S-PT1-2PE-24DC - Surge protection device

2818122

https://www.phoenixcontact.com/us/products/2818122

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Screw on module for conduit systems, with two conductor protection for a 2-core floating signal circuit. Design: 24 V DC

Commercial data

Item number	2818122
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	CL02
Product key	CL2231
GTIN	4017918148355
Weight per piece (including packing)	295.2 g
Weight per piece (excluding packing)	295.2 g
Customs tariff number	85363010
Country of origin	DE

Technical data

Notes

Trade restriction

CE note	The products are offered exclusively for export outside the EU and the European Economic Area.

Product properties

Product type	Surge protection for MCR technology
Product family	SURGETRAB
IEC test classification	C1
	C2
	C3
	D1
Type	Screw-in module
Number of positions	3
Surge protection fault message	none

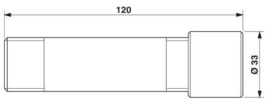
Electrical properties

Nominal voltage U_N	24 V DC

Connection data

Connection method	Screw connection
Conductor cross-section flexible min.	0.14 mm²
Conductor cross-section flexible max.	1.5 mm²
Conductor cross-section, rigid min.	0.14 mm²
Conductor cross-section, rigid max.	1.5 mm²

Dimensions

Dimensional drawing	
Width	33 mm
Height	33 mm
Depth	120 mm

Mechanical properties

Mechanical data

Open side panel	No

Protective circuit

Direction of action	Line-Line & Line-Earth Ground

Nominal voltage U_N	24 V DC
Maximum continuous operating voltage U_C	28 V DC
	20 V AC
Maximum continuous voltage U_C (line-line)	28 V DC
	20 V AC
Nominal current I_N	250 mA (25 °C)
Operating effective current I_C at U_C	≤ 5 µA
Protective conductor current I_{PE}	≤ 2 µA
Nominal discharge current I_n (8/20) µs (line-line)	10 kA
Nominal discharge current I_n (8/20) µs (line-ground)	10 kA
Total surge current (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)	10 kA
Nominal pulse current Ian (10/1000) µs (line-line)	180 A
Nominal pulse current Ian (10/1000) µs (line-earth)	180 A
Output voltage limitation at 1 kV/µs (line-line) spike	≤ 60 V
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 450 V
Output voltage limitation at 1 kV/µs (line-line) static	≤ 60 V
Residual voltage at I_n (conductor-conductor)	≤ 40 V
Residual voltage at I_n (conductor-ground)	≤ 60 V
Residual voltage with Ian (10/1000) µs (line-line)	≤ 25 V
Residual voltage with Ian (10/1000) µs (line-earth)	≤ 20 V
Voltage protection level U_p (line-line)	≤ 55 V
Voltage protection level U_p (line-earth)	≤ 550 V
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	≤ 1.6 dB (up to 500 kHz, 50 Ω system)
	≤ 0.6 dB (up to 200 kHz, 150 Ω system)
	≤ 0.2 dB (up to 50 kHz, 600 Ω system)
Cut-off frequency fg (3 dB), sym. in 50 Ω system	typ. 3.5 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ω system	typ. 1.5 MHz
Cut-off frequency fg (3 dB), sym. in 600 Ω system	typ. 400 kHz
Capacity (Core-Core)	typ. 1.5 nF
Resistance per path	10 Ω 5 %
Surge protection fault message	none
Impulse durability (line-line)	C2 - 10 kV / 5 kA
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	D1 - 2.5 kA
Alternating current carrying capacity (line-earth)	5 A - 1 s

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP40

Ambient temperature (operation)	-40 °C ... 80 °C

Approvals

Conformity/Approvals

UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D

Standards and regulations

Standards Information technology specification

Standards/regulations	IEC 61643-21
	IEC 61643-21

Air clearances and creepage distances

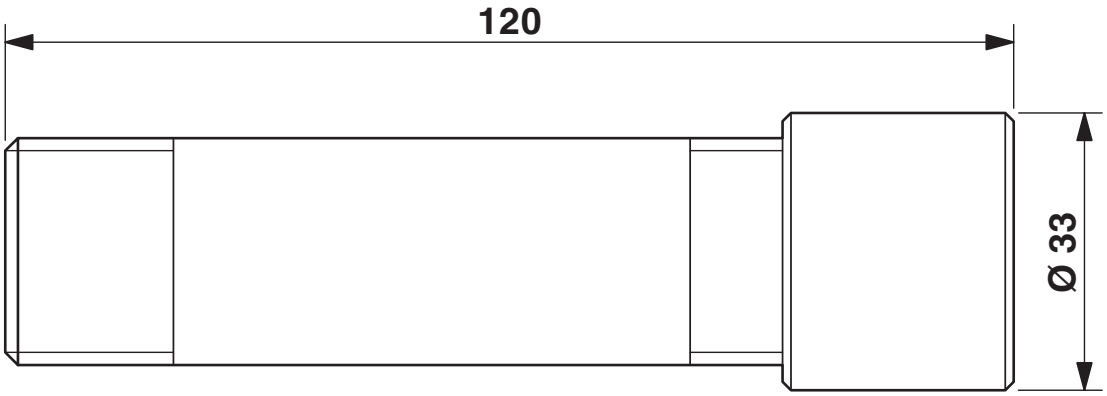
Standards/regulations	VDE 0110-1 / IEC 60664-1

Mounting

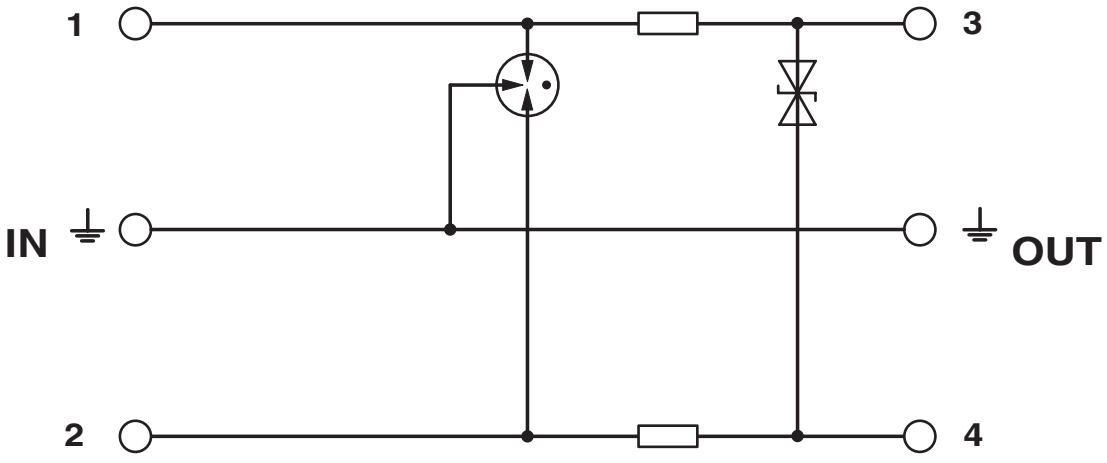
Mounting type	Connection-specific intermediate plugging

Drawings

Dimensional drawing



Circuit diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2818122

UL Listed
Approval ID: FILE E 138168

cUL Listed
Approval ID: FILE E 333250

UL Listed
Approval ID: FILE E 333250

Classifications

ECLASS

ECLASS-13.0	27171501
ECLASS-15.0	27171501

ETIM

ETIM 10.0	EC001466

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Not applicable, Not qualified for the European market

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

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