

## Surge protection device - S-PT-EX-48DC - 2800053

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Surge protection for one floating signal circuits in screw-on module with IP67 protection for sensor heads, connection M20 x 1.5. Tested in acc. with the protection types in Ex areas Ex d / Ex tD / Ex ia IIC / Ex iaD. Can be used inside of a fieldbus-system according to the FISCO concept.

### Your advantages

- ✓ Arresters in hexagonal pipe with various outer threads



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 445696
GTIN	4046356445696
Weight per Piece (excluding packing)	196.290 g
Custom tariff number	85363010
Country of origin	Germany
Note	Made to Order (non-returnable)

### Technical data

#### Dimensions

Height	28 mm
Width	28 mm
Depth	79 mm

#### Ambient conditions

Ambient temperature (operation)	-40 °C ... 80 °C (non-Ex)
Altitude	≤ 2000 m (amsl (above mean sea level))
Degree of protection	IP67

#### General

Housing material	Stainless steel
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## Technical data

### General

Color	silver
Standards for clearances and creepage distances	IEC 60664-1
	IEC 60079-11
Mounting type	M20
Type	Screw-in module
Number of positions	2
Direction of action	Line-Line & Line-Earth Ground

### Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage $U_N$	48 V DC
Maximum continuous voltage $U_C$	53 V DC
	37 V AC
Operating effective current $I_C$ at $U_C$	$\leq 5 \mu A$
Residual current $I_{PE}$	$\leq 2 \mu A$
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-line)	170 A
Nominal discharge current $I_n$ (8/20) $\mu s$ (line-earth)	10 kA
Pulse discharge current $I_{imp}$ (10/350) $\mu s$	1 kA
Total discharge current $I_{total}$ (8/20) $\mu s$	20 kA
Total discharge current $I_{total}$ (10/350) $\mu s$	2 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-line)	34 A
Output voltage limitation at 1 kV/ $\mu s$ (line-line) spike	$\leq 160 V$
Output voltage limitation at 1 kV/ $\mu s$ (line-earth) spike	$\leq 1.1 kV$
Output voltage limitation at 1 kV/ $\mu s$ (line-line) static	$\leq 80 V$
Voltage protection level $U_p$ (line-line)	$\leq 90 V$ (C3 - 10 A)
Voltage protection level $U_p$ (line-earth)	$\leq 1.1 kV$ (C3 - 100 A)
	$\leq 1.1 kV$ (C1 - 1 kV/500 A)
	$\leq 1.2 kV$ (C2 - 10 kV / 5 kA)
Response time $t_A$ (line-line)	$\leq 1 ns$
Response time $t_A$ (line-earth)	$\leq 100 ns$
Input attenuation aE, sym.	typ. 0.1 dB (30 MHz / 50 $\Omega$ )
	typ. 0.1 dB (6 MHz / 150 $\Omega$ )
Cut-off frequency $f_g$ (3 dB), sym. in 50 Ohm system	typ. 70 MHz
Cut-off frequency $f_g$ (3 dB), sym. in 150 Ohm system	typ. 40 MHz
Capacity (line-line)	typ. 20 pF
Capacity (line-earth)	typ. 5 pF
Surge protection fault message	none

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## Technical data

### Protective circuit

Impulse durability (line-line)	C3 - 10 A
Impulse durability (line-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

### Connection data

Connection method	Individual wires
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### Standards and Regulations

Standards/specifications	EN 61643-21 A2:2013
	EN 60079-0 2012
	EN 60079-1 2007
	EN 60079-11 2012
	EN 60079-31 2009
	IEC 60079-0 2011
	IEC 60079-1 2007
	IEC 60079-11 2011
	IEC 60079-31 2008

### General

Maximum inner capacitance $C_i$	1.14 nF
Max. internal inductance $L_i$	1 $\mu$ H
Max. input current $I_i$	500 mA (T4 / $\leq 75$ °C)
	500 mA (T5 / $\leq 75$ °C)
	500 mA (T6 / $\leq 60$ °C)
Max. input voltage $U_i$	53 V DC
max. input power $P_i$	3 W
Insulation voltage to ground	500 V AC
Ambient temperature (operation)	-40 °C ... 75 °C (T4)
	-40 °C ... 75 °C (T5)
	-40 °C ... 60 °C (T6)

### Conformity / approvals

ATEX	# II 1 G Ex ia IIC T4...T6
	# II 2 G Ex d IIC T4...T6
	# II 1 D Ex iaD 20 IP6x T85 °C...135 °C
IECEX	# II 2 D Ex tD A21 IP6x T85 °C...135 °C
	Ga Ex ia IIC T4...T6
	Ex d IIC T4...T6
	Ex iaD IP6x T85 °C...135 °C
	Ex tD A21 IP6x T85 °C...135 °C

# Surge protection device - S-PT-EX-48DC - 2800053

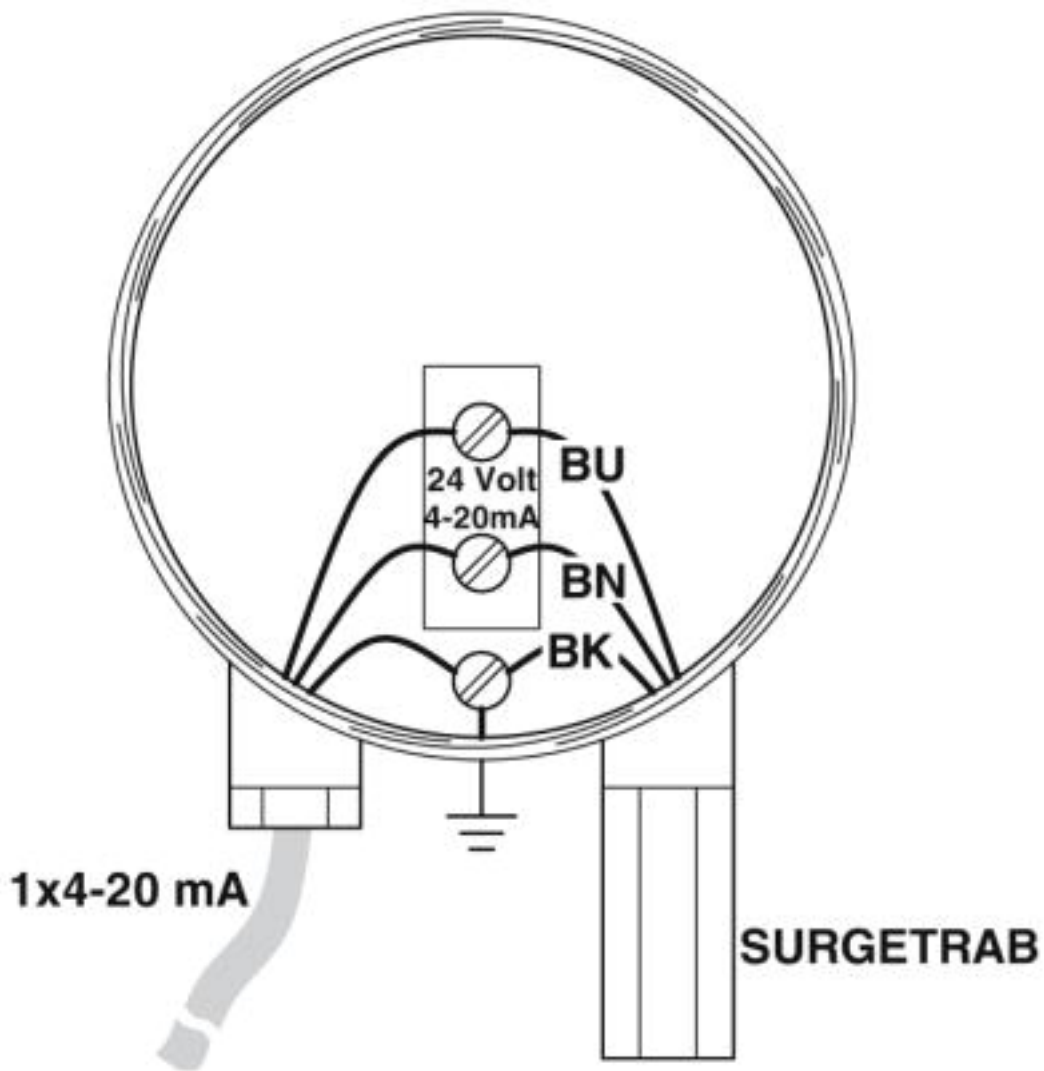
## Technical data

### Environmental Product Compliance

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

## Drawings

Application drawing

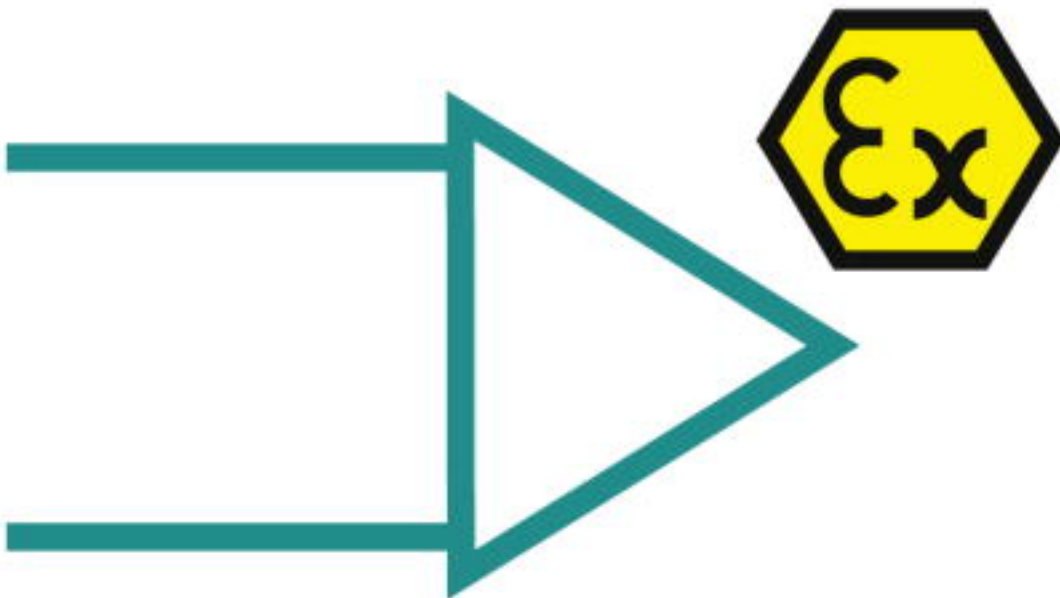


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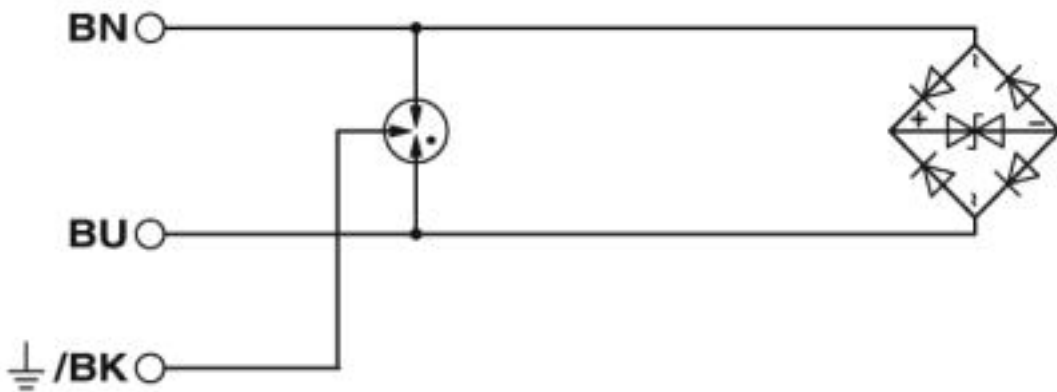
Dimensional drawing



Pictogram



Circuit diagram



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### Classifications

#### eCl@ss

eCl@ss 4.0	27130800
eCl@ss 4.1	27130800
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

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Approvals

EAC

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Ex Approvals

IECEX / ATEX / EAC Ex

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#### Approval details

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### Approvals

EAC



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DE.A\*30.B01561