

PT PE/S+1X2-24-ST - Surge protection plug



2819008

<https://www.phoenixcontact.com/pc/products/2819008>

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Protective plug PT with surge voltage equipment protection for power supply units, visual error display, nominal voltage: 24 V and a 2-core floating signal circuit, nominal voltage: 24 V.

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	2819008
Packing unit	10 pc
Minimum order quantity	1 pc
Product Key	CL2111
Catalog Page	Page 123 (C-4-2019)
GTIN	4017918819323
Weight per Piece (including packing)	31.43 g
Weight per Piece (excluding packing)	25.833 g
Customs tariff number	85363010
Country of origin	DE

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Technical Data

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	Male
Product type	Surge protection for MCR technology
Product family	PLUGTRAB PT
Surge protection fault message	optical
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2
Arrester can be tested with CHECKMASTER from software version:	From SW rev. 1.00
EN type	T3
Number of ports	One

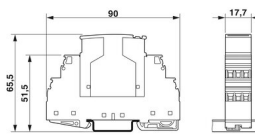
Electrical properties

Nominal voltage U_N	24 V AC
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Connection data

Connection method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
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 method	Screw connection (in connection with the base element)
Screw thread	M3
Tightening torque	0.5 Nm
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

Dimensions

Dimensional drawing	
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Width	17.5 mm
Height	44.8 mm
Depth	51.7 mm
Horizontal pitch	1 Div.
Complete module width	17.7 mm
Complete module height	90 mm
Complete module depth	65.5 mm

Material specifications

Color	jet black RAL 9005
Flammability rating according to UL 94	V-0
Insulating material	PA 6.6
Housing material	PA 6.6

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Power supplies

Direction of action	L-N-PE & Signal Line-Signal Line-Earth Ground
Nominal voltage U_N	24 V AC
Nominal frequency f_N	50 Hz (60 Hz)
Maximum continuous voltage U_C	34 V AC 44 V DC
Rated load current I_L	6 A (30 °C)
Residual current I_{PE}	$\leq 5 \mu\text{A}$
Operating effective current I_C at U_C	$\leq 1.5 \text{ mA}$
Nominal discharge current I_n (8/20) μs	700 A
Maximum discharge current I_{max} (8/20) μs	2 kA
Combination wave U_{OC}	2 kV
Voltage protection level U_p (L-N)	$\leq 0.18 \text{ kV}$
Voltage protection level U_p (L-PE)	$\leq 0.55 \text{ kV}$
Residual voltage at I_{max} , (L-N)	$\leq 0.17 \text{ kV}$ (at I_n)
Residual voltage at I_{max} , (L-PE)	$\leq 0.1 \text{ kV}$ (at I_n)
Response time t_A (L-N)	$\leq 25 \text{ ns}$
Response time t_A (L-PE)	$\leq 100 \text{ ns}$
Short-circuit current rating I_{SCCR}	1.5 kA 1 kA
Max. backup fuse with branch wiring	6 A (gG)

Information technology

Maximum continuous voltage U_C	40 V DC 28 V AC
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Rated current	450 mA (45 °C)
Operating effective current I_C at U_C	$\leq 5 \mu\text{A}$
Residual current I_{PE}	$\leq 2 \mu\text{A}$
Nominal discharge current I_n (8/20) μs (line-line)	10 kA
Nominal discharge surge current I_n (8/20) μs (Core-Earth)	10 kA
Pulse discharge current I_{imp} (10/350) μs (line-earth)	2.5 kA
Total discharge current I_{total} (8/20) μs	20 kA
Max. discharge current I_{max} (8/20) μs maximum (line-line)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (line-earth)	20 kA (in total)
Nominal pulse current I_{an} (10/1000) μs (line-line)	23 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 55 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) spike	450 V
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 55 \text{ V}$
Output voltage limitation at 1 kV/ μs (line-earth) static	$\leq 25 \text{ V}$
Residual voltage at I_n (conductor-conductor)	$\leq 55 \text{ V}$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 65 \text{ V}$
Voltage protection level U_p (line-line)	$\leq 80 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level U_p (line-earth)	$\leq 450 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-line)	$\leq 50 \text{ V}$ (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-earth)	$\leq 50 \text{ V}$ (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	$\leq 1 \text{ ns}$
Response time t_A (line-earth)	$\leq 100 \text{ ns}$
Input attenuation aE, sym.	typ. 0.5 dB ($\leq 1.5 \text{ MHz} / 50 \Omega$) typ. 0.2 dB ($\leq 500 \text{ kHz} / 150 \Omega$) typ. 0.1 dB ($\leq 100 \text{ kHz} / 600 \Omega$)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 8 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 3 MHz
Cut-off frequency f_g (3 dB), sym. in 600 Ω system	typ. 800 kHz
Capacity (Core-Core)	typ. 1.1 nF
Capacity (Core-Earth)	typ. 4 pF
Resistance per path	2.2 $\Omega \pm 10 \%$
Surge protection fault message	Optical, remote indicator contact
Max. required back-up fuse	500 mA (T)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	$\leq 2000 \text{ m}$ (amsl (above mean sea level))
Permissible humidity (operation)	5 % ... 95 %

Standards and regulations

Standards/specifications	IEC 61643-11
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Standards/specifications	EN 61643-11
Standards/specifications	EN 61643-21

Mounting

Mounting type	on base element
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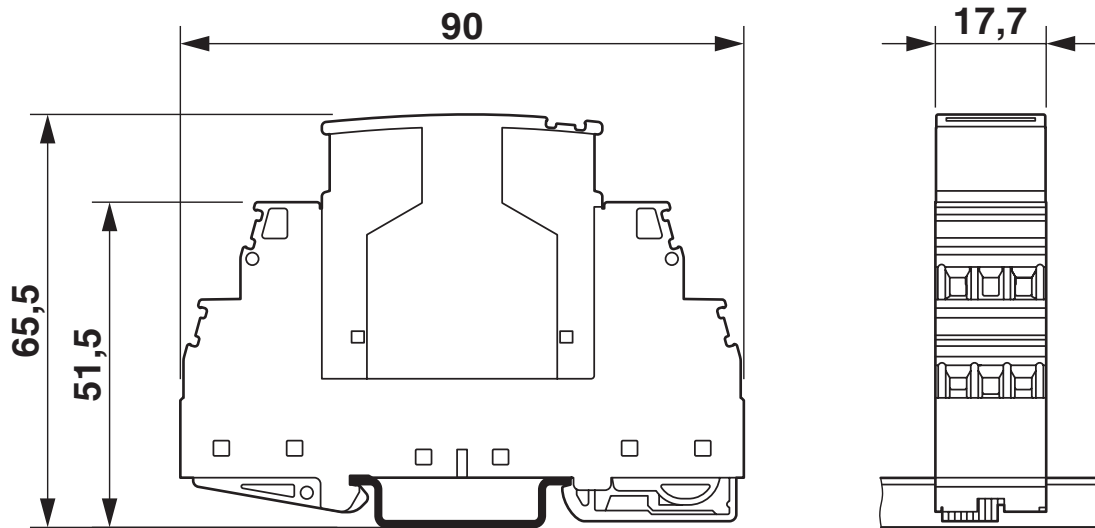
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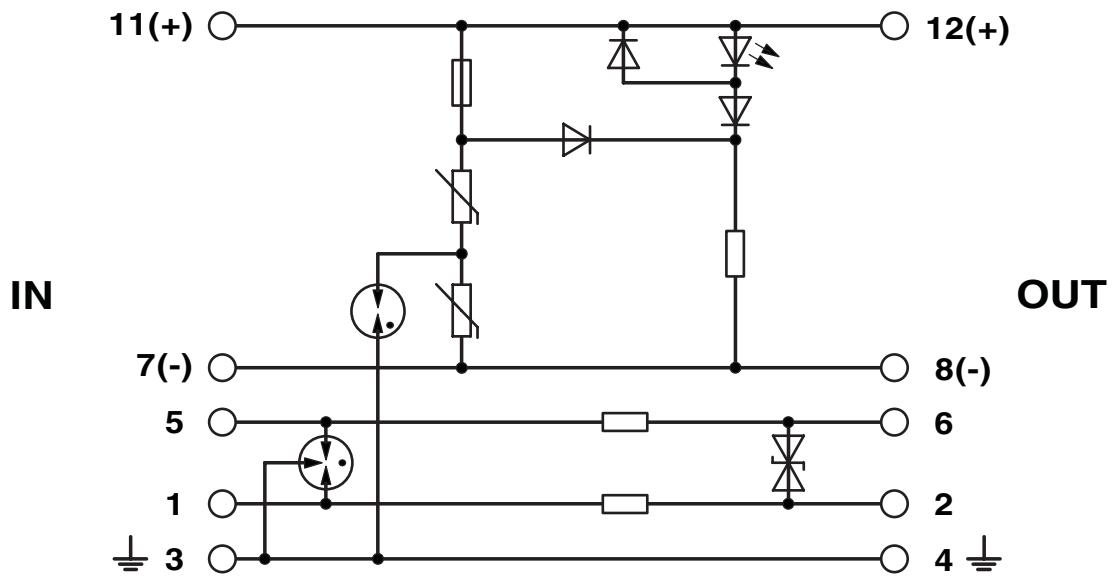
Drawings

Dimensional drawing



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

Circuit diagram



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Approvals



EAC

Approval ID: EAC-Zulassung



EAC

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

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Classifications

ECLASS

ECLASS-9.0	27130810
ECLASS-10.0.1	27130810
ECLASS-11.0	27130810

ETIM

ETIM 8.0	EC001473
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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 PE/S+1X2-BE - Surge protection base-element

2856265

<https://www.phoenixcontact.com/pc/products/2856265>



Base element for protective plug PT with surge voltage device protection for the power supply unit and one 2-wire floating signal circuit, mounting on NS 35/7.5 and NS 35/15, housing width: 17.5 mm

Accessories

X-PEN 0,35 - Marker pen

0811228

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



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

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ZBF 5:UNBEDRUCKT - Zack Marker strip, flat

0808642

<https://www.phoenixcontact.com/pc/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

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

0808668

<https://www.phoenixcontact.com/pc/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

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

0808671

<https://www.phoenixcontact.com/pc/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

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

0810821

<https://www.phoenixcontact.com/pc/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

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

0810863

<https://www.phoenixcontact.com/pc/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

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

0808697

<https://www.phoenixcontact.com/pc/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

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ZBN 18:UNBEDRUCKT - Zack marker strip

2809128

<https://www.phoenixcontact.com/pc/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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