

# Model 7102A Accelerometer



IEPE Accelerometer  
Wide Bandwidth to >12kHz  
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 12kHz. The miniature and light weight Titanium package renders the accelerometer ideal for applications requiring minimal mass loading.

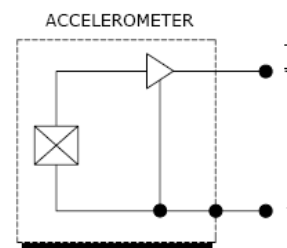
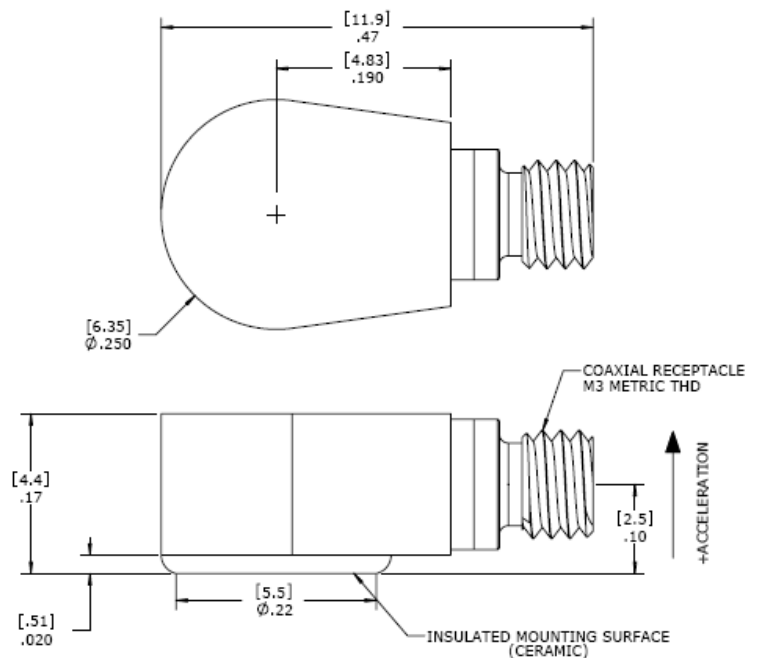
## FEATURES

- $\pm 50g$  to  $\pm 2000g$  Dynamic Range
- Wide bandwidth up to 12kHz
- 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

## dimensions



# Model 7102A Accelerometer

## performance specifications

All values are typical at +24°C, 100Hz and 4mA excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1003 for Plug & Play AC Accelerometers.

### 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	

#### ELECTRICAL

Compliance Voltage (Vdc)	18 to 30	18 to 30	18 to 30	18 to 30	
Excitation Current (mA)	2 to 10	2 to 10	2 to 10	2 to 10	
Bias Voltage (Vdc)	8 to 12	8 to 12	8 to 12	8 to 12	Room Temperature
Bias Voltage (Vdc)	6 to 13	6 to 13	6 to 13	6 to 13	-55 to +125°C
Output Impedance (Ω)	<100	<100	<100	<100	
Full Scale Output Voltage (V)	±5	±5	±5	±5	
Residual Noise (g RMS)	0.0004	0.0005	0.0012	0.0032	Broadband 1Hz to 10kHz
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

#### PHYSICAL

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

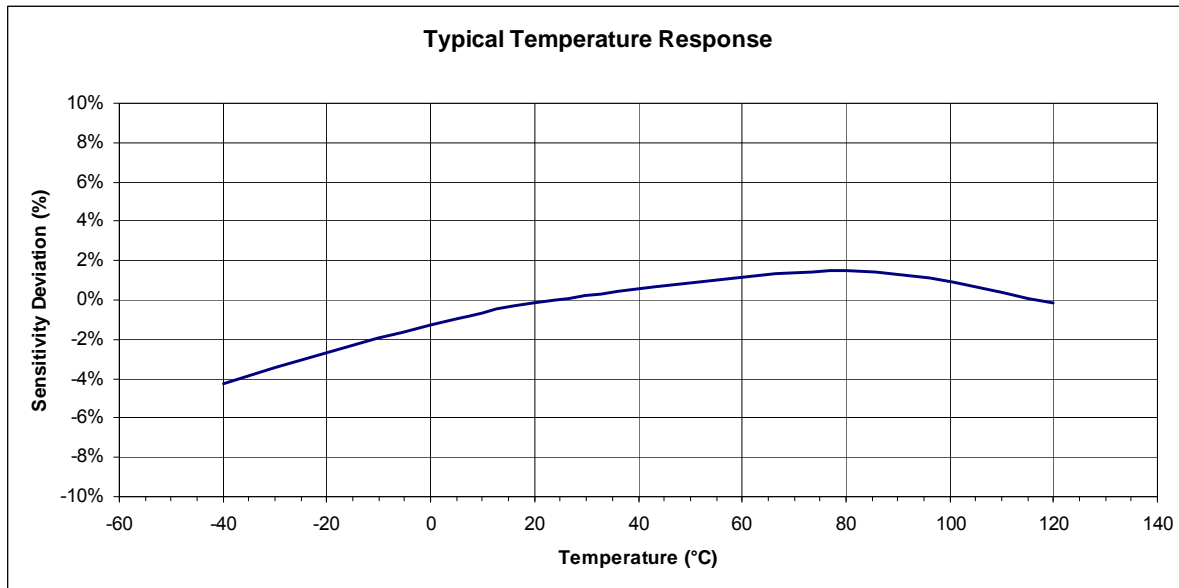
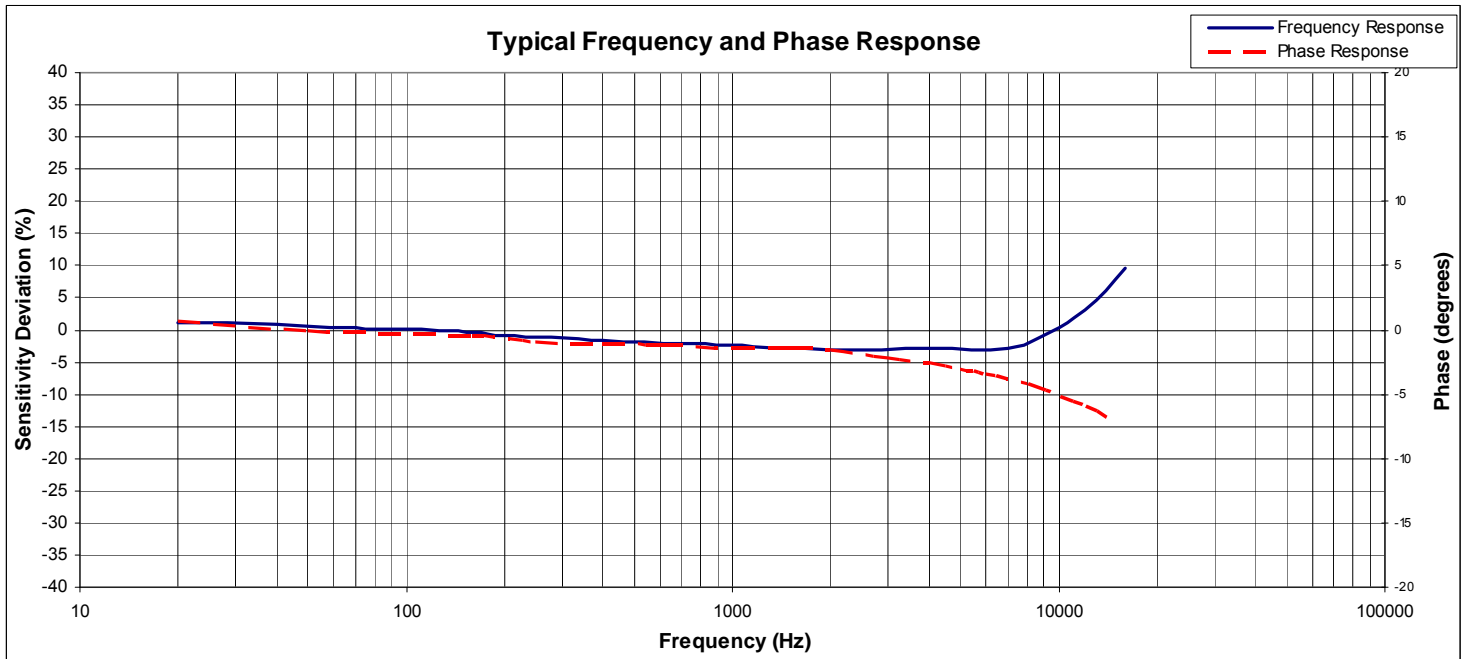
**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±2dB Frequency Response Limit

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

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# Model 7102A Accelerometer

## performance specifications



## ordering info

PART NUMBERING Model Number+Range

7102A-GGGG

|  
| \_\_\_\_\_ Range (0050 is 50g)

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

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