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

### Why buy this product

- Arresters in hexagonal pipe with various outer threads



### Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	420.000 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	34 mm
Width	34 mm
Depth	148 mm

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 50 °C
Degree of protection	IP67

#### General

Housing material	Zinc die-cast
Flammability rating according to UL 94	V-0
Color	silver

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### Technical data

#### General

Standards for clearances and creepage distances	IEC 60664-1
	EN 60079-0
	EN 60079-11
Mounting type	ct screw connection
Type	Screw-in module
Number of positions	3
Direction of action	Line-Line & Line-Earth Ground

#### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	24 V DC
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) $\mu s$ (Core-Core)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu s$ (Core-Earth)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu s$ (Shield-Earth)	10 kA (optional)
Pulse discharge current $I_{imp}$ (10/350) $\mu s$	1 kA
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Core)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (Core-Earth)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (Shield-Earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Core)	30 A
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Core-Earth)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (Shield-Earth)	100 A
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) spike	$\leq 50 V$
Output voltage limitation at 1 kV/ $\mu s$ (Core-Earth) spike	$\leq 1.4 kV$ (Direct grounding)
Output voltage limitation at 1 kV/ $\mu s$ (Shield-Earth) spike	$\leq 600 V$ (optional)
Output voltage limitation at 1 kV/ $\mu s$ (Core-Core) static	$\leq 50 V$
Output voltage limitation at 1 kV/ $\mu s$ (Core-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) $\mu s$ (conductor-conductor)	$\leq 50 V$
Voltage protection level $U_p$ (core-core)	$\leq 55 V$ (C2 -5 kA)

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### Technical data

#### Protective circuit

	≤ 50 V (C1 - 250 A)
	≤ 50 V (C3 - 25 A)
	≤ 80 V (D1 - 1 kA)
Voltage protection level $U_p$ (core-ground)	≤ 1.4 kV (C2 -5 kA, direct grounding)
	≤ 1.4 kV (C1 - 500 A)
	≤ 1.4 kV (C3 - 100 A)
	≤ 1.4 kV (D1 - 1 kA)
Voltage protection level $U_p$ (shield-ground)	≤ 650 V (C2 -5 kA optional)
Response time $t_A$ (Core-Core)	≤ 1 ns
Response time $t_A$ (Core-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 (Up to 400 kHz, 150 Ω)
Cut-off frequency $f_g$ (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 2.5 MHz
Resistance in series	2.2 Ω ±10 %
Surge protection fault message	None
Impulse durability (conductor-conductor)	C2 - 10 kV/5 kA
	D1 - 1 kA
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	D1 - 1 kA
Impulse durability (shield-ground)	C2 - 10 kV / 5 kA
	D1 - 1 kA
Alternating current carrying capacity (conductor-ground)	10 A - 1 s
Alternating current carrying capacity (shield-ground)	10 A - 1 s

#### Connection data

Connection name	Input/output
Connection method	Screw connection
Connection type IN	Screw terminal blocks
Connection type OUT	Connection line
Connection method	Screw connection
Screw thread	M3
Tightening torque	0.6 Nm
Stripping length	6 mm
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	26 ... 16



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## Technical data

### Standards and Regulations

Standards/regulations	DIN EN 61643-21
	EN 60079-0
	EN 60079-11
	EN 60079-26
Standards/specifications	EN 61643-21/A2 2013
	EN 60079-0 2012
	EN 60079-11 2012
	EN 60079-26 2007
	IEC 60079-0 2011
	IEC 60079-11 2011
	IEC 60079-26 2006

### General

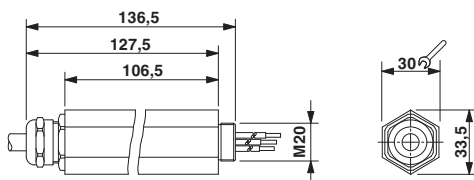
Maximum inner capacitance $C_i$	2 nF
Maximum inner inductance $L_i$	1 $\mu$ H
Max. input current $I_i$	350 mA ( $T4, T5, T6/\leq 50^\circ\text{C}$ )
Max. input voltage $U_i$	30 V
Maximum input power $P_i$	3 W

### Conformity / approvals

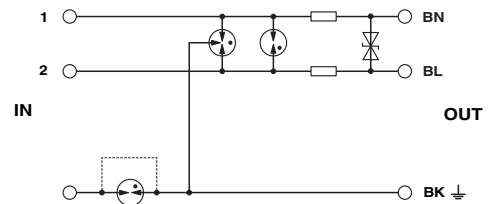
ATEX	# II 1G Ex ia IIC T4...T6 Ga
IECEX	Ex ia IIC T4...T6 Ga

## Drawings

Dimensional drawing



Circuit diagram



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### Classifications

#### eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

#### ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943

#### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

### Approvals

#### Approvals

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Approvals

EAC / EAC

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Ex Approvals

IECEX / ATEX / INMETRO

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#### Approval details

EAC EAC-Zulassung
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### Approvals

EAC 7500651.22.01.00243
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