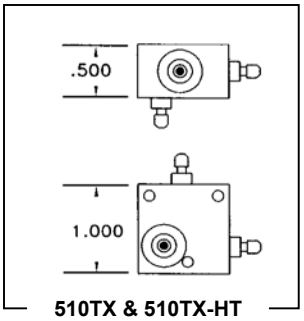
Columbia Research Laboratories, Inc.

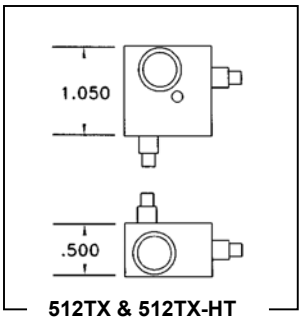
Triaxial Accelerometers

Models 510TX & 510TX-HT
512TX & 512TX-HT

- *3-Axis Vibration & Shock
- *Sensitivity 17 pC/g
- *Electrically Isolated
- *Lightweight (36 & 41 Gm)
- *3-Point or 1-Point Mounting



510TX & 510TX-HT



512TX & 512TX-HT

The Models 510-TX and 512-TX Triaxial Piezoelectric Accelerometers perform simultaneous measurement of vibration acceleration in three, mutually perpendicular axes. They are designed for low to medium level shock and vibration measurement work where a three-dimensional characterization of dynamic responses of a structure is required. The high sensitivity and broad frequency range makes them a good choice for the general testing requirements of most specimens.

These units incorporate small 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. These two sensors differ only in mounting configuration. The Model 510-TX employs three-point mounting whereas the Model 512-TX utilizes single-point mounting. High temperature units will operate in environments up to +500 Deg. F. ***Consult the factory for customized versions of these sensors.***

Specifications

Transfer / Electrical	510TX & 510TX-HT	512TX & 512TX-HT
Charge Sensitivity[1]	17 +/-3 pC/g	
Capacitance	600 +/-60 pF	
Frequency Linearity[2]	+/-5% Max 2 Hz To 5,000 Hz	
Mounted Resonant Frequency	25 KHz, Nom.	
Transverse Sensitivity	5% Max	
Amplitude Linearity	+/-1.0% (BFSL) / 300g	
Insulation Resistance	20,000 M Ohm Min, 50 VDC Test	
Isolation Resistance	100M Ohm, Min.	
Environmental		
Vibration Limit	500 g Max (Sine)	
Shock Limit	2,000 g Max	
Temperature Range Models 510TX & 512TX Models 510TX-HT & 512TX-HT	 -100 To +350 Deg F (-73 To +175 Deg C) -100 To +500 Deg F (-73 To +260 Deg C)	
Humidity[3]	0 To 98% R.H. (Non-Condensing)	
Base Strain Sensitivity	0.002 g/uE Equiv, Typical	
Acoustic Sensitivity	0.01 g RMS (Equiv @ 150 dB SPL)	
Electromagnetic Sensitivity	0.01 g (Equiv / 100 Gauss)	
Physical		
Configuration	Single Ended Compression	
Size	1.000 In. Sq x 0.500 In. H 25.4 mm Sq x 12.7 mm H	1.050 In. Sq x 0.500 In. H 26.7 mm Sq x 12.7 mm H
Weight	1.27 Oz (36 Gm)	1.45 Oz (41 Gm)
Case Material	Stainless Steel / Aluminum Alloy	
Electrical Interface	Coaxial 10-32 Thread	
Mounting	(3) 0.12 Dia. Mounting Holes	(1) #6-32 Mounting Hole

NOTES:
[1] At +75 Deg F, 10g Peak, 100Hz; Lower Frequency Limit is Determined by Associated Electronics
[2] Referenced to Sensitivity @ 100 Hz.
[3] With Connector Protected or Sealed, Unit is Epoxy Sealed

Accessories Supplied:
(3) Miniature Cable Assy, LNHT-10'
(3) #4-40 x 0.75"L Socket Hd Cap Screw
(Models 510-TX & 510-TX-HT)
(1) #6-32 x 0.75"L Socket Head Cap Screw
(Models 512-TX & 512-TX-HT)
(1) Hardwood Storage Case
(1) Standard Calibration Data
(1) Certificate of Calibration Traceable to N I S T

R82005

Columbia Research Laboratories, Inc. 1925 Mac Dade Blvd. Woodlyn, PA 19094
Phone: 1.800.813.8471 / Fax: 610.872.3882 / email: sales@columbiaresearchlab.com