

Surge protection device - S-PT-EX(I)-24DC-1/2"



2882572

<https://www.phoenixcontact.com/us/products/2882572>

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Surge protection in the IP67 screw-on module for measuring sensors in intrinsically safe circuits, direct mounting with 1/2" NPT outer thread, cable gland for the signal cable, two-stage protective circuit. HART-compatible.

Your advantages

- Easiest field mounting with standardized thread
- Versatile in use with universal protective circuit
- Use under extreme ambient conditions with robust design

Commercial Data

Item number	2882572
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C07
Product Key	CL2231
Catalog Page	Page 154 (C-4-2019)
GTIN	4046356091640
Weight per Piece (including packing)	433.8 g
Weight per Piece (excluding packing)	367.92 g
Customs tariff number	85363010
Country of origin	DE

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Technical Data

Notes

Notes on operation	When the bridge is disconnected, the shield connection is indirectly connected to the housing or reference potential.
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Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	Screw-in module
Product type	Surge protection for MCR technology
Number of positions	3
Surge protection fault message	none
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.6 Nm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	26 ... 16

Ex data

Maximum inner capacitance C_i	2 nF
Max. internal inductance L_i	1 μ H
Max. input current I_i	350 mA (T4 / ≤ 50 °C)
	350 mA (T5 / ≤ 50 °C)
	350 mA (T6 / ≤ 50 °C)
Max. input voltage U_i	30 V
max. input power P_i	3 W
Insulation voltage to ground	500 V AC
Ambient temperature (operation)	-40 °C ... 50 °C
Max. surface temperature	135 °C (T4)
	100 °C (T5)
	85 °C (T6)

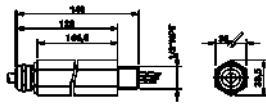
Dimensions

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Dimensional drawing	
Width	33.5 mm
Height	33.5 mm
Depth	148 mm

Material specifications

Color	silver
Housing surface material	Nickel-plated
Housing material	Zinc die-cast, surface bronzed and nickel-plated

Mechanical properties

Mechanical data

Open side panel	No
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Protective circuit

Direction of action	Line-Line & Line-Earth Ground
Maximum continuous voltage U_C	30 V DC 21 V AC
Rated current	350 mA (50 °C)
Operating effective current I_C at U_C	$\leq 10 \mu A$
Residual current I_{PE}	$\leq 2 \mu A$
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 (per path)
Nominal discharge current I_n (8/20) μs (shield-earth)	10 kA (optional)
Pulse discharge current I_{imp} (10/350) μs	1 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 (per path)
Max. discharge current I_{max} (8/20) μs maximum (shield-earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (line-line)	30 A
Nominal pulse current I_{an} (10/1000) μs (line-earth)	100 A (per path)
Nominal pulse current I_{an} (10/1000) μs (shield-earth)	100 A
Output voltage limitation at 1 kV/ μs (line-line) spike	$\leq 50 V$
Output voltage limitation at 1 kV/ μs (line-earth) spike	$\leq 1.4 kV$ (Direct grounding)
Output voltage limitation at 1 kV/ μs (shield-earth) spike	$\leq 600 V$ (optional)
Output voltage limitation at 1 kV/ μs (line-line) static	$\leq 50 V$
Output voltage limitation at 1 kV/ μs (line-earth) static	$\leq 1.4 kV$ (Direct grounding)
Residual voltage at I_n (conductor-conductor)	$\leq 50 V$
Residual voltage with I_{an} (10/1000) μs (line-line)	$\leq 50 V$
Voltage protection level U_p (line-line)	$\leq 50 V$ (C1 - 0.5 kV / 250 A) $\leq 55 V$ (C1 - 1 kV / 500 A)

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	≤ 55 V (C2 - 2 kV/1 kA)
	≤ 55 V (C2 - 10 kV / 5 kA)
	≤ 50 V (C3 - 10 A)
	≤ 50 V (C3 - 25 A)
	≤ 80 V (D1 - 1 kA)
Voltage protection level U_p (line-earth)	≤ 1.4 kV (C1 - 1 kV / 500 A)
	≤ 1.4 kV (C2 - 2 kV/1 kA)
	≤ 1.4 kV (C2 - 10 kV / 5 kA)
	≤ 1.4 kV (C3 - 25 A)
	≤ 1.4 kV (C3 - 100 A)
	≤ 1.4 kV (D1 - 1 kA)
Voltage protection level U_p (shield-earth)	≤ 600 V (C1 - 0.5 kV / 250 A)
	≤ 650 V (C1 - 1 kV / 500 A)
	≤ 650 V (C2 - 2 kV/1 kA)
	≤ 650 V (C2 - 10 kV / 5 kA)
	≤ 650 V (C3 - 10 A)
	≤ 750 V (C3 - 25 A)
	≤ 750 V (C3 - 100 A)
	≤ 650 V (D1 - 1 kA)
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Response time t_A (shield-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 1 MHz / 50 Ω)
	typ. 0.2 dB (≤ 400 kHz / 150 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ω system	typ. 6 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ω system	typ. 2.5 MHz
Resistance per path	2.2 Ω ± 10 %
Surge protection fault message	none
Impulse durability (line-line)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 25 A
	D1 - 1 kA
Impulse durability (line-earth)	C1 - 1 kV / 500 A
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 1 kA
Impulse durability (shield-earth)	C1 - 1 kV/500 A
	C2 - 10 kV/5 kA
	C3 - 100 A
	D1 - 1 kA
Alternating current carrying capacity (line-earth)	10 A - 1 s
Alternating current carrying capacity (shield-earth)	10 A - 1 s

Environmental and real-life conditions

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Ambient conditions

Degree of protection	IP67
Ambient temperature (operation)	-40 °C ... 50 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m (amsl (above mean sea level))

Approval data

Conformity/Approvals

ATEX	□ II 1G Ex ia IIC T4...T6 Ga
IECEX	Ex ia IIC T4...T6 Ga

Standards and regulations

Air clearances and creepage distances

Standards/regulations	IEC 60664-1 / EN 60079-0 / EN 60079-11
Standards/specifications	EN 61643-21
Standards/specifications	EN 60079-0
Standards/specifications	EN 60079-11
Standards/specifications	EN 60079-26
Standards/specifications	IEC 60079-0
Standards/specifications	IEC 60079-11
Standards/specifications	IEC 60079-26

Mounting

Mounting type	direct screw connection
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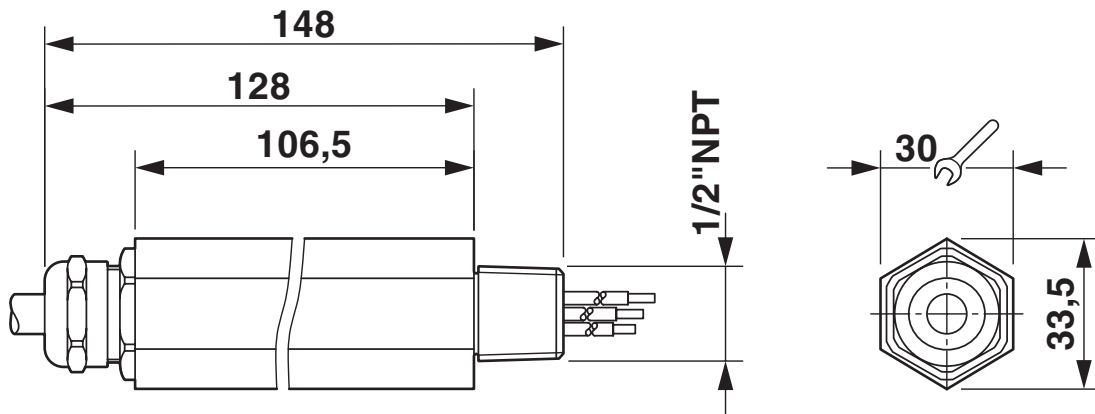


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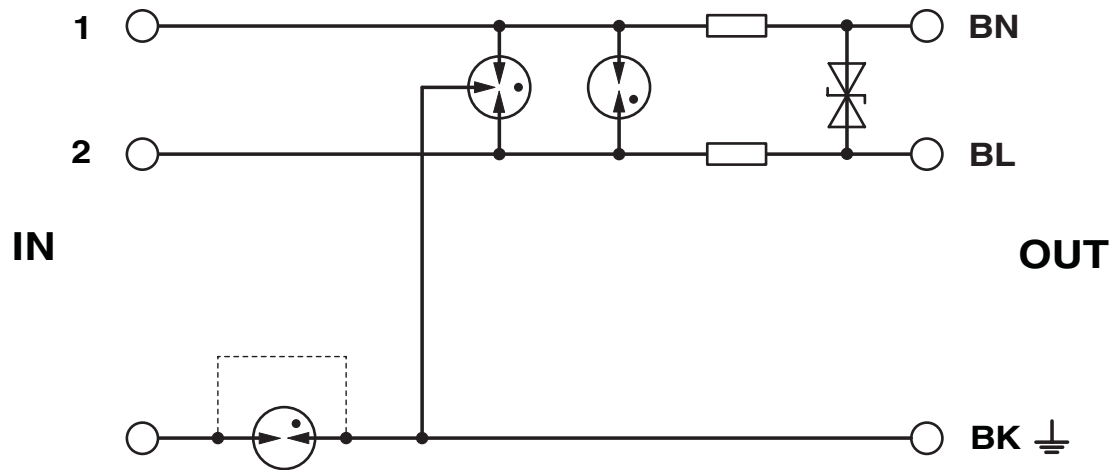
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Drawings

Dimensional drawing



Circuit diagram



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Approvals



EAC

Approval ID: EAC-Zulassung



EAC

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



ATEX

Approval ID: KEMA 06ATEX0002



EAC Ex

Approval ID: RU C-DE.**87.B.00420



IECEx

Approval ID: IECEx KEM 10.0064



CCC

Approval ID: 2020322316000817



NEPSI

Approval ID: GYJ20.1178

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Classifications

ECLASS

ECLASS-9.0	27130807
ECLASS-10.0.1	27130807
ECLASS-11.0	27130807

ETIM

ETIM 8.0	EC000943
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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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