## Columbia Research Laboratories, Inc.

# **Triaxial Accelerometers**

### Models 610-TX & 610-TXHT

- **\*3-Axis Vibration Measurement**
- \*Small Size, Lightweight
- \*Sensitivity 3 pC/g
- \*Low Base Strain Sensitivity
- \*Electrically Isolated
- \*2-Point Mounting





#### **Accessories Supplied:**

- (3) Miniature Cable Assembly, LNHT-6"
- (2) #6-32 x 0.625"L Socket Head Cap Screws
- (1) Hardwood Storage Case
- (1) Standard Calibration Data
- (1) Certificate of Calibration Traceable to N.I.S.T.

The Model 610-TX Triaxial Piezoelectric Accelerometer performs simultaneous measurement of vibration acceleration in three, mutually perpendicular axes. It is an excellent choice for general-purpose shock and vibration measurement work where a three-dimensional characterization of dynamic responses of a structure is required. The relatively low mass and small size of the 610-TX recommends it for the testing of large or small specimens.

The 610-TX incorporates miniature shear type accelerometer inserts bonded into a machined aluminum block. The electrical isolation provided by the epoxy bonding permits accurate, repeatable measurements even in noisy industrial environments. Two mounting holes allow the unit to be bolted or bonded to the test specimen. The Model 610-TXHT is a high temperature version that will operate in environments up to +500 Deg. F. *Consult the factory for customized versions of these sensors.* 

#### **Specifications**

	610-TX & 610-TXHT
Transfer / Electrical	
Charge Sensitivity <sup>1</sup>	3 +/-0.5 pC/g
Capacitance	220 +/-40 pF
Frequency Linearity <sup>2</sup>	+/-5% Max
	2 Hz To 5,000 Hz
Mounted Resonant Frequency	25 KHz, Nom.
Transverse Sensitivity	5% Max
Amplitude Linearity	+/-1.0% (BFSL)
Insulation Resistance	20,000 M Ohm Min, 50 VDC Test
Isolation Resistance	100M Ohm, Min.
Fusing a montal	
Environmental	
Vibration Limit	1,000 g Max (Sine)
Shock Limit	2,000 g Max
Temperature Range	
Model 610-TX	-100 To +350 Deg F (-73 To +175 Deg C)
Model 610-TXHT	-100 To +500 Deg F (-73 To +260 Deg C)
Humidity <sup>3</sup>	0 To 98% R.H. (Non-Condensing)
Base Strain Sensitivity	0.002 g/uE Equiv, Typical
Electromagnetic Sensitivity	0.01 g (Equiv / 100 Gauss)
Acoustic Sensitivity	0.01 g RMS (Equiv @ 150 dB SPL)
Dhysical	
Physical	
Configuration	Inverted Ring Shear
Size	0.739 In. Sq. x 0.462 In. H (18.8 mm Sq x 11.7 mm H)
Weight	0.53 Oz (15 Gm)
Case Material	Stainless Steel / Aluminum Alloy
Electrical Interface	Coaxial 10-32 Thread
Mounting	(2) #6-32 Mounting Holes

#### NOTES:

1 At +75 Deg F, 10g Peak, 100Hz; Lower Frequency Limit is Determined by Associated Electronics

<sup>2</sup> Referenced to Sensitivity @ 100 Hz.

<sup>3</sup> With Connector Protected or Sealed, Unit is Epoxy Sealed

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