

# MODEL 7131AT ACCELEROMETER



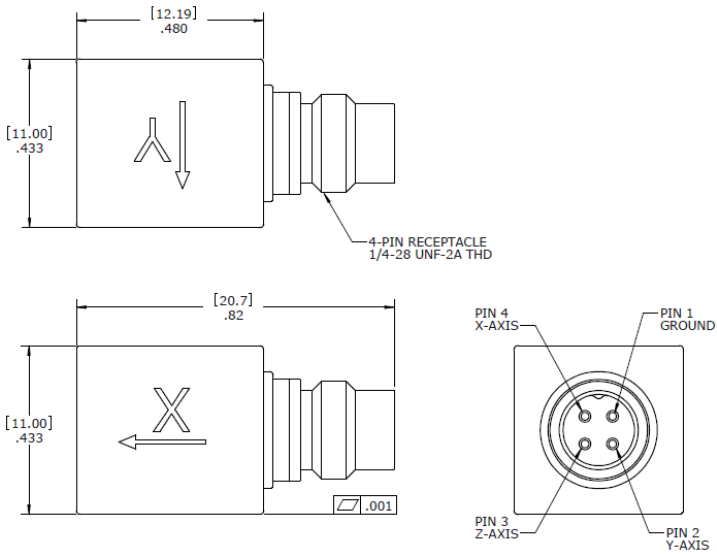
Isolated Case Option

7131AT

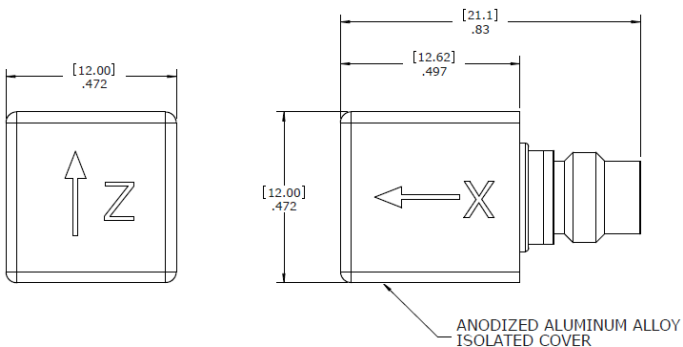


## DIMENSIONS

7131AT Dimensions



Isolated Case Dimensions



## SPECIFICATIONS

- ◆ Triaxial IEPE Accelerometer
- ◆ Miniature Cube with TEDS
- ◆ Hermetically Sealed, Titanium
- ◆  $\pm 50g$  to  $\pm 2000g$  Dynamic Ranges

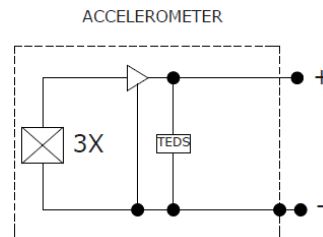
The Model 7131AT is a miniature triaxial IEPE accelerometer available in  $\pm 50g$  to  $\pm 2000g$  dynamic ranges. The accelerometer features a hermetically sealed Titanium construction with a 4-pin Microtech connector interface and is TEDS 1451.4 compliant. The model 7131A incorporates stable piezo-ceramic crystals in annular shear mode which provide a flat frequency response up to  $>10kHz$ .

## FEATURES

- ◆ 4-pin Connector Interface
- ◆ Wide bandwidth up to 10kHz
- ◆ TEDS 1451.4
- ◆ Miniature Triaxial
- ◆ Annular Shear Mode Crystals
- ◆ Stable Temperature Response
- ◆ Isolated Case Option

## APPLICATIONS

- ◆ Vibration & Shock Monitoring
- ◆ Laboratory Testing
- ◆ Modal Applications
- ◆ High Frequency Applications
- ◆ General Purpose Usage
- ◆ Stress Screening



**PERFORMANCE SPECIFICATIONS**

All values are typical at +24°C, 80Hz and 4mA excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

**Parameters**

**DYNAMIC**

	-51	-12	-22	-52	-23	<b>Notes</b>
Dash Number (GG)						See Ordering Information
Range (g)	±50	±100	±200	±500	±2000	
Sensitivity (mV/g)	100	50	25	10	2.5	±15%
Frequency Response (Hz)	2.5-8000	1.5-8000	1.5-8000	1-8000	1-9000	±10%
Frequency Response (Hz)	1-10000	0.8-10000	0.8-10000	0.5-10000	0.5-11000	±2dB
Natural Frequency (Hz)	43000	43000	43000	43000	43000	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	<5	<5	
Shock Limit (g)	5000	5000	5000	5000	5000	
Residual Noise (g RMS)	0.0004	0.0005	0.0008	0.0012	0.0032	Broadband 1Hz to 10kHz

**ELECTRICAL**

Compliance Voltage (Vdc)	18 to 30	
Excitation Current (mA)	2 to 10	
Bias Voltage (Vdc)	8 to 12	Room Temperature
Bias Voltage (Vdc)	6 to 13	-55 to +125°C
Output Impedance (Ω)	<100	
Full Scale Output Voltage (V)	±5	
Discharge Time Constant (sec)	0.8 to 1.2	
Ground Isolation	Case Grounded (Case Isolation option; see ordering info on page 3)	

**ENVIRONMENTAL**

Temperature Response (%)	See Typical Temperature Response Curve
Operating Temperature (°C)	-55 to +125
Storage Temperature (°C)	-55 to +125
Humidity	Hermetically Sealed

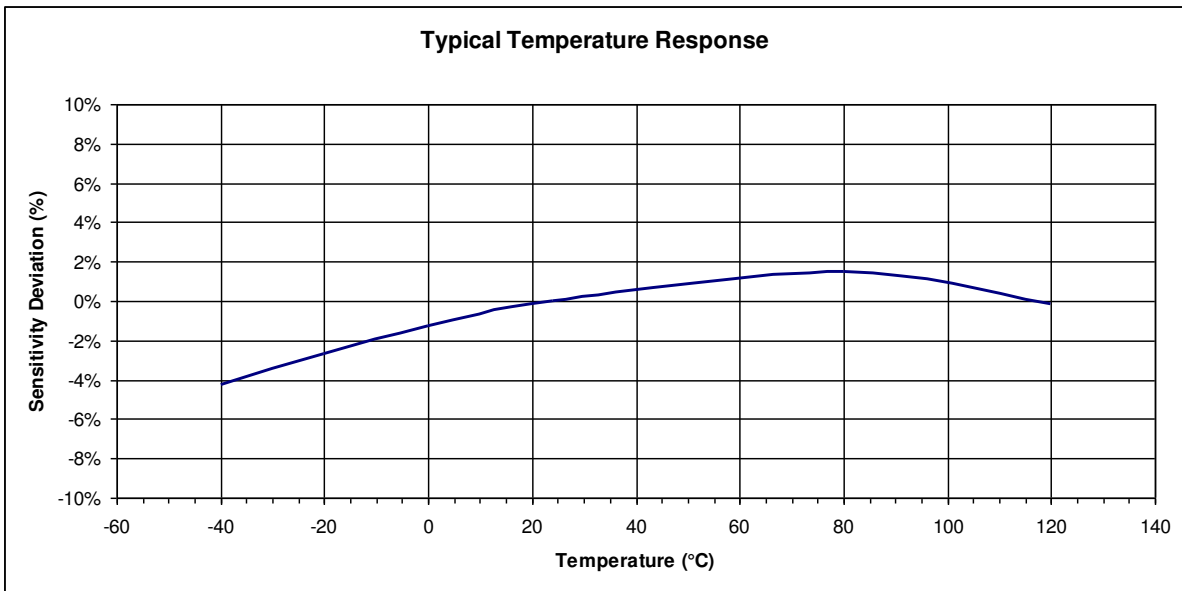
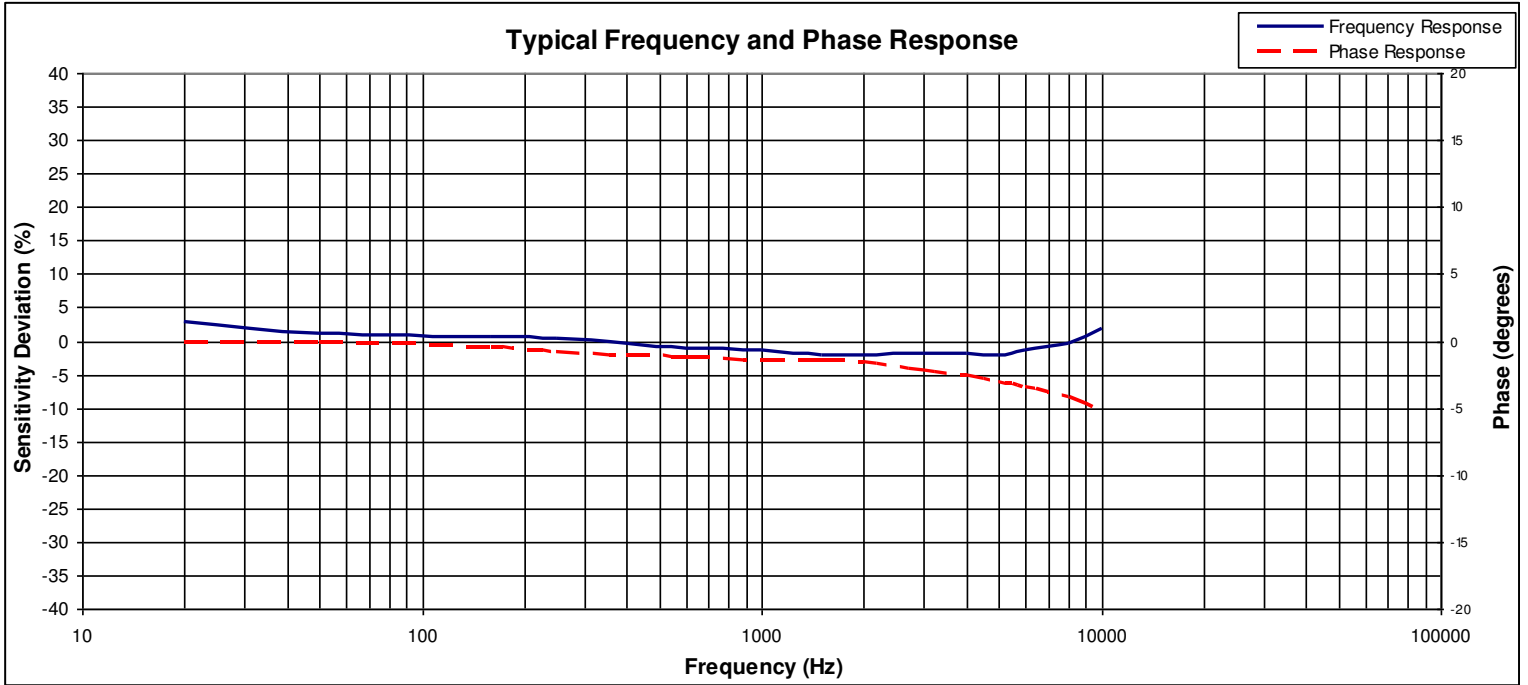
**PHYSICAL**

Sensing Element	Ceramic (shear mode)
Case Material	Titanium
Electrical Connector	4-Pin Receptacle
Weight (grams)	5.8 (6.6 for Isolated Case Option)
Mounting	Adhesive (stud mount option)

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±2dB Frequency Response Limit

**Optional accessories:** 315-XXX Cable Assembly, 4-pin 1/4-28 to 3x BNC (XXX designates length in inches, 10ft standard)  
 161A 4-Channel PE & IEPE Signal Conditioner  
 AC-A04025 Adhesive Mounting Adaptor (for -02 thread option)

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**ORDERING INFORMATION**

PART NUMBERING Model Number+Range

7131AGG -XX  
| | Optional Dash Number  
| Range (51 is  $5 \times 10^1 = 50g$ , 12 is  $1 \times 10^2 = 100g$ )

Dash Number	Thread Options
-01	M2.5 x 0.45 6g
-02	#5-40 UNF-2B
-03	Case Isolated

Example: 7131A51  
Model 7131AT, 50g, No Option

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