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

2880668

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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

- Easiest field mounting with standardized thread
- Versatile in use with universal protective circuit
- Use under extreme ambient conditions with robust design

Commercial data

Item number	2880668
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	CL02
Product key	CL2231
Catalog page	Page 125 (C-4-2019)
GTIN	4046356049009
Weight per piece (including packing)	418.1 g
Weight per piece (excluding packing)	352.52 g
Customs tariff number	85363010
Country of origin	DE

Technical data

Notes

General	When the bridge is disconnected, the shield connection is indirectly connected to the housing or reference potential.

Product properties

IEC test classification	C1
	C2
	C3
	D1
Type	Screw-in module
Product type	Surge protection for MCR technology
Product family	SURGETRAB
Number of positions	3
Surge protection fault message	none
Wire pairs per module	1

Insulation characteristics

Overvoltage category	III
Pollution degree	2

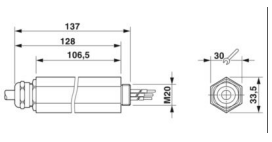
Electrical properties

Nominal voltage U_N	24 V DC

Connection data

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.6 Nm
Conductor cross section flexible	0.14 mm² ... 1.5 mm²
Conductor cross section rigid	0.14 mm² ... 1.5 mm²
Conductor cross section AWG	26 ... 16

Dimensions

Dimensional drawing	
Width	33.5 mm
Height	33.5 mm
Depth	137 mm

Material specifications

Color	Steel / stainless steel

Housing material	Zinc die-cast, surface bronzed and nickel-plated

Mechanical properties

Mechanical data

Open side panel	No

Protective circuit

Direction of action	Line-Line & Line-Earth Ground
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	≤ 10 µA
Residual current I_{PE}	≤ 2 µA
Nominal discharge current I_n (8/20) µs (line-line)	10 kA
Nominal discharge current I_n (8/20) µs (line-ground)	10 kA (per path)
Nominal discharge current I_n (8/20) µs (shield-ground)	10 kA (optional)
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
Max. discharge current I_{max} (8/20) µs maximum (line-line)	10 kA
Max. discharge current I_{max} (8/20) µs maximum (line-earth)	10 kA (per path)
Discharge surge current I_{max} (8/20) µs maximum (shield-ground)	10 kA
Nominal pulse current Ian (10/1000) µs (line-line)	23 A
Nominal pulse current Ian (10/1000) µs (line-earth)	100 A
Nominal pulse current Ian (10/1000) µs (shield-ground)	100 A
Output voltage limitation at 1 kV/µs (line-line) spike	≤ 55 V
Output voltage limitation at 1 kV/µs (line-earth) spike	≤ 450 V (Direct grounding)
Output voltage limitation at 1 kV/µs (shield-ground) spike	≤ 600 V (optional)
Output voltage limitation at 1 kV/µs (line-line) static	≤ 55 V
Output voltage limitation at 1 kV/µs (line-earth) static	≤ 450 V (Direct grounding)
Residual voltage at I_n (conductor-conductor)	≤ 55 V
Residual voltage with Ian (10/1000) µs (line-line)	≤ 65 V
Voltage protection level U_p (line-line)	≤ 80 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (line-earth)	≤ 450 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p (shield-ground)	≤ 600 V (C2 - 10 kV / 5 kA)
Voltage protection level U_p static (line-line)	≤ 50 V (C2 - 10 kV / 5 kA)
Response time t_A (line-line)	≤ 1 ns
Response time t_A (line-earth)	≤ 100 ns
Response time tA (shield-ground)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 1.5 MHz / 50 Ω)
	typ. 0.2 dB (≤ 300 kHz / 150 Ω)
Cut-off frequency fg (3 dB), sym. in 50 Ω system	typ. 6 MHz
Cut-off frequency fg (3 dB), sym. in 150 Ω system	typ. 2 MHz
Resistance per path	2.2 Ω ±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-ground)	C2 - 10 kV/5 kA
	D1 - 1 kA

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

Air clearances and creepage distances

Standards/regulations	IEC 60664-1 / VDE 0110-1
Standards/specifications	IEC 61643-21
Note	2002

Mounting

Mounting type	direct screw connection

Classifications

ECLASS

ECLASS-11.0	27130807
ECLASS-13.0	27171501

ETIM

ETIM 9.0	EC001625

UNSPSC

UNSPSC 21.0	39121600

Environmental product compliance

REACh SVHC	Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer’s declaration available under “Downloads”

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com