-line)	typ. 30 pF
Resistance in series	2.2 $\Omega$
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C2 - 10 kV / 5 kA
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	D1 - 2.5 kA

#### Connection data

Connection method	Screw connection (in connection with the base element)
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

#### Standards and Regulations

Standards/regulations	IEC 61643-21
Standards/specifications	IEC 61643-21 2000

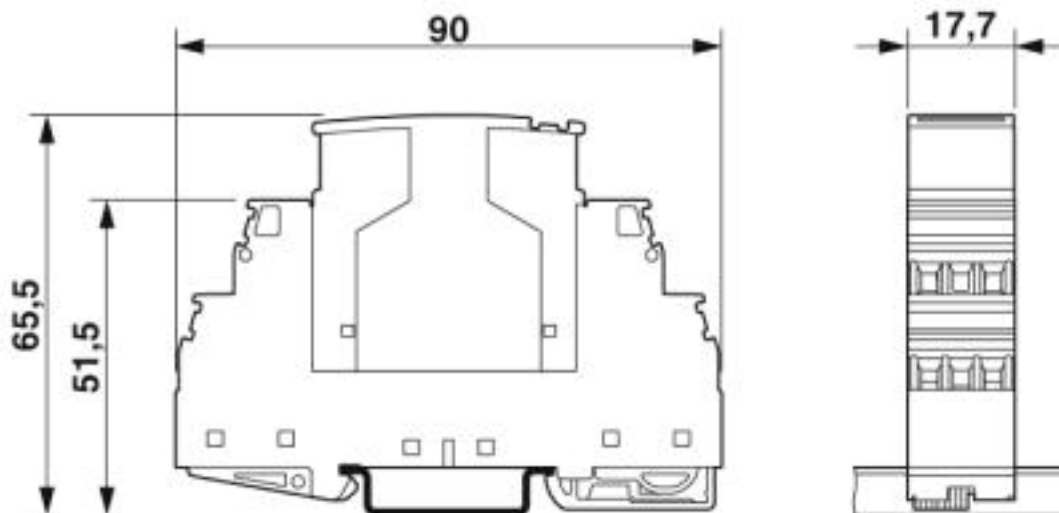
#### Environmental Product Compliance

	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

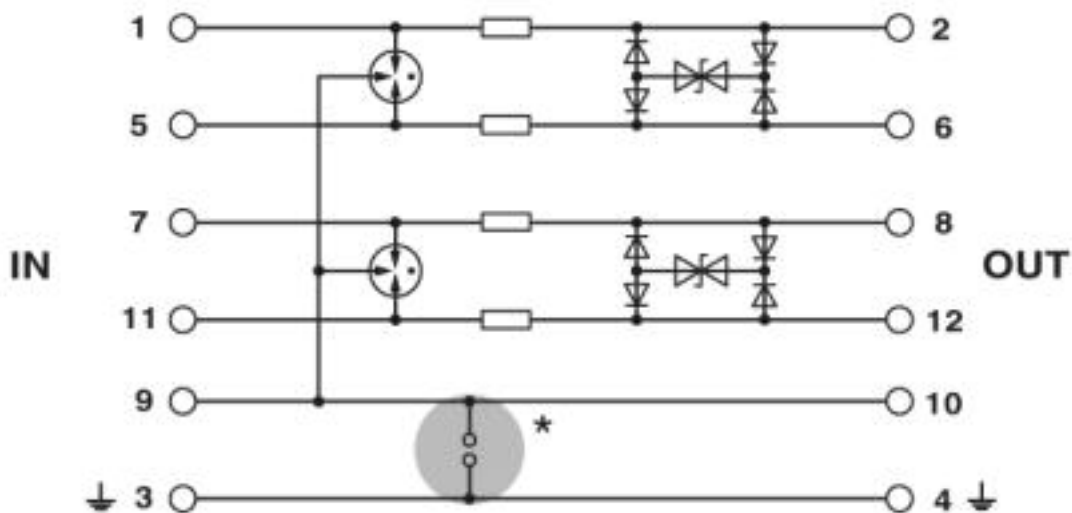
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Dimensional drawing



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

Circuit diagram



## Approvals

Approvals

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Approvals

UL Listed / EAC / EAC

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Ex Approvals

UL Listed / cUL Listed / cULus Listed

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## Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 138168
Nominal voltage UN		24 V	
Nominal current IN		0.45 A	

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B01561
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