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## Surge protection device - S-PT-EX-24DC-1/2" - 2800035

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Surge protection for one floating signal circuit in screw-on module with IP67 protection for sensor heads, connection 1/2-inch 14 NPT. 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.

### Why buy this product

- Arresters in hexagonal pipe with various outer threads



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 411011
GTIN	4046356411011

### 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
Color	silver
Standards for clearances and creepage distances	IEC 60664-1
	IEC 60079-11
Mounting type	1/2" NPT

# Surge protection device - S-PT-EX-24DC-1/2" - 2800035

## Technical data

### General

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 $U_N$	24 V DC
Maximum continuous voltage $U_C$	36 V DC
	25 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)	260 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
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-line)	260 A
Max. discharge current $I_{max}$ (8/20) $\mu s$ maximum (line-earth)	20 kA
Nominal pulse current $I_{an}$ (10/1000) $\mu s$ (line-line)	50 A
Output voltage limitation at 1 kV/ $\mu s$ (line-line) spike	$\leq 130 V$
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	$\leq 60 V$
Voltage protection level $U_p$ (line-line)	$\leq 65 V$ (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. 70 MHz
Capacity (line-line)	typ. 20 pF
Capacity (line-earth)	typ. 5 pF
Surge protection fault message	none
Impulse durability (line-line)	C3 - 25 A
Impulse durability (line-earth)	C1 - 1 kV/500 A

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## Technical data

### Protective circuit

	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 $C_i$	1.65 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 $U_i$	36 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
	# II 2 D Ex tD A21 IP6x T85 °C...135 °C
IECEX	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

### Environmental Product Compliance



# Surge protection device - S-PT-EX-24DC-1/2" - 2800035

## Technical data

### Environmental Product Compliance

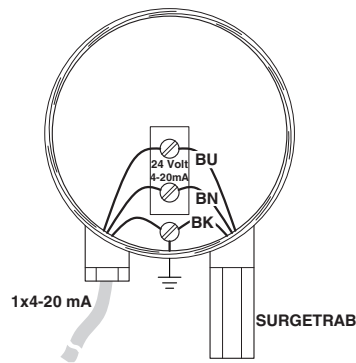
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

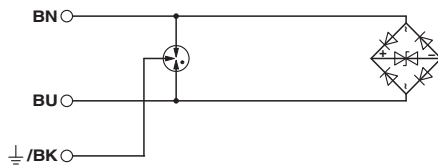
Pictogram



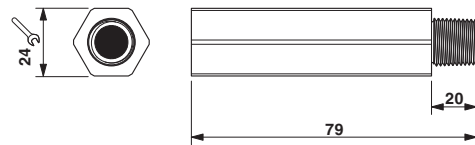
Application drawing



Circuit diagram



Dimensional drawing



## Approvals

### Approvals

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Approvals

EAC

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Ex Approvals

IECEX / ATEX

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### Approval details

EAC		RU C- DE.A*30.B01561
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