

## Surge protection device - S-PT-1X2-24DC - 2880668

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Surge protection in the IP67 screw-on module for measuring sensors, direct mounting with M20 x 1.5 outer thread, cable gland for the signal cable, two-stage protective circuit. HART-compatible.


### Your advantages

- ✓ Arresters in hexagonal pipe with various outer threads

RoHS



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 049009
GTIN	4046356049009
Weight per Piece (excluding packing)	400.000 g
Custom tariff number	85363010
Country of origin	Germany

### Technical data

#### Dimensions

Height	33.5 mm
Width	33.5 mm
Depth	137 mm

#### Ambient conditions

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

## Surge protection device - S-PT-1X2-24DC - 2880668

### Technical data

#### General

Housing material	Zinc die-cast, surface bronzed and nickel-plated
Color	silver
Standards for clearances and creepage distances	IEC 60664-1
	VDE 0110-1
Mounting type	direct 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 $U_C$	40 V DC
	28 V AC
Rated current	450 mA (55 °C)
Operating effective current $I_C$ at $U_C$	$\leq 10 \mu\text{A}$
Residual current $I_{PE}$	$\leq 2 \mu\text{A}$
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-line)	10 kA
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (line-earth)	10 kA (per path)
Nominal discharge current $I_n$ (8/20) $\mu\text{s}$ (shield-earth)	10 kA (optional)
Pulse discharge current $I_{imp}$ (10/350) $\mu\text{s}$	1 kA
Total discharge current $I_{total}$ (8/20) $\mu\text{s}$	20 kA
Total discharge current $I_{total}$ (10/350) $\mu\text{s}$	2 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-line)	10 kA
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (line-earth)	10 kA (per path)
Max. discharge current $I_{max}$ (8/20) $\mu\text{s}$ maximum (shield-earth)	10 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-line)	23 A
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (line-earth)	100 A
Nominal pulse current $I_{an}$ (10/1000) $\mu\text{s}$ (shield-earth)	100 A
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) spike	$\leq 55 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) spike	$\leq 450 \text{ V}$ (Direct grounding)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (shield-earth) spike	$\leq 600 \text{ V}$ (optional)
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-line) static	$\leq 55 \text{ V}$
Output voltage limitation at 1 kV/ $\mu\text{s}$ (line-earth) static	$\leq 450 \text{ V}$ (Direct grounding)

## Surge protection device - S-PT-1X2-24DC - 2880668

### Technical data

#### Protective circuit

Residual voltage at $I_n$ (line-line)	$\leq 55$ V
Residual voltage with $I_{an}$ (10/1000) $\mu$ s (line-line)	$\leq 65$ V
Voltage protection level $U_p$ (line-line)	$\leq 80$ V (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ (line-earth)	$\leq 450$ V (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ (shield-earth)	$\leq 600$ V (C2 - 10 kV / 5 kA)
Voltage protection level $U_p$ static (line-line)	$\leq 50$ V (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-line)	$\leq 1$ ns
Response time $t_A$ (line-earth)	$\leq 100$ ns
Response time $t_A$ (shield-earth)	$\leq 100$ ns
Input attenuation aE, sym.	typ. 0.5 dB ( $\leq 1.5$ MHz / 50 $\Omega$ )
	typ. 0.2 dB ( $\leq 300$ kHz / 150 $\Omega$ )
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 MHz
Resistance per path	2.2 $\Omega \pm 10$ %
Surge protection fault message	none
Max. required back-up fuse	500 mA (T)
Impulse durability (line-line)	C2 - 10 kV / 5 kA
	D1 - 1 kA
Impulse durability (line-earth)	C2 - 10 kV / 5 kA
	D1 - 1 kA
Impulse durability (shield-earth)	C2 - 10 kV/5 kA
	D1 - 1 kA

#### Connection data

Connection method	Screw connection
Connection method IN	Screw terminal blocks
Connection method OUT	Connection line
Connection technology	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

#### Standards and Regulations

Standards/specifications	IEC 61643-21 2002
--------------------------	-------------------

#### Environmental Product Compliance

# Surge protection device - S-PT-1X2-24DC - 2880668

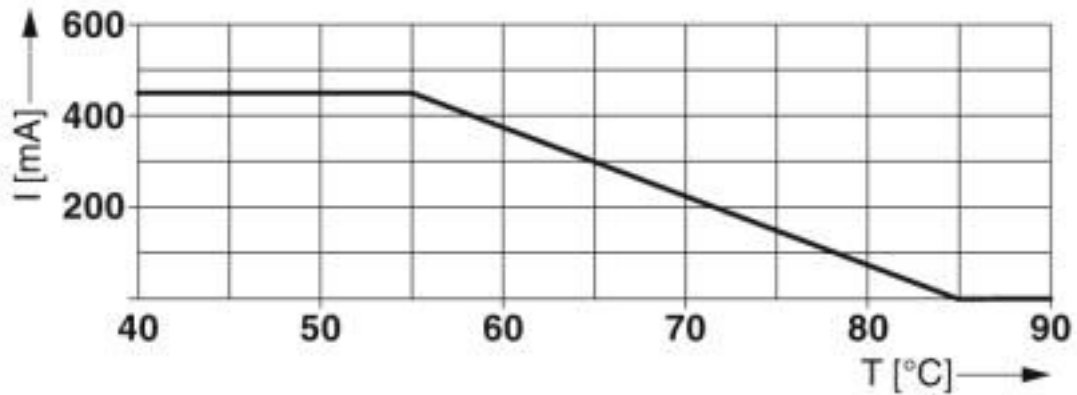
## Technical data

### Environmental Product Compliance

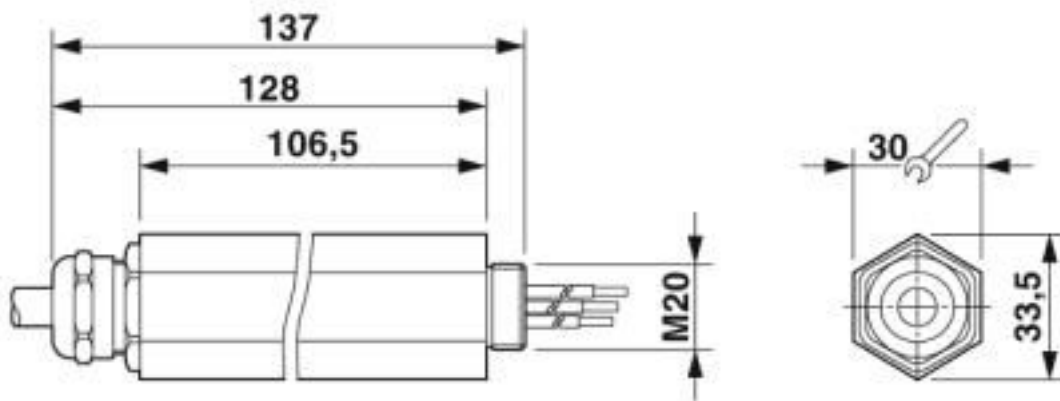
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Diagram

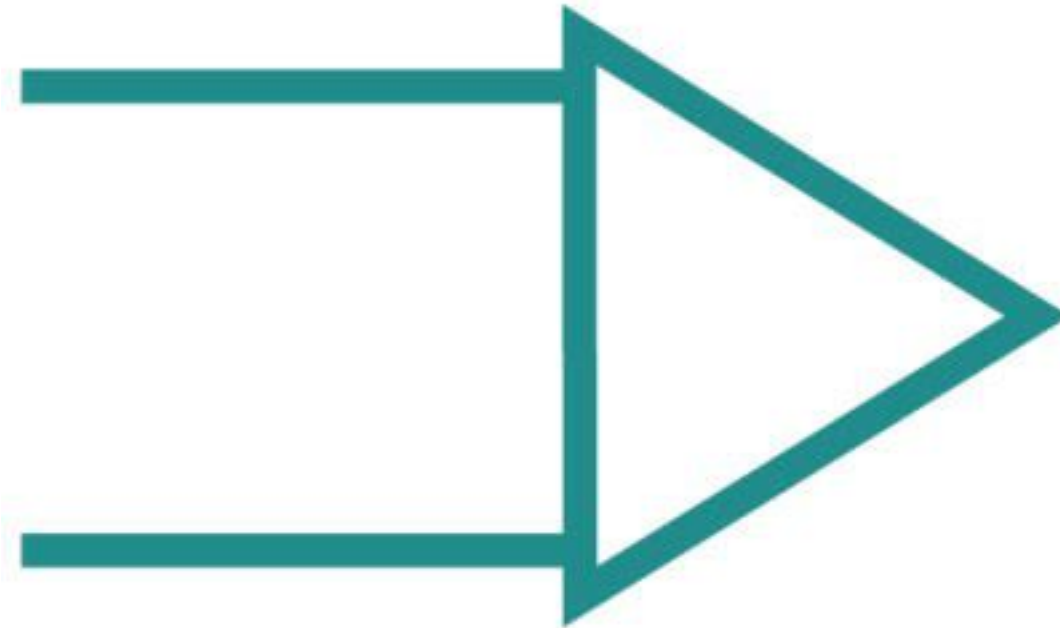


Dimensional drawing

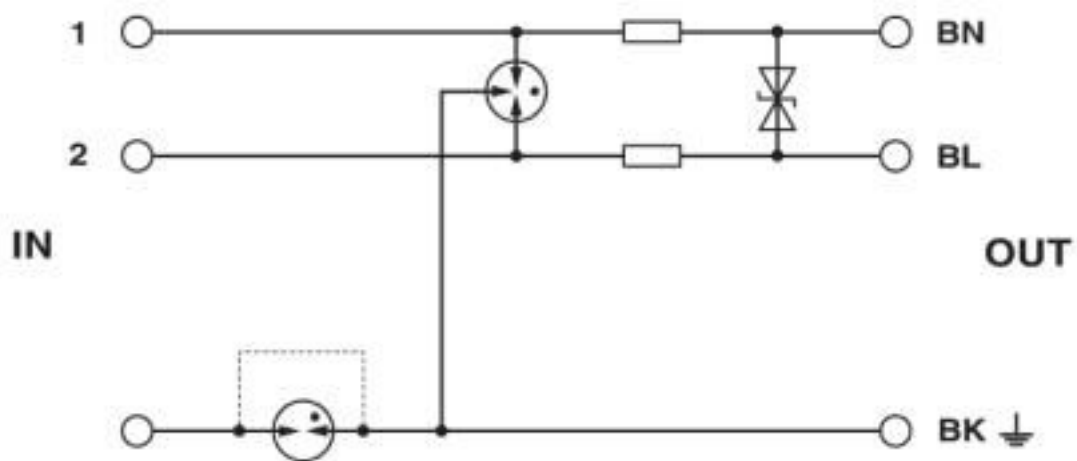


# Surge protection device - S-PT-1X2-24DC - 2880668

Pictogram



Circuit diagram



## Classifications

eCl@ss

eCl@ss 10.0.1	27130807
eCl@ss 4.0	27130800
eCl@ss 4.1	27130800

## Surge protection device - S-PT-1X2-24DC - 2880668

### Classifications

#### eCl@ss

eCl@ss 5.0	27130800
eCl@ss 5.1	27130800
eCl@ss 6.0	27130800
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
ETIM 6.0	EC000943
ETIM 7.0	EC000943

#### UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620
UNSPSC 18.0	39121620
UNSPSC 19.0	39121620
UNSPSC 20.0	39121620
UNSPSC 21.0	39121620

### Approvals

#### Approvals

---

Approvals

EAC

---

Ex Approvals

---

#### Approval details

## Surge protection device - S-PT-1X2-24DC - 2880668

### Approvals

EAC



RU C-  
DE.A\*30.B01561