

## 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

### 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	1 STK
GTIN	 4 017918 182786
GTIN	4017918182786
Weight per Piece (excluding packing)	25.600 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

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

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

### Technical data

#### Dimensions

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
Degree of protection	IP20

#### General

Housing material	PA 6.6
Flammability rating according to UL 94	V-0
Color	black
Standards for clearances and creepage distances	VDE 0110-1
	IEC 60664-1
Mounting type	on base element
Type	Male
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
Rated current	2 A (80 °C)
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu A$
Residual current $I_{PE}$	$\leq 4 \mu A$ (with PT 4-BE)
	$\leq 1 \mu A$ (with PT 4+F-BE)
Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Core)	365 A
Nominal discharge current $I_n$ (8/20) $\mu s$ (core-earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$	2.5 kA (per path)

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### Technical data

#### Protective circuit

Total discharge current $I_{total}$ (8/20) $\mu$ s	20 kA
Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Core)	365 A
Max. discharge current $I_{max}$ (8/20) $\mu$ s maximum (Core-Earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu$ s (Core-Core)	67 A
Output voltage limitation at 1 kV/ $\mu$ s (core-core) spike	$\leq 40$ V
Output voltage limitation at 1 kV/ $\mu$ s (core-earth) spike	$\leq 450$ V (with PT 4-BE) $\leq 1$ kV (with PT 4+F-BE)
Output voltage limitation at 1 kV/ $\mu$ s (core-core) static	$\leq 40$ V
Residual voltage at $I_n$ (conductor-conductor)	$\leq 60$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (conductor-conductor)	$\leq 45$ V
Voltage protection level $U_p$ (core-core)	$\leq 50$ V (C1 - 500 V / 250 A) $\leq 45$ V (C3 - 67 A)
Voltage protection level $U_p$ (core-ground)	$\leq 500$ V (C2 - 10 kV / 5 kA with PT 4-BE) $\leq 1$ kV (C2 - 10 kV / 5 kA with PT 4+F-BE) $\leq 500$ V (6 kV / 3 kA)
Response time $t_A$ (core-core)	$\leq 1$ ns
Response time $t_A$ (core-earth)	$\leq 1$ ns $\leq 100$ ns
Input attenuation aE, sym.	0.1 dB ( $\leq 1$ MHz) 0.1 dB ( $\leq 1$ MHz / 50 $\Omega$ ) 0.2 dB ( $\leq 400$ kHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 50 Ohm system	typ. 4.5 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 1.5 MHz
Resistance in series	0 $\Omega$
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)
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>

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## Technical data

### Connection data

Conductor cross section AWG	24 ... 12
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### 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/regulations	IEC 61643-21
	DIN EN 61643-21
	UL 497B
Standards/specifications	EN 61643-21/A1 2009
	IEC 61643-21/A1 2008
	UL 497B

## Drawings

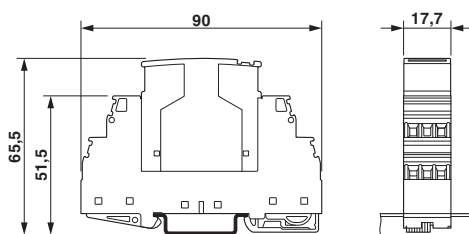
Pictogram



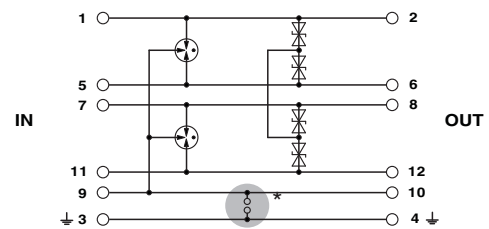
Pictogram



Dimensional drawing



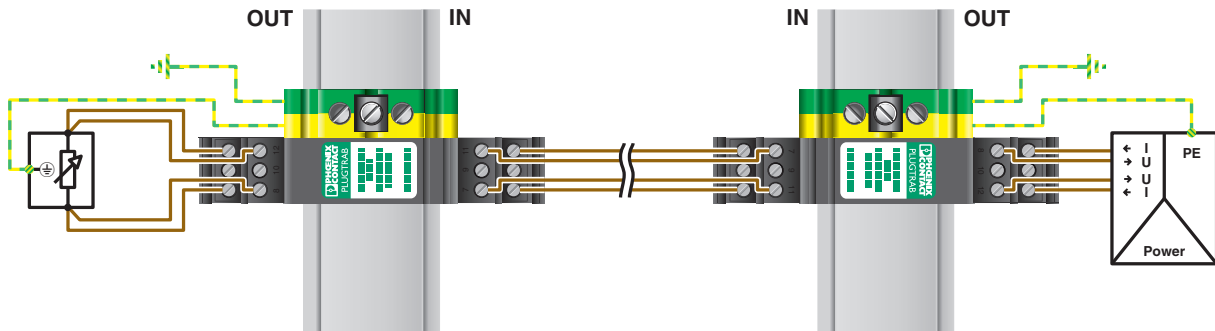
Circuit diagram



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

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Application drawing



## 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
ETIM 6.0	EC000943

### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

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## Approvals

### Approvals

#### Approvals

UL Listed / EAC / EAC / DNV GL

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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

EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B01561
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DNV GL	<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAE00001N6
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## Accessories

### Accessories

#### Device marking

Zack marker strip - ZBN 18:UNBEDRUCKT - 2809128



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 18 mm, lettering field size: 18 x 5 mm

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### Accessories

#### 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 size: 5.15 x 5.15 mm

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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 size: 5.15 x 5.15 mm

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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 size: 5.15 x 5.15 mm

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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 size: 5.15 x 5.15 mm

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#### 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

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### Accessories

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#### Terminal marking

Zack Marker strip, flat - ZBF 5:UNBEDRUCKT - 0808642



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 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: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm

#### Necessary add-on products

Surge protection base element - PT 4-BE - 2839402



Base element for protective plug PT with protective circuit for a 4-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

Surge protection base element - PT 4+F-BE - 2839415



Base element for protective plug PT with protective circuit for a 4-wire floating signal circuit, gas-filled surge arrester between the connections 3-4 (GND) and 9-10, for mounting on NS 35/7.5 and NS35/15, housing width: 17.5 mm

#### Additional products

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

### Accessories

#### Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

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#### Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm<sup>2</sup>, color: black

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