

TAMPER DETECTION SENSOR

TE Connectivity's polyvinylidene fluoride (PVDF) tamper detection sensors offer a complete solution in a space efficient form factor for the detection of physical tampering in small, high security enclosures. The sensor comes in the form of a multi-layer laminate that wraps around the electronics area requiring protection. Once properly adhered and connected, any attempt to physically open or penetrate the enclosure will trigger a detection. Detection of a tamper attempt can result in a customer-specified reaction such as the erasure of critical data, like encryption keys, or disabling the overall system. These tamper detection sensors are designed to allow the user to achieve FIPS 140-2 level 4 physical security compliance while meeting their specific requirements.

Features

- **FIPS 140-2 Level 4 Certification**
- ITAR Compliant
- X-Rays Do Not Reveal Electrical Configuration
- High Security
- Space Efficient Protection
- Ultra-Low Power Consumption
- Easy to Apply
- Full Customization to Meet the Customer's Specific Requirements and Geometries

TE's tamper detection sensors can detect and report any breach of a physical perimeter that has been established around a defined asset. This includes breach by cutting tools, drills, thermal attacks, projectiles, and chemical attacks. It can also detect and report any attempt to remove, alter, bypass, disconnect, or disturb the tamper detection sensor itself. This includes interference from solvents, mechanical peeling, short circuit, rewire, and alteration of output signals.

Applications

- Military/Defense
- Secure Electronics
- Telecommunications Equipment
- High Security Systems
- Key Loader
- Cryptographic/Encryption Device
- Hardware Security Module
- Data Center and Server Protection
- Credit Card Terminal
- Security Panel

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TAMPER DETECTION

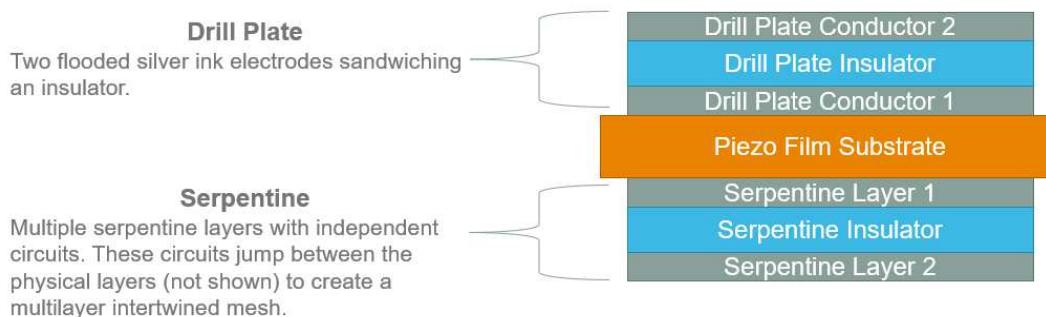
PERFORMANCE SPECIFICATIONS

Operating Temperature	-40°C to 85°C
Interface Options	ZIF Connectors
	Zebra Connectors
	Anisotropic Tape
Typical Monitoring Circuit	2 Pins for each Serpentine
	2 Pins for the Drill Plates
Minimum Size (h,w,l)*	0.15" x 2" x 2"
Maximum Size (h,w,l)*	1.5" x 8" x 8"
Typical Enclosure Material	Aluminum w/ Hard Coat Anodization, Insulated Metals, Engineered Plastics
Typical Thermal Conductivity (W/(mK))	0.19

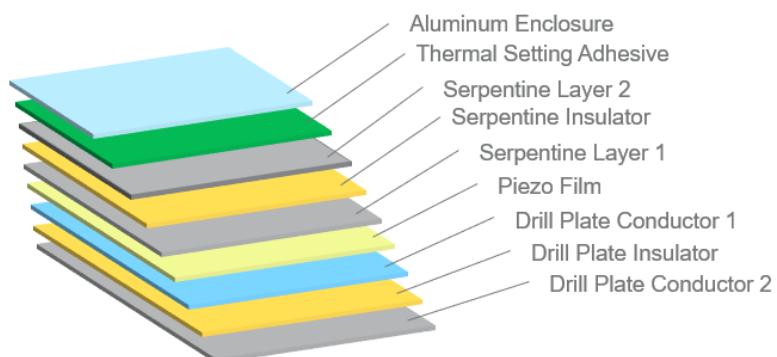
*Other sizes available, please inquire

CONSTRUCTION

The tamper detection sensor is a combination of two sensing techniques, both of which are placed onto a single piezo film substrate. This substrate has unique properties which enhance their effectiveness.



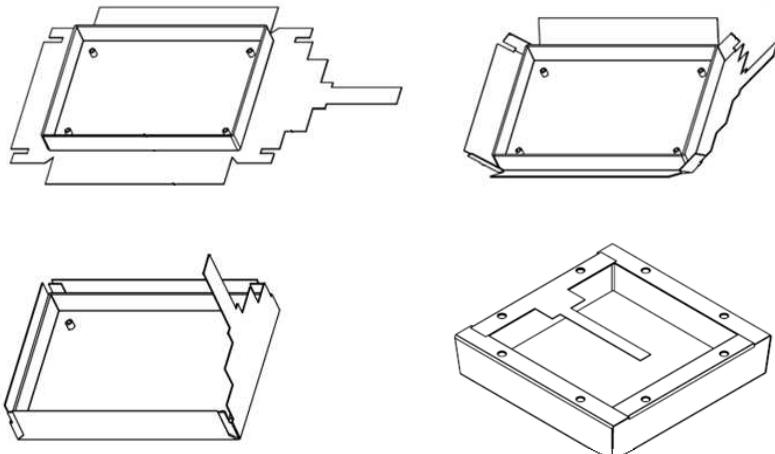
The printed tamper detection sensor is bonded to an aluminum housing using a thermal setting adhesive.



TAMPER DETECTION

ATTACHMENT TO ENCLOSURES

One side of the tamper detection sensor will have a thermal setting adhesive that provides a reliable attachment to an enclosure. The sensor is designed to have various folding features that provide complete coverage. Virtually every portion of the enclosure surface is covered by the sensor.

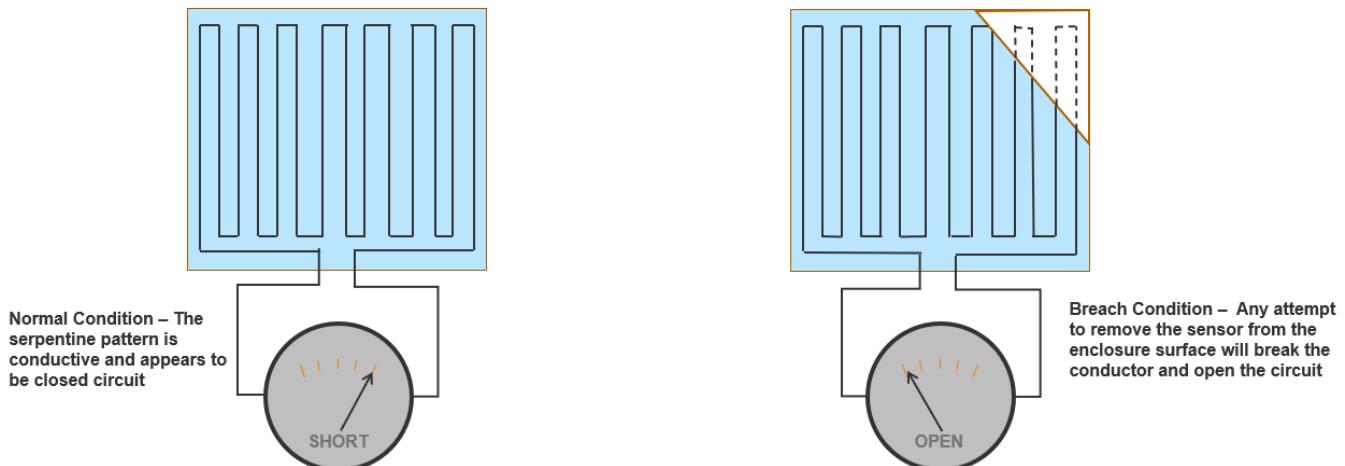


HOW IT WORKS

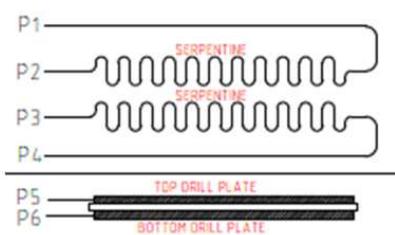
Drill Plate



Serpentine Pattern



Electronic Monitoring



The following should be monitored in this sample:
(other configurations available)

P1-P2 Normally Closed (N.C.)
P3-P4 N.C.
P1-P3 Normally Open (N.O.)
P1-P5 N.O.
P1-P6 N.O.
P3-P5 N.O.
P3-P6 N.O.
P5-P6 N.O.

TAMPER DETECTION

ORDERING INFORMATION

Contact us for more information.

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