

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

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
- 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 182786
GTIN	4017918182786

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
Degree of protection	IP20

General

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Technical data

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	$\leq 5 \mu\text{A}$
Residual current I_{PE}	$\leq 4 \mu\text{A}$ (with PT 4-BE)
	$\leq 1 \mu\text{A}$ (with PT 4+F-BE)
Nominal discharge current I_n (8/20) μs (line-line)	365 A
Nominal discharge current I_n (8/20) μs (line-earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs	2.5 kA (per path)
Total discharge current I_{total} (8/20) μs	20 kA
Max. discharge current I_{max} (8/20) μs maximum (line-line)	365 A
Max. discharge current I_{max} (8/20) μs maximum (line-earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (line-line)	67 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 40 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 450 \text{ V}$ (with PT 4-BE)
	$\leq 1 \text{ kV}$ (with PT 4+F-BE)
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 40 \text{ V}$
Residual voltage at I_n (line-line)	$\leq 60 \text{ V}$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 45 \text{ V}$
Voltage protection level U_p (line-line)	$\leq 50 \text{ V}$ (C1 - 500 V / 250 A)

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Protective circuit

	≤ 45 V (C3 - 67 A)
Voltage protection level U_p (line-earth)	≤ 500 V (C2 - 10 kV / 5 kA with PT 4-BE)
	≤ 1 kV (C2 - 10 kV / 5 kA with PT 4+F-BE)
	≤ 500 V (6 kV / 3 kA)
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-signalground)	≤ 1 ns
Response time t_A (line-earth)	≤ 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_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 per path	0 Ω
Surge protection fault message	none
Impulse durability (line-line)	C1 - 500 V / 250 A
	C3 - 25 A
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)
Screw thread	M3
Tightening torque	0.8 Nm
Stripping length	8 mm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Connection, equipotential bonding

Stripping length	8 mm
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
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

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Technical data

Standards and Regulations

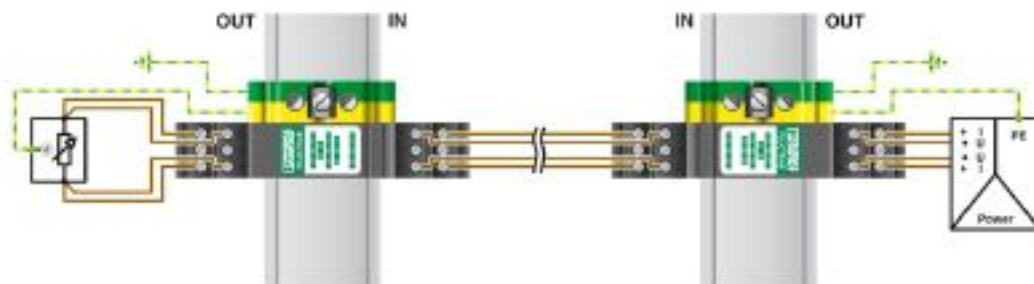
	IEC 61643-21/A1 2008
	UL 497B

Environmental Product Compliance

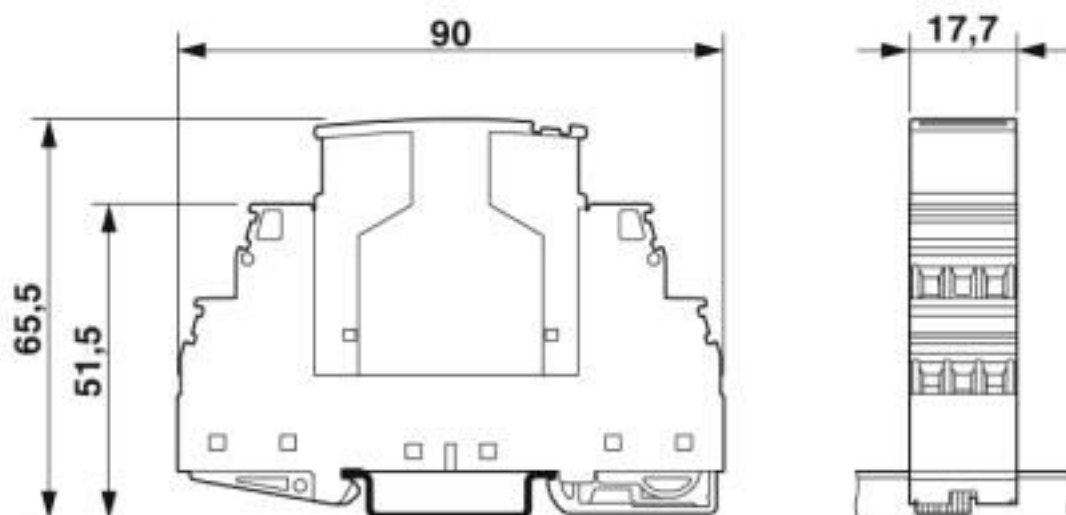
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Application drawing



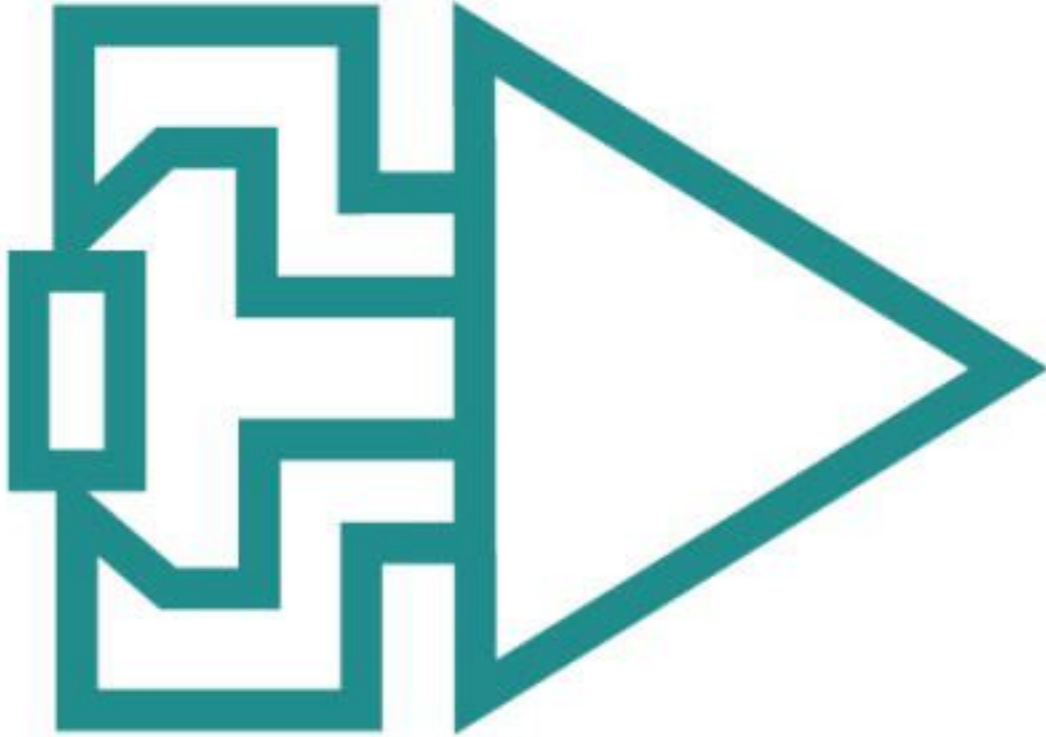
Dimensional drawing



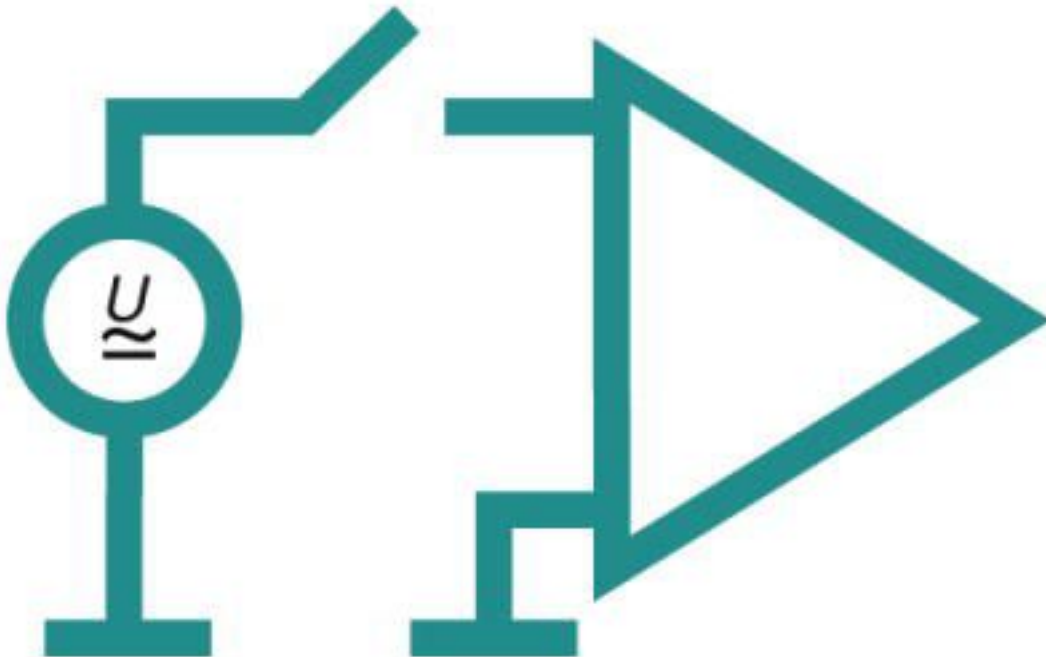
The figure shows the complete module consisting of a base element and connector

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Pictogram

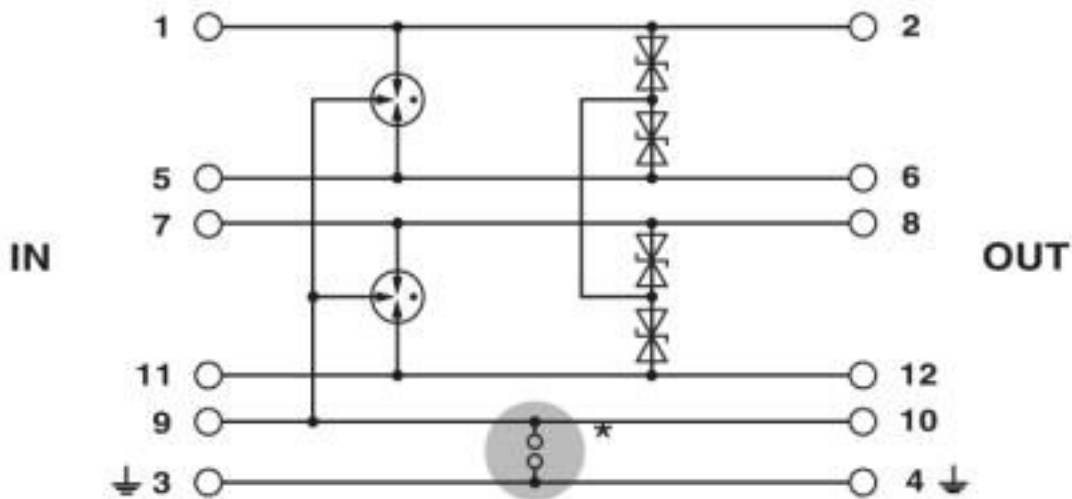


Pictogram



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Circuit diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
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
ETIM 7.0	EC000943

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620

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Classifications

UNSPSC

UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

Approvals

Approvals

Approvals

DNV GL / UL Listed / EAC / EAC

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAE00001N6
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 138168
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Nominal voltage UN	24 V
Nominal current IN	2 A

EAC		EAC-Zulassung
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EAC		RU C-DE.*09.B.00169
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Accessories

Accessories

Device marking

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Accessories

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, Number of individual labels: 5

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, Number of individual labels: 10

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, Number of individual labels: 10

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, Number of individual labels: 10

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, Number of individual labels: 10

Marker pen

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Accessories

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

Terminal marking

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



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 5 mm, lettering field size: 5.1 x 5.2 mm, Number of individual labels: 10

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, Number of individual labels: 10

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

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Accessories

Shield connection - SSA 3-6 - 2839295



Shield fast connection for 3 ... 6 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

Shield connection - SSA 5-10 - 2839512



Shield fast connection for 5 ... 10 mm cable diameter. Potential connecting cable: 200 mm, 1 mm², color: black

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[2713175](#) [4B06B-EC1-150LF](#) [SRA6LC](#) [BPMA75D100LV](#) [CX06M](#) [CCTV1](#) [GUS13](#) [GUS14](#) [GUS5](#) [GUS6](#) [VAL-MS 320/3+0-FM](#) [VAL-US-](#)
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