

Columbia Research Laboratories, Inc. Integrated Triaxial Accelerometer

Model 951-TX

- *Vibration & Shock
- *Low Impedance Output
- *Sensitivity 10 mV/g
- *Electrical Isolation
- *Hermetically Sealed
- *Military & Commercial Uses

The 951-TX Triaxial Piezoelectric Accelerometer was designed to be an integral part of a computer-controlled vibration analysis system. The high and low frequency response of the unit is controlled with ultrahigh input impedance and low pass filters to provide broadband use.

The internal electrical and mechanical isolation of the transducer elements eliminates some of the more common problems associated with transducers of this type. Stable bias voltage over the temperature range provides a constant full scale dynamic range of more than +/- 500 g's with power supplies as low as 18 vdc. **Consult the factory for customized versions of this sensor.**

Specifications

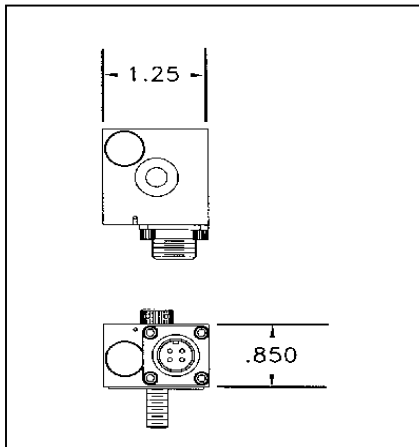
Transfer / Electrical	951-TX
Voltage Sensitivity ¹	10.0 +/-0.5 mV/g
Vibration Range	+/-500 g
Frequency Linearity ²	
X and Y Axes	+/-1 dB Max, 2 Hz To 3,000 Hz
Z Axis	+/-1 dB Max, 2 Hz To 5,000 Hz
	+/-3 dB Max, 1 Hz To 10,000 Hz
Phase Shift (Input-Output)	6 Deg Max @ 2.5 Hz
Phase Shift (Relative)	+/-2 Deg Max @ 2.5 Hz
Transverse Sensitivity	5% Max
Amplitude Linearity	+/-1.0% (BFSL) / 250 g
Electrical Noise	0.002 g Equiv., Nom.
Avg Temp Coeff of Sensitivity	0.05 % / Deg F
Output Bias Voltage	10.25 +/-0.75 VDC
Output Impedance	75 Ohms Max.
Isolation Resistance	100M Ohm Min., 50 VDC
Power Requirements	2 To 20 mA DC Constant Current with 18 VDC Min Compliance
Environmental	
Vibration Limit	500 g Max (Sine)
Shock Limit	2,000 g Max., 0.1 mSec 10,000 g Max, 5 uSec
Temperature Range	-40 To +250 Deg F (-40 To +121 Deg C)
Humidity ³	0 To 98% R.H. (Non-Condensing)
Base Strain Sensitivity	0.008 g/uE Equiv, Typical
Electromagnetic Sensitivity	0.005 g (Equiv / 100 Gauss)
Acoustic Sensitivity	0.005 g RMS (Equiv @ 150 dB SPL)
Physical	
Configuration	Ring Shear
Size	1.25 In. Sq. x 0.85 In. H (31.75 mm Sq. x 21.6 mm H)
Weight	2.8 Oz (80 Gm)
Case Material	High Strength Aluminum Alloy
Finish	Anodized, Type II per MIL-A-8625
Electrical Interface	PC02A-8-4P or Equiv.
Mounting	0.250-28 UNF-3A Cap Screw (Captive)

NOTES:

¹ At +75 Deg F, 10g Peak, 100Hz; Power Supply 2 To 20 mA DC Constant Current with 18 VDC Min. Compliance

² Referenced to Sensitivity @ 100 Hz.

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



Output Connector Pin Functions:

- Pin A X Axis
- Pin B Y Axis
- Pin C Z Axis
- Pin D Common

Accessories Supplied:

- (1) Mating Connector (PC06-8-4S)
- (1) Hardwood Storage Case
- (1) Standard Calibration Data
- (1) Certificate of Calibration Traceable to N.I.S.T.