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Surge protection device - S-PT-4-EX-24DC-1/2"

2800037

https://www.phoenixcontact.com/gb/products/2800037

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Two-stage surge protection for three or four signals of floating signal circuits in screw-on module with IP67 degree of protection for sensor heads, connection: ½-inch 14 NPT. Tested in accordance with the following types of protection in Ex areas: Ex d / Ex tD / Ex ia IIC / Ex iaD. Suitable for use in the fieldbus system in accordance with the FISCO concept, 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

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Commercial Data

Item number	2800037
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CL2232
Product Key	CL2232
Catalog Page	Page 141 (C-4-2019)
GTIN	4046356410984
Weight per Piece (including packing)	242.1 g
Weight per Piece (excluding packing)	209.67 g
Customs tariff number	85363010
Country of origin	DE

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Technical Data

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	Screw-in module
Product type	Surge protection for MCR technology
Number of positions	4

Insulation characteristics

Overvoltage category	III
Pollution degree	2

Connection data

Connection method	Individual wires

Ex data

Maximum inner capacitance C_i	1.65 nF
Max. internal inductance L_i	1 µH
Max. input current I_i	500 mA (T4 / ≤ 75 °C)
	500 mA (T5 / ≤ 75 °C)
	500 mA (T6 / ≤ 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)
Operating temperature range	-40 °C ... 100 °C (T4)
	-40 °C ... 75 °C (T5)
	-40 °C ... 60 °C (T6)
Max. surface temperature	135 °C (T4)
	100 °C (T5)
	85 °C (T6)

Dimensions

Dimensional drawing	
Width	28 mm

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Height	28 mm
Depth	79 mm

Material specifications

Color	silver
Housing material	Stainless steel

Mechanical properties

Mechanical data

Open side panel	No

Protective circuit

Direction of action	Line-Line & Line-Earth Ground
Maximum continuous voltage U_C	36 V DC
	25 V AC
Operating effective current I_C at U_C	≤ 5 µA
Residual current I_{PE}	≤ 2 µA
Nominal discharge current I_n (8/20) µs (line-line)	260 A
Nominal discharge surge current I_n (8/20) µs (Core-Earth)	10 kA
Pulse discharge current I_{imp} (10/350) µs	1 kA
Total discharge current I_{total} (8/20) µs	20 kA
Total discharge current I_{total} (10/350) µs	2 kA
Nominal pulse current Ian (10/1000) µs (line-line)	50 A
Output voltage limitation at 1 kV/µs (line-line) spike	≤ 130 V
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 1.1 kV
Output voltage limitation at 1 kV/µs (line-line) static	≤ 60 V
Voltage protection level U_p (line-line)	≤ 65 V (C3 - 10 A)
Voltage protection level U_p (line-earth)	≤ 1.1 kV (C3 - 100 A)
	≤ 1.1 kV (C1 - 1 kV / 500 A)
	≤ 1.2 kV (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.1 dB (30 MHz / 50 Ω)
	typ. 0.1 dB (6 MHz / 150 Ω)
Cut-off frequency fg (3 dB), sym. in 50 Ω system	typ. 70 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ω system	typ. 70 MHz
Capacity (Core-Core)	typ. 20 pF
Capacity (Core-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
	C2 - 10 kV / 5 kA
	C3 - 100 A
	D1 - 1 kA

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Alternating current carrying capacity (line-earth)	10 A - 1 s

Environmental and real-life conditions

Ambient conditions

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

Approval data

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

Standards and regulations

Air clearances and creepage distances

Standards/regulations	IEC 60664-1 / IEC 60079-11
Standards/specifications	EN 61643-21
Standards/specifications	EN 60079-0
Standards/specifications	EN 60079-1
Standards/specifications	EN 60079-11
Standards/specifications	EN 60079-31
Standards/specifications	IEC 60079-0
Standards/specifications	IEC 60079-1
Standards/specifications	IEC 60079-11
Standards/specifications	IEC 60079-31

Mounting

Mounting type	1/2" NPT

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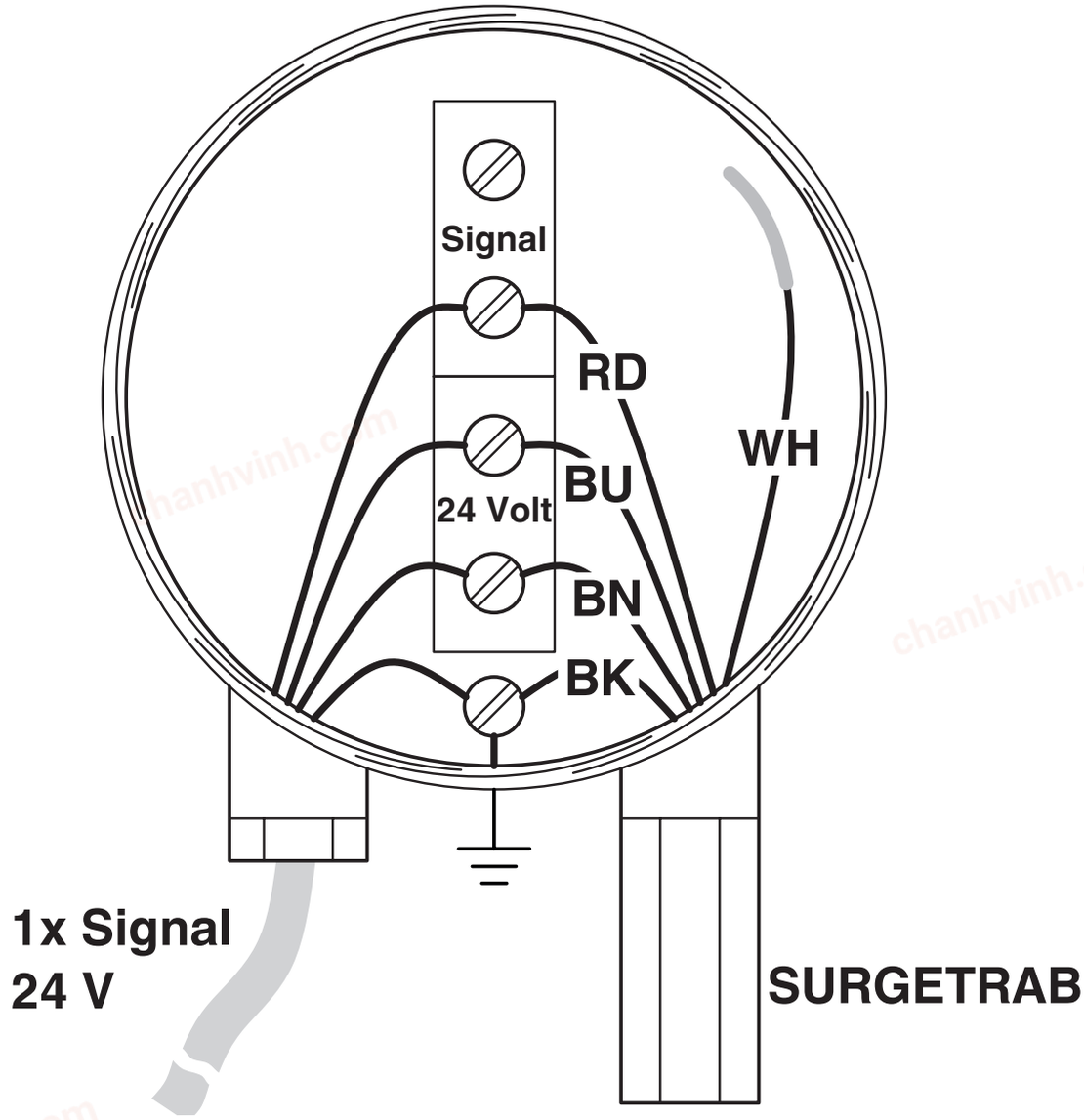
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Drawings

Application drawing



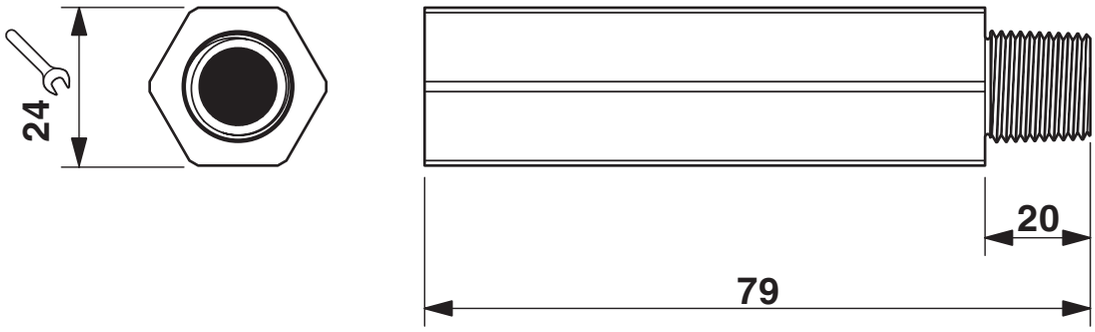
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Dimensional drawing



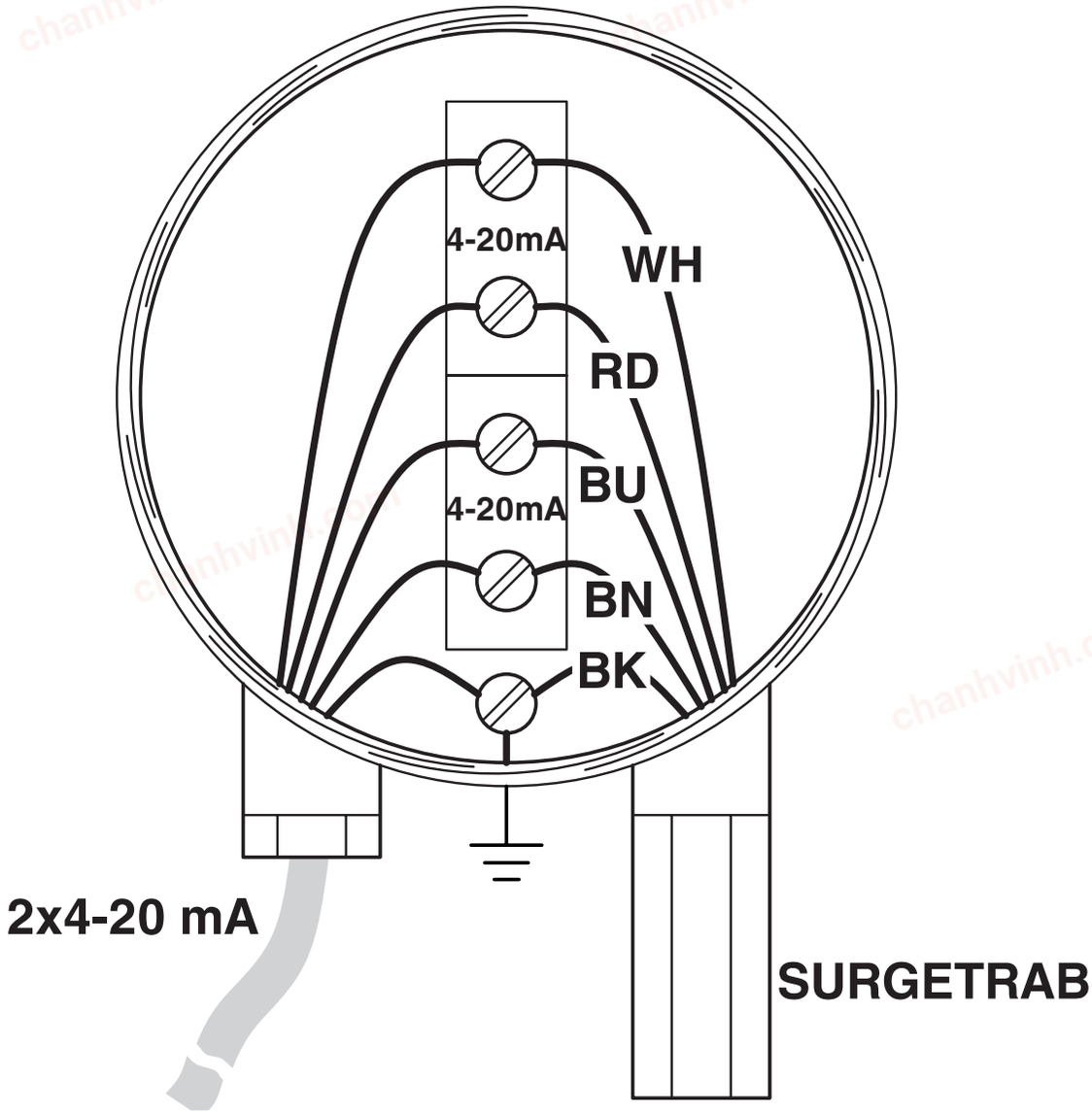
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Application drawing



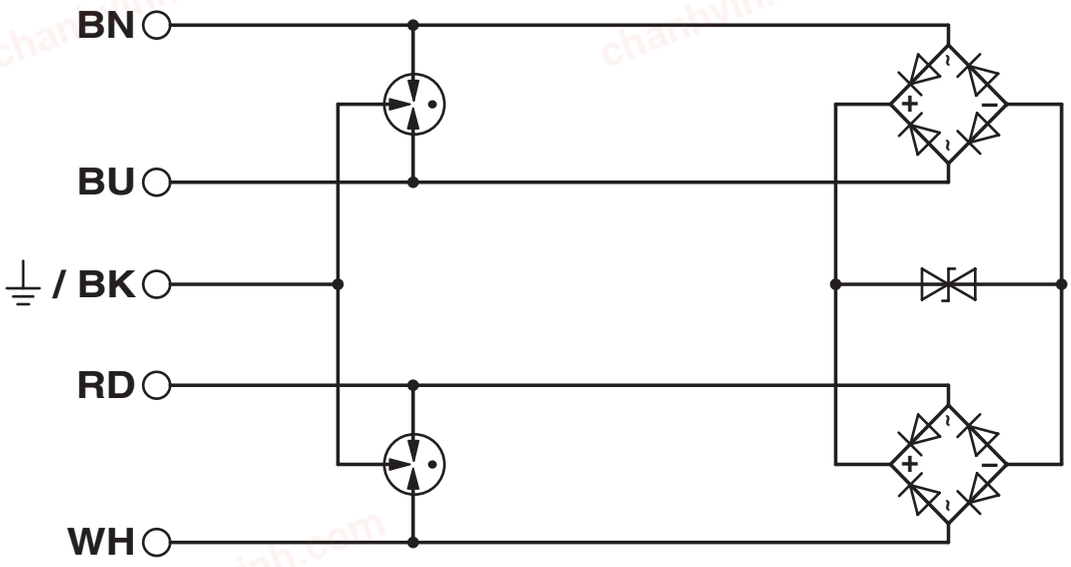
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Circuit diagram



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Approvals

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

ATEX
Approval ID: KEMA 09ATEX0028 X

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

IECEx
Approval ID: IECEx KEM 09.0014X

CCC
Approval ID: 2020322316000794

NEPSI
Approval ID: GYJ20.1159X

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC000943

UNSPSC

UNSPSC 21.0	39121600

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Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

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

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