

## Surge protection plug - PT 4-24DC-ST - 2839240

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Protective plug PT with protective circuit for a 4-core floating signal circuit. Nominal voltage: 24 V DC

The illustration shows the version PT 4-5 DC-ST

### Why buy this product

- 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
- Consistent plug-in signal circuit protection
- Impedance-neutral disconnection of plug for test and maintenance purposes



### Key Commercial Data

Packing unit	10 STK
GTIN	 4 017918 182786

### 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
Complete module depth	65.5 mm

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 85 °C
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## Technical data

### Ambient conditions

Degree of protection	IP20
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### General

Housing material	PA 6.6
Flammability rating according to UL 94	V0
Color	black
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
Mounting type	On base element
Type	DIN rail module, two-section, divisible
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 $U_C$	27 V DC
	19 V AC
Maximum continuous voltage $U_C$ (wire-wire)	27 V DC
	19 V AC
Nominal current $I_N$	2 A (80 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu\text{A}$
Residual current $I_{PE}$	$\leq 4 \mu\text{A}$ (PT 4-BE)
	$\leq 1 \mu\text{A}$ (PT 4+F-BE)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Core)	365 A
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (Core-Earth)	10 kA
Total surge current (8/20) $\mu\text{s}$	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Core)	365 A
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (Core-Earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (Core-Core)	67 A
Impulse discharge current (10/350) $\mu\text{s}$ , peak value $I_{imp}$	2.5 kA (per path)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Core) spike	$\leq 40 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (Core-Earth) spike	$\leq 450 \text{ V}$ (PT 4-BE)
	$\leq 1 \text{ kV}$ (PT 4+F-BE)

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### Technical data

#### Protective circuit

Output voltage limitation at 1 kV/μs (Core-Core) static	≤ 40 V
Residual voltage at I <sub>n</sub> (conductor-conductor)	≤ 60 V
Residual voltage with I <sub>an</sub> (10/1000)μs (conductor-conductor)	≤ 45 V
Voltage protection level U <sub>p</sub> (core-core)	≤ 50 V (C1 (500 V/250 A))
	≤ 45 V (C3 - 67 A)
Voltage protection level U <sub>p</sub> (core-ground)	≤ 500 V (C2 (10 kV/5 kA) / PT 4-BE)
	≤ 1 kV (C2 (10 kV/5 kA) / PT 4+F-BE)
	≤ 500 V (6 kV/3 kA)
Response time t <sub>A</sub> (Core-Core)	≤ 1 ns
Response time t <sub>A</sub> (Core-Earth)	≤ 1 ns
	≤ 100 ns
Input attenuation aE, sym.	0.1 dB (≤ 1 MHz)
	0.1 dB (≤ 1 MHz / 50 Ω)
	0.2 dB (≤ 400 kHz / 150 Ω)
Cut-off frequency f <sub>g</sub> (3 dB), sym. in 50 Ohm system	typ. 4.5 MHz
Cut-off frequency f <sub>g</sub> (3 dB), sym. in 150 Ohm system	typ. 1.5 MHz
Resistance in series	0 Ω (1-2/5-6/7-8/11-12)
Surge protection fault message	None
Impulse durability (conductor-conductor)	C1 - 500 V / 250 A
	C3 - 25 A
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	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>

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## Technical data

### Connection, equipotential bonding

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/regulations	IEC 61643-21
	DIN EN 61643-21
	UL 497B

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

## Approvals

### Approvals

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Approvals

UL Listed / GL / EAC / EAC

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## Approvals

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

## Approval details

UL Listed	
Nominal current I <sub>N</sub>	2 A
Nominal voltage U <sub>N</sub>	24 V

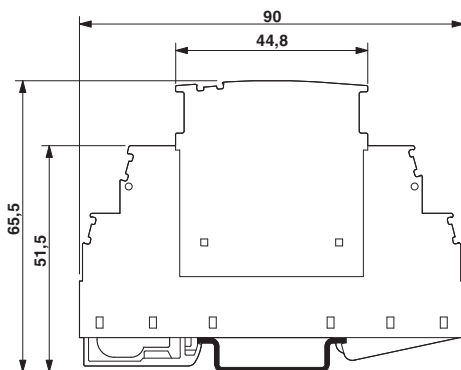
GL

EAC

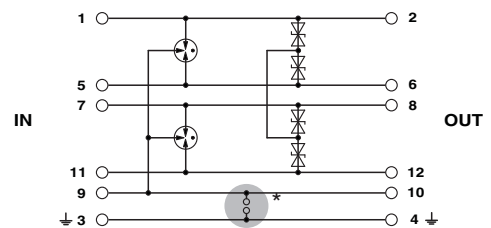
EAC

## Drawings

Dimensional drawing



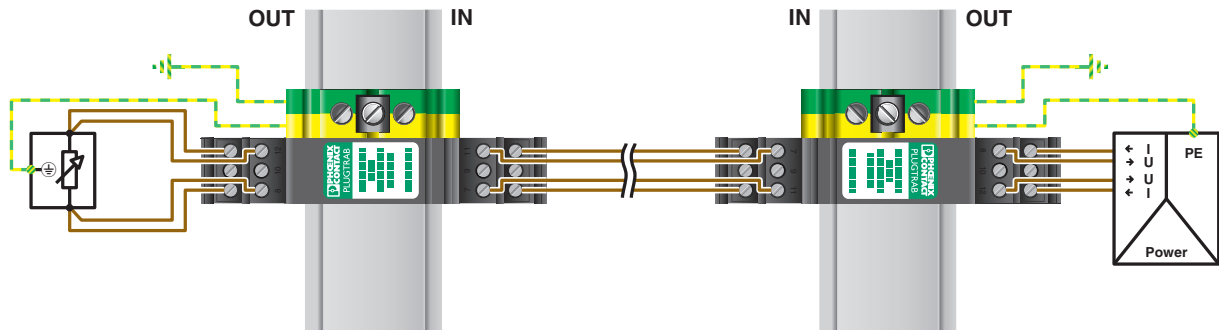
Circuit diagram



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

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Application drawing



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