

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

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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
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Connection data

Connection method	Screw connection
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section, rigid min.	0.14 mm ²
Conductor cross section, rigid max.	1.5 mm ²

Dimensions

Dimensional drawing	
Width	33 mm
Height	33 mm
Depth	120 mm

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Direction of action	Line-Line & Line-Earth Ground
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Maximum continuous voltage U_C	28 V DC
	20 V AC
Maximum continuous voltage U_C (line-line)	28 V DC
	20 V AC
Operating effective current I_C at U_C	$\leq 5 \mu A$
Protective conductor current I_{PE}	$\leq 2 \mu A$
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 I_{an} (10/1000) μs (line-line)	180 A
Nominal pulse current I_{an} (10/1000) μs (line-earth)	180 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 60 V$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 450 V$
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 60 V$
Residual voltage at I_n (conductor-conductor)	$\leq 40 V$
Residual voltage at I_n (conductor-ground)	$\leq 60 V$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 25 V$
Residual voltage with I_{an} (10/1000) μs (line-earth)	$\leq 20 V$
Voltage protection level U_p (line-line)	$\leq 55 V$
Voltage protection level U_p (line-earth)	$\leq 550 V$
Response time t_A (line-line)	$\leq 1 ns$
Response time t_A (line-earth)	$\leq 100 ns$
Input attenuation aE, sym.	$\leq 1.6 dB$ (up to 500 kHz, 50 Ω system)
	$\leq 0.6 dB$ (up to 200 kHz, 150 Ω system)
	$\leq 0.2 dB$ (up to 50 kHz, 600 Ω system)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 3.5 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 1.5 MHz
Cut-off frequency f_g (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

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Conformity/Approvals

UL, USA / Canada

Class I, Div. 2, Groups A, B, C, D

Standards and regulations

Air clearances and creepage distances

Standards/regulations

VDE 0110-1 / IEC 60664-1

Standards Information technology specification

Standards/regulations

IEC 61643-21

IEC 61643-21

Mounting

Mounting type

Connection-specific intermediate plugging

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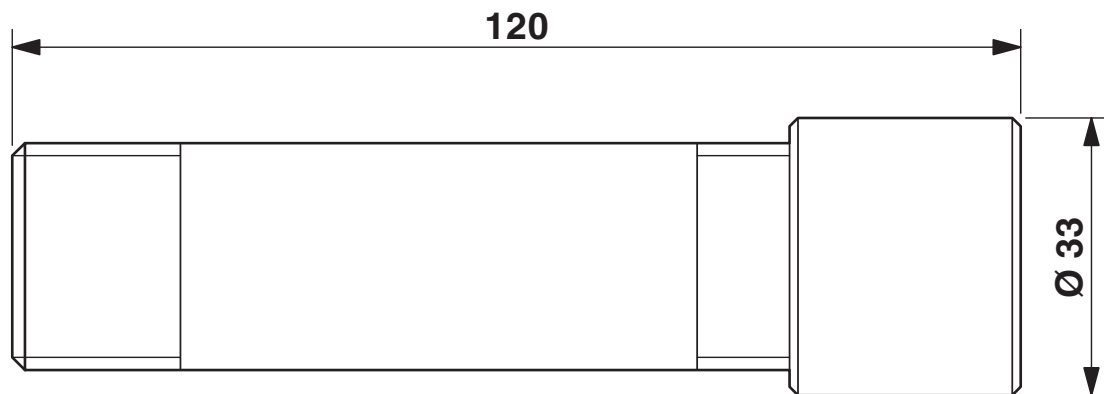


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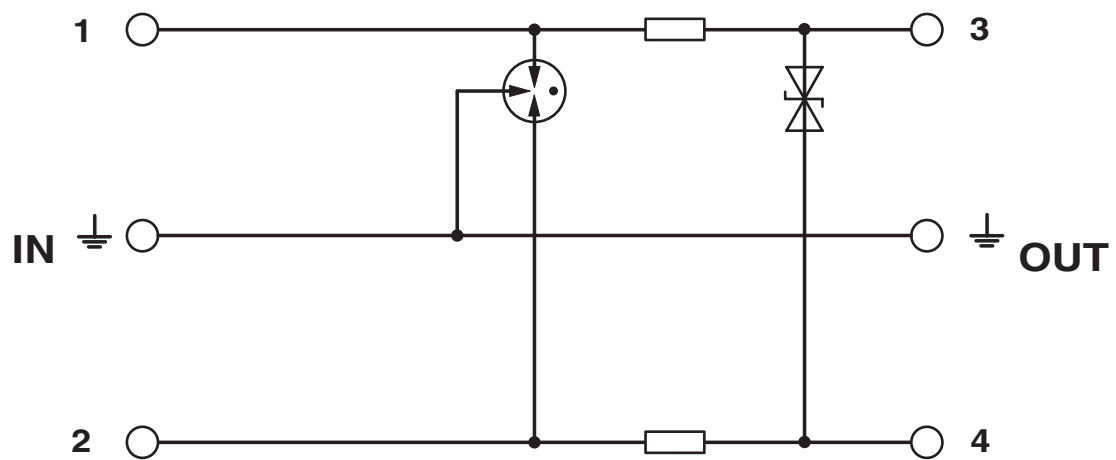
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Drawings

Dimensional drawing



Circuit diagram




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Approvals

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UL Listed

Approval ID: FILE E 138168



cUL Listed

Approval ID: FILE E 333250



UL Listed

Approval ID: FILE E 333250

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Classifications

ECLASS

ECLASS-13.0	27171501
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ETIM

ETIM 9.0	EC000943
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Environmental product compliance

EU RoHS

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