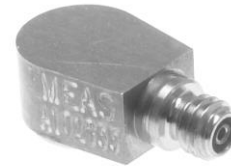


Model 7102A Accelerometer



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°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.

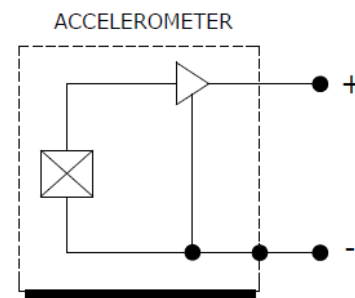
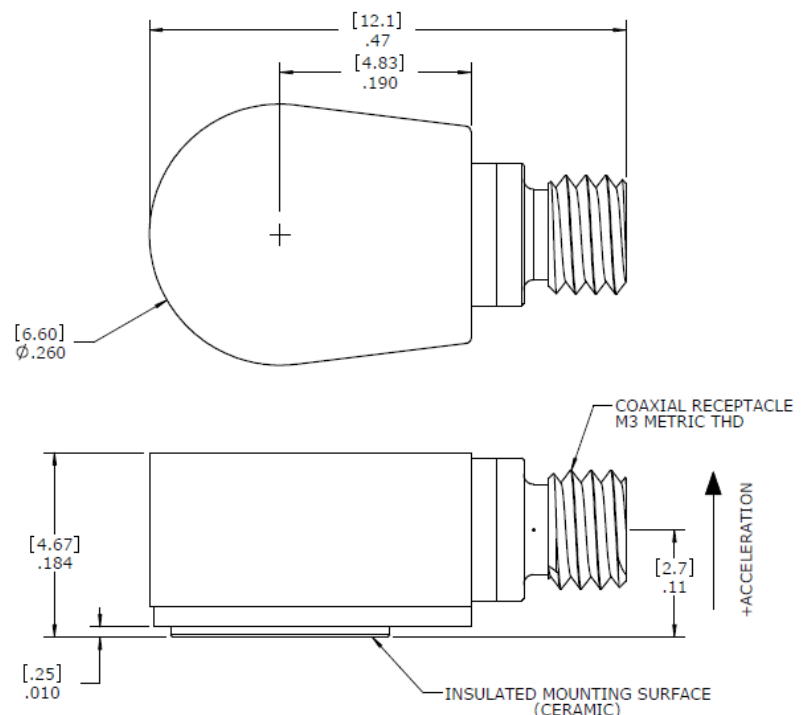
FEATURES

- $\pm 50g$ to $\pm 2000g$ Dynamic Range
- Wide bandwidth up to 11kHz
- Welded Titanium
- Hermetically Sealed
- -55°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, 80Hz 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 | |
| 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

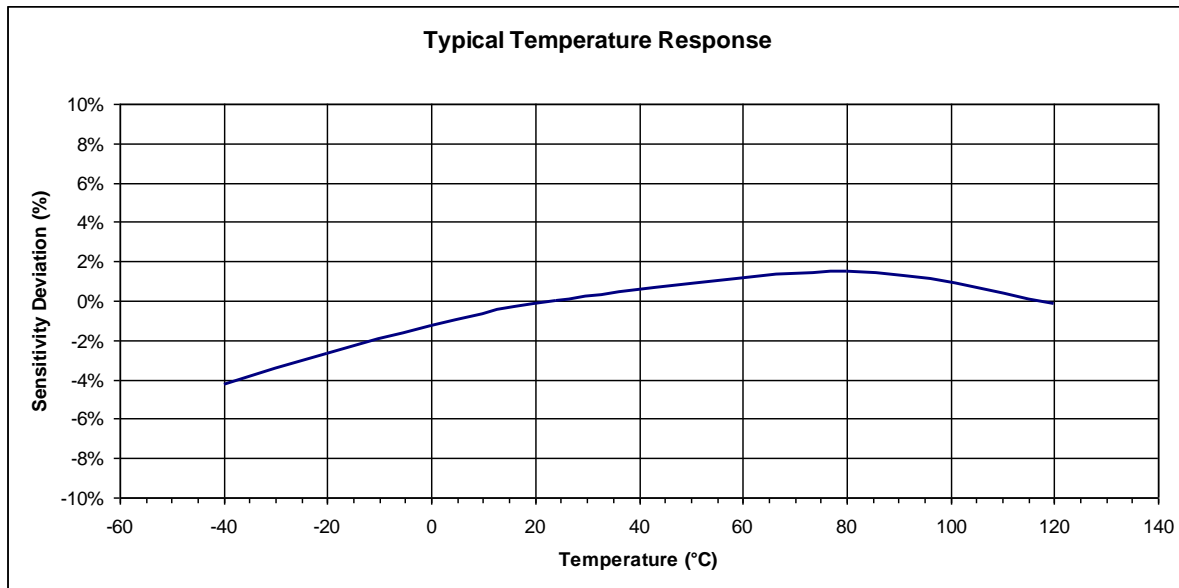
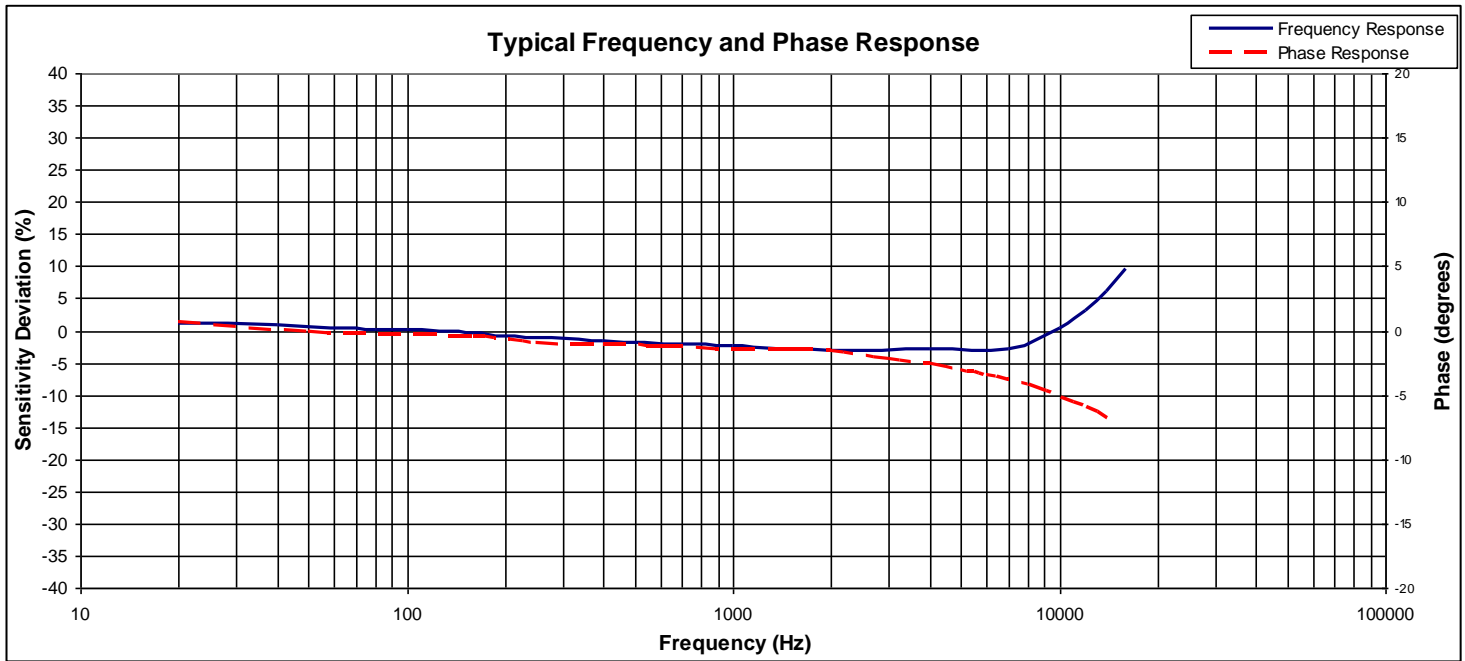
Optional accessories:

| | |
|-----------|--|
| 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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Model 7102A Accelerometer

performance specifications



ordering info

PART NUMBERING Model Number+Range

7102A-GGGG

|
| ____ Range (0050 is 50g)

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