

PT 4-24DC-ST - Surge protection plug



2839240

<https://www.phoenixcontact.com/in/products/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

- Easy testing and documentation with CHECKMASTER 2 with pluggable protective modules
- Maximum ease of maintenance, thanks to the 2-piece design
- Easy selection for all possible demands in MCR applications with a complete product portfolio
- The signal is not influenced during maintenance work, thanks to the impedance-neutral insertion and removal of protective plugs

Commercial Data

Item number	2839240
Packing unit	10 pc
Minimum order quantity	1 pc
Sales Key	CL2
Product Key	CL2111
Catalog Page	Page 144 (C-4-2019)
GTIN	4017918182786
Weight per Piece (including packing)	26.87 g
Weight per Piece (excluding packing)	21.783 g
Customs tariff number	85363010
Country of origin	DE

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Technical Data

Product properties

IEC test classification	C1
	C2
	C3
	D1
VDE requirement class	C1
	C2
	C3
	D1
Type	Male
Product type	Surge protection for MCR technology
Product family	PLUGTRAB PT
Surge protection fault message	none
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00

Insulation characteristics

Overvoltage category	III
Pollution degree	2

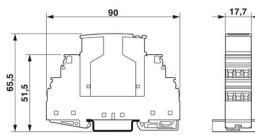
Electrical properties

Nominal voltage U_N	24 V DC
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Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.8 Nm
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section rigid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12

Dimensions

Dimensional drawing	
Width	17.7 mm
Height	45 mm
Depth	52 mm
Horizontal pitch	1 Div.
Complete module width	17.7 mm

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Complete module height	90 mm
Complete module depth	65.5 mm

Material specifications

Color	black
Flammability rating according to UL 94	V-0
Housing material	PA 6.6

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Direction of action	Line-Line & Line-Signal Ground/Shield & optional Signal Ground/Shield-Earth Ground
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 surge current I_n (8/20) μs (Core-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 (conductor-conductor)	$\leq 60 \text{ V}$
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)
	$\leq 45 \text{ V}$ (C3 - 67 A)
Voltage protection level U_p (line-earth)	$\leq 500 \text{ V}$ (C2 - 10 kV / 5 kA with PT 4-BE)
	$\leq 1 \text{ kV}$ (C2 - 10 kV / 5 kA with PT 4+F-BE)
	$\leq 500 \text{ V}$ (6 kV / 3 kA)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$
Response time t_A (line-signalground)	$\leq 1 \text{ ns}$
Input attenuation aE, sym.	0.1 dB ($\leq 1 \text{ MHz}$)
	0.1 dB ($\leq 1 \text{ MHz} / 50 \Omega$)

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	0.2 dB (\leq 400 kHz / 150 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 4.5 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω 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

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

VDE requirement class	C1
	C2
	C3
	D1

Air clearances and creepage distances

Standards/regulations	VDE 0110-1 / IEC 60664-1
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Standards Information technology specification

Standards/regulations	IEC 61643-21
	DIN EN 61643-21
	UL 497B
	IEC 61643-21
	DIN EN 61643-21
	UL 497B
Standards/specifications	EN 61643-21/A1
Standards/specifications	IEC 61643-21/A1
Standards/specifications	UL 497B

Mounting

Mounting type	on base element
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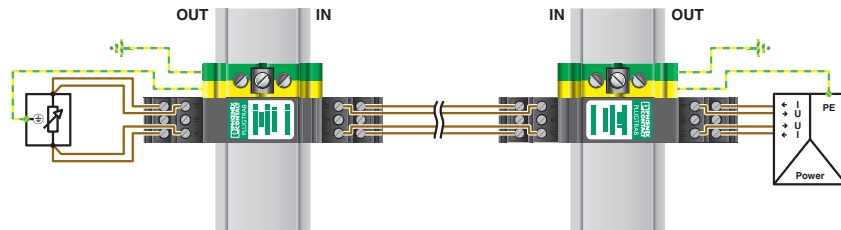
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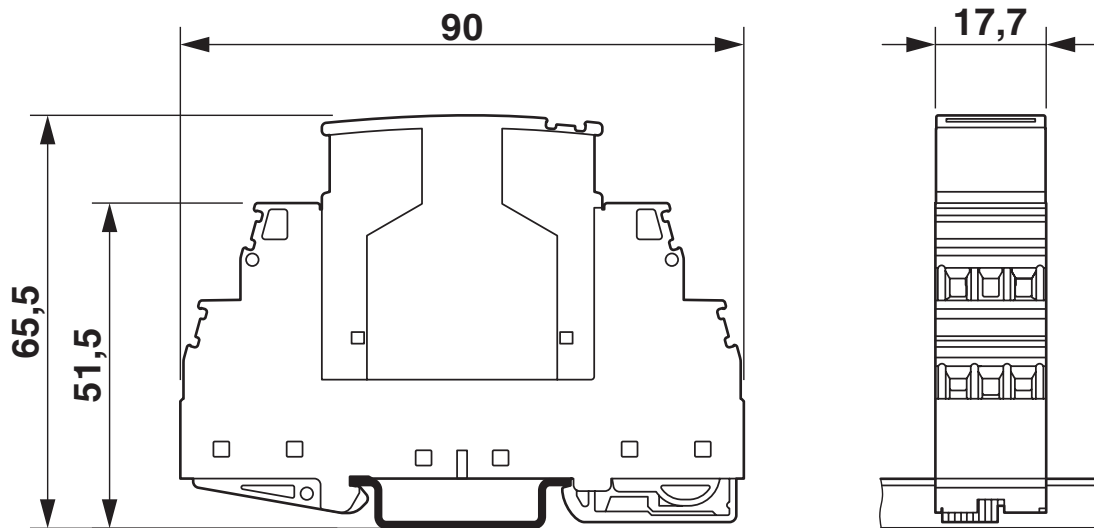
<https://www.phoenixcontact.com/in/products/2839240>

Drawings

Application drawing



Dimensional drawing



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

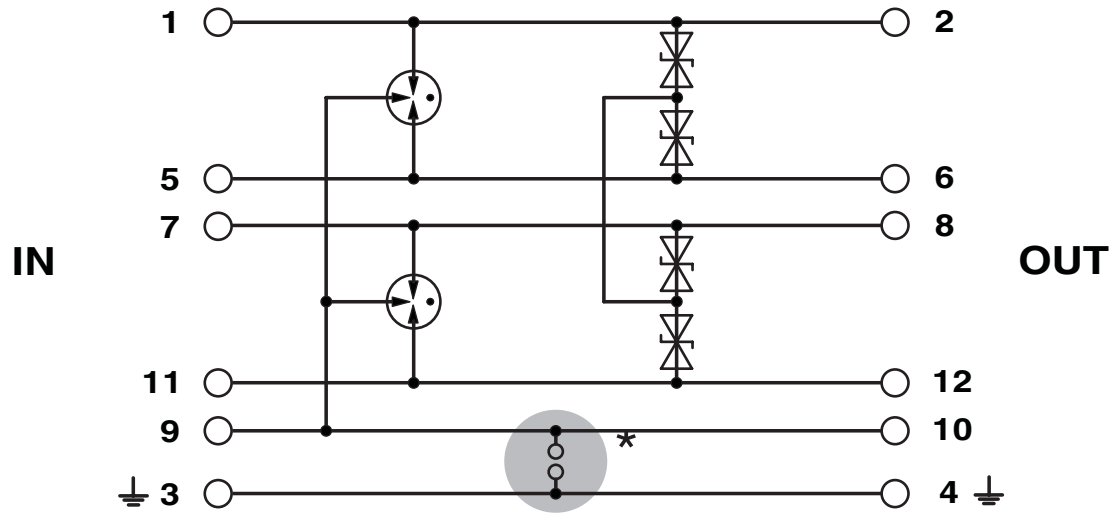
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Circuit diagram



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Approvals



EAC

Approval ID: EAC-Zulassung



DNV GL

Approval ID: TAE00001N6



EAC

Approval ID: RU C-DE.*09.B.00169



UL Listed

Approval ID: FILE E 138168

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	24 V	2 A	-	-



cUL Listed

Approval ID: FILE E 333250



UL Listed

Approval ID: FILE E 333250

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Classifications

ECLASS

ECLASS-11.0

27130807

ETIM

ETIM 8.0

EC000943

UNSPSC

UNSPSC 21.0

39121600

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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Mandatory Accessories

PT 4-BE - Surge protection base-element

2839402

<https://www.phoenixcontact.com/in/products/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

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

2839415

<https://www.phoenixcontact.com/in/products/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

Accessories

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X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/in/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

ZBF 5:UNBEDRUCKT - Zack Marker strip, flat

0808642

<https://www.phoenixcontact.com/in/products/0808642>



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

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ZBF 5/WH-100:UNBEDRUCKT - Zack Marker strip, flat

0808668

<https://www.phoenixcontact.com/in/products/0808668>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 1000

ZBF 5,LGS:FORTL.ZAHLEN - Zack Marker strip, flat

0808671

<https://www.phoenixcontact.com/in/products/0808671>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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ZBF 5,LGS:GERADE ZAHLEN - Zack Marker strip, flat

0810821

<https://www.phoenixcontact.com/in/products/0810821>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive even numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

ZBF 5,LGS:UNGERADE ZAHLEN - Zack Marker strip, flat

0810863

<https://www.phoenixcontact.com/in/products/0810863>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

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ZBF 5,QR:FORTL.ZAHLEN - Zack Marker strip, flat

0808697

<https://www.phoenixcontact.com/in/products/0808697>

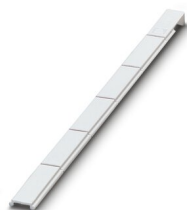


Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5.15 x 5.15 mm, Number of individual labels: 10

ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/in/products/2809128>



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snapped, for terminal block width: 18 mm, lettering field size: 18 x 5 mm, Number of individual labels: 5

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SSA 3-6 - Shield connection

2839295

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



SSA 5-10 - Shield connection

2839512

<https://www.phoenixcontact.com/in/products/2839512>

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



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