

- *Vibration & Shock
- *Low Impedance Output
- *Sensitivity 100 mV/g
- *Electrical Isolation
- *Hermetically Sealed

The Model 8501 Piezoelectric Accelerometer is a completely self-contained vibration measuring system having a built-in amplifier within the housing. It is designed for the measurement of low level, broadband frequency vibrations.

This unit incorporates a hybrid electronic assembly within a rugged, welded, double-wall stainless steel body to enhance its operation in humid and dirty environments. The double-wall, electrically isolated construction provides additional isolation from metallic structures, which aids in acquiring accurate, wideband shock and vibration data uncorrupted by electrical ground loop currents. The sensor module is bonded into the outer stainless steel body with a high performance epoxy. Internal electrical damping limits the resonant Q to less than 18 dB. Low impedance output of 100 ohms or less allows operation directly into standard readout equipment without auxiliary signal conditioning, and is capable of driving up to 1,000 feet of shielded cable. *Consult the factory for customized versions of this sensor.*



Specifications

Transfer / Electrical	8501
Voltage Sensitivity ¹	100 mV/g +/-5%
Range	+/-50 g Peak
Frequency Linearity ²	+/-3% Max, 1 Hz To 5,000 Hz
Mounted Resonant Frequency	15KHz, Nom.
Resonance Amplitude (Q)	18 dB, Max.
Transverse Sensitivity	5% Max, Typical
Amplitude Linearity	+/-1.0% (BFSL) / 50 g
Electrical Noise	0.5 x 10 ⁻³ g Equiv., Nom.
Avg Temp Coeff of Sensitivity	0.05% / Deg F
Output Bias Voltage	10.25 +/-1.25 VDC
Output Impedance	100 Ohms Max.
Isolation Resistance	100 M Ohm, Min.
Power Requirements	2 To 10 mA DC Constant Current with 18 To 30 VDC Compliance

Environmental

Vibration Limit	300 g Max. (Sine)
Shock Limit	1,000 g Max., 1.0 mSec
Temperature Range	-40 To +250 Deg F (-40 To +121 Deg C)
Humidity ³	0 To 100% R.H.
Base Strain Sensitivity	0.05 g/uE Equiv, Typical
Electromagnetic Sensitivity	0.001 g (Equiv / 100 Gauss)
Acoustic Sensitivity	0.001 g RMS (Equiv @ 150 dB SPL)

Physical

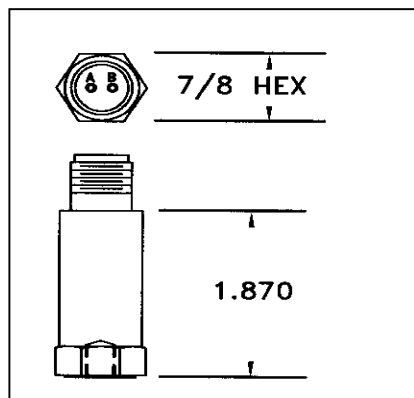
Configuration	Single-Ended Compression
Size	0.875 In. Hex. x 1.870 In. H (22.2 mm Hex x 63.5 mm H)
Weight	3.5 Oz (100 Gm)
Case Material	18-8 Stainless Steel
Electrical Interface	MIL-C-5015 2-Pin Connector (Mates with MS3106-10SL-4)
Mounting	¼-28 Tapped Base

NOTES:

¹ At +75 Deg F, 10g Peak, 100Hz: Power Supply 2 To 10 mA DC Constant Current with 18 To 30 VDC Compliance.

² Referenced to Sensitivity @ 100 Hz.

³ With Connector Protected or Sealed, Unit is Hermetically Sealed.



Output Connector Pin Functions:

- Pin A Signal Power
- Pin B Signal Return (Ground)

Accessories Supplied:

- (1) ¼-28 x 0.625" L Socket Set Screw, 18-8 St. SII.
- (1) Hardwood Storage Case
- (1) Standard Calibration Data
- (1) Certificate of Calibration Traceable to N.I.S.T.