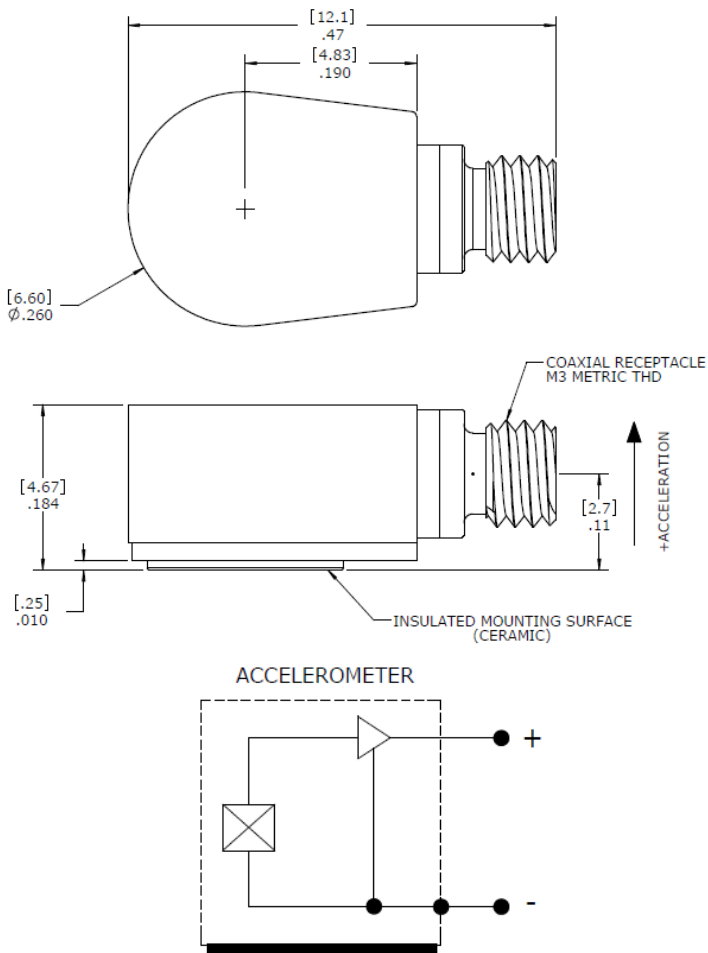


# MODEL 7102A ACCELEROMETER



## DIMENSIONS



## SPECIFICATIONS

- ◆ **IEPE Accelerometer**
- ◆ **Wide Bandwidth to >11kHz**
- ◆ **M3 Side Connector**
- ◆ **Miniature, Lightweight (<1gm)**

The **Model 7102A** is a miniature adhesive mount IEPE accelerometer available in  $\pm 50g$  to  $\pm 2000g$  dynamic ranges. The accelerometer features a welded hermetic Titanium construction with an M3 connector. The model 7102A accelerometer has an operating range of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  and a flat frequency response to greater than 11kHz. The miniature and light weight Titanium package renders the accelerometer ideal for applications requiring minimal mass loading.

## FEATURES

- ◆  $\pm 50g$  to  $\pm 2000g$  Dynamic Range
- ◆ Wide bandwidth up to 11kHz
- ◆ Welded Titanium
- ◆ Hermetically Sealed
- ◆  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  Operating Range
- ◆ Annular Shear Mode
- ◆ Isolated from Mounting Surface

## APPLICATIONS

- ◆ Vibration & Shock Monitoring
- ◆ Laboratory Testing
- ◆ Modal Applications
- ◆ High Frequency Applications
- ◆ Small Structures Monitoring

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**

	±50	±100	±500	±2000	Notes
Range (g)	±50	±100	±500	±2000	
Sensitivity (mV/g)	100	50	10	2.5	±15%
Frequency Response (Hz)	2.5-8000	1.5-8000	1-8000	1-9000	±10%
Frequency Response (Hz)	1-10000	0.8-10000	0.5-10000	0.5-11000	±2dB
Natural Frequency (Hz)	48000	48000	48000	48000	
Non-Linearity (%FSO)	±1	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	<5	
Shock Limit (g)	5000	5000	5000	5000	
Residual Noise (g RMS)	0.0004	0.0005	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	Isolated from Mounting Surface				

**ENVIRONMENTAL**

Temperature Response (%)	See Typical Temperature Response Curve
Operating Temperature (°C)	-55 to +125
Storage Temperature (°C)	-55 to +125
Humidity	Hermetically Sealed, IP67

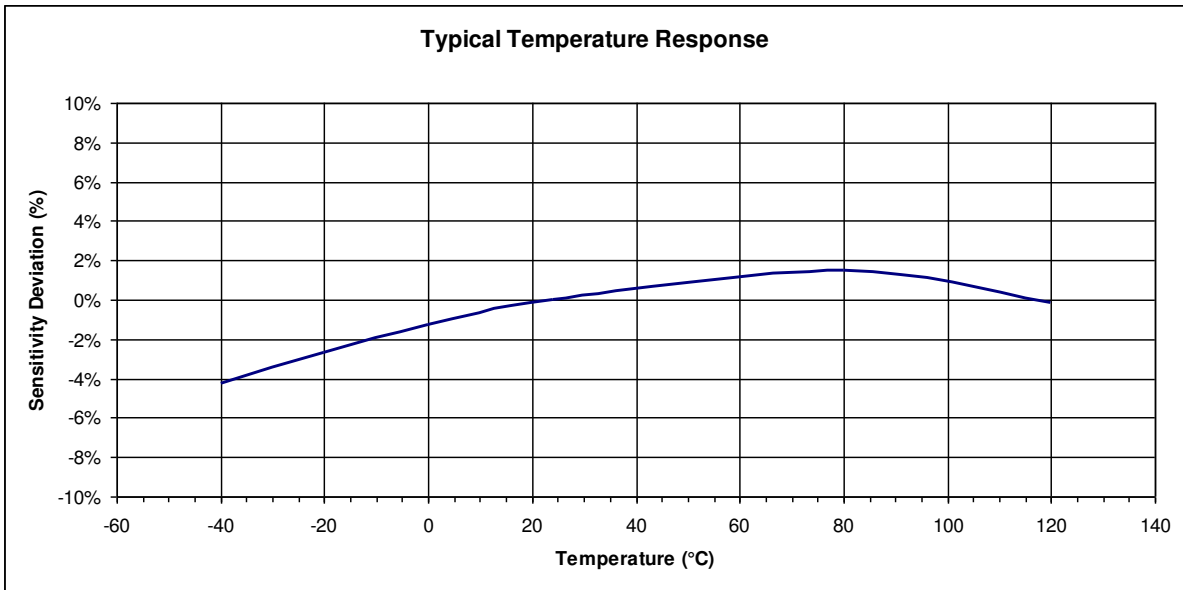
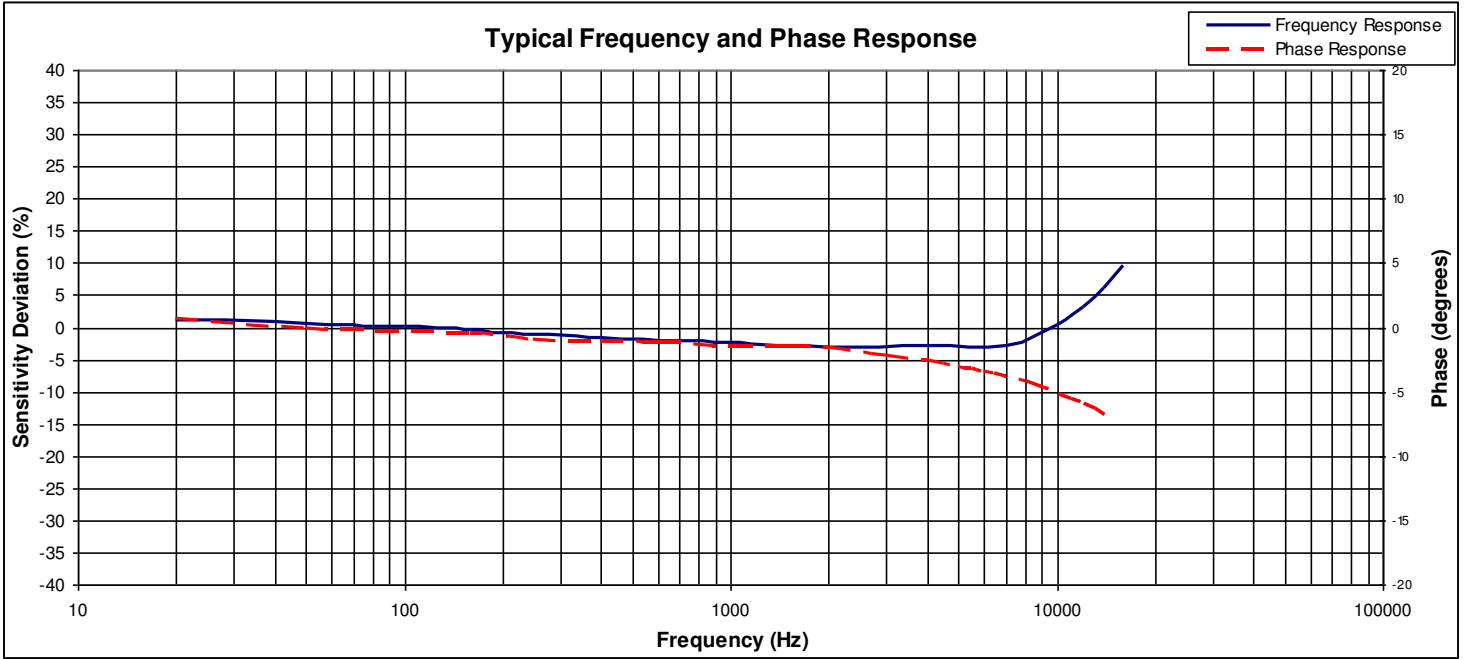
**PHYSICAL**

Sensing Element	Ceramic (shear mode)
Case Material	Titanium
Electrical Connector	M3 Coaxial Receptacle
Weight (grams)	0.9
Mounting	Adhesive

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

**Optional accessories:** 311-XXX Cable Assembly, M3 to BNC (XXX designates length in inches, 10ft standard)  
 311M2-XXX Cable Assembly, M3 to 10-32 (XXX designates length in inches, 10ft standard)  
 161A 4-Channel PE & IEPE Signal Conditioner, Bench Top  
 AC-A04839 Triaxial Mounting Block

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## ORDERING INFORMATION

PART NUMBERING Model Number+Range

7102A-GGGG  
|  
| \_\_\_\_\_ Range (0050 is 50g)

Example: 7102A-0050  
Model 7102A, 50g

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