DATASHEET

Surge Protective Device SPD

Geosense Surge Protective Device (SPD) protects all types of sensors from transient overvoltage

GEOSENSE

Surge Protective Device SPD

Overview

APPLICATIONS

Protecting sensors and cables from overvoltage protection

FEATURES

- Lightweight impact resistant ABS box
- Corrosion free
- Waterproof to IP67 rated
- Robust 5 pole terminal strips
- Easy & quick to wire
- Conductor sizes from 28-12 AWG
- Spring Pressure Connection Technology
- Vibration-Proof connections
- Maintenance-free connections
- Colour-coded glands for IN & OUT
- Simple hinged quick-release catch

Geosense® Surge Protective Device (SPD) protects all types of sensors from transient overvoltage.

Transient overvoltage affecting sensors is typically due to lightning strikes. Long, particularly horizontal wiring, can be subject to these, leading to destructive voltages at sensors.

Transient protection devices attempt to re-direct the energy in these transients by taking advantage of the differences between the transient waveform and the intended signal or power waveform.

It comprises five protected lines allowing for the protection of any four wire sensor including the screen.

Each line benefits from three stages of protection.

STAGE 1 – TVS
TVS (Transient Voltage Suppressor) Diode protects against low level spikes and transients. This triggers and clamps the line to ground if the voltage exceeds the values in the table.

STAGE 2 – TBU
The TBU-CA Series of Bourns® TBU® products are low capacitance single bi-directional high-speed protection components, constructed using MOSFET semi-conductor technology, and designed to protect against faults caused by short circuits, AC power cross, induction and lightning surges.
The TBU® high-speed protector placed in the system circuit will monitor the current with the MOSFET detection circuit triggering to provide an effective barrier behind which sensitive electronics will not be exposed to large voltages or currents during surge events.

STAGE 3 – MOV
If the voltage exceeds 200V (Nom.) the protection is provided by a MOV which protects the first and second stage from excessive transients, 30J 8/20usec.

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Specifications

GENERAL

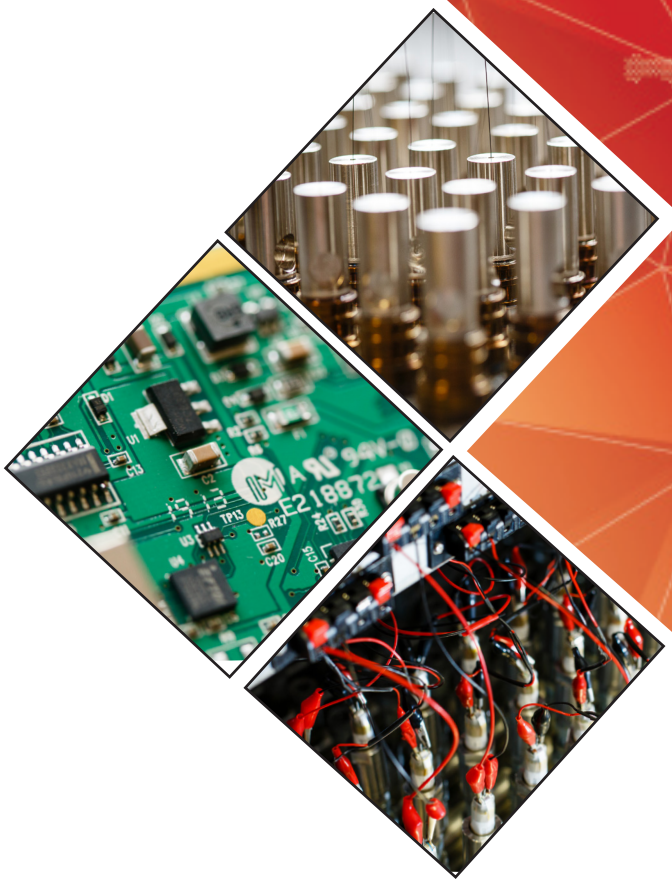
Line	Signals	Operative Voltage max	Operative Current max	Series Resistance Typ.	Leakage Current max
1	+VW or A-RS485	+12V / -7V	300mA	7.6 Ohm	+1uA
2	+VW or A-RS485	+12V / -7V	300mA	7.6 Ohm	+1uA
3	+NTC or +12V	+15V	300mA	7.6 Ohm	+1uA
4	-NTC or COM (shield)	0V	2A	<1 Ohm	0uA

PROTECTION

	STAGE 1 – TVS		STAGE 2 – TBU		STAGE 3 – MOV	
Line	**Breakdown Voltage**	**Pulse Peak Current**	**Impulse Peak Voltage**	**Trigger Current min**	**Breakdown Voltage**	**Pulse Peak Current**
1	+13.3V / -7.5	V17A 8/20usec.	650V	<10msec.300mA	200V nom.	2500A 8/20usec.
2	+13.3V / -7.5	V17A 8/20usec.	650V	<10msec.300mA	200V nom.	2500A 8/20usec.
3	+17.6V	16.4A 10/1000usec.	650V	<10msec. 300mA	200V nom.	2500A 8/20usec.
4	COM	COM	COM	COM	COM	COM

EMC PROTECTION

Also available in a diecast alloy enclosure with full 360 degree screening and EMC cable glands for full EMC protection.



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