

Model 7101A Accelerometer



IEPE Accelerometer
Wide Bandwidth to 10kHz
M3 Side Connector
Miniature, Lightweight (2.4gm)



The Model 7101A is a miniature, high performance IEPE accelerometer available in $\pm 50g$ to $\pm 1000g$ dynamic ranges. The accelerometer is designed for high frequency vibration and shock measurements and offers a wide bandwidth to $>10kHz$ utilizing stable piezo-ceramic crystals in annular shear mode. The model 7101A features a hermetically sealed titanium housing and the popular through hole mount configuration. The standard operating temperature range extends from $-55^{\circ}C$ to $+125^{\circ}C$.

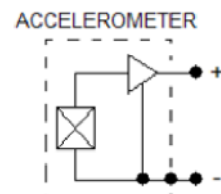
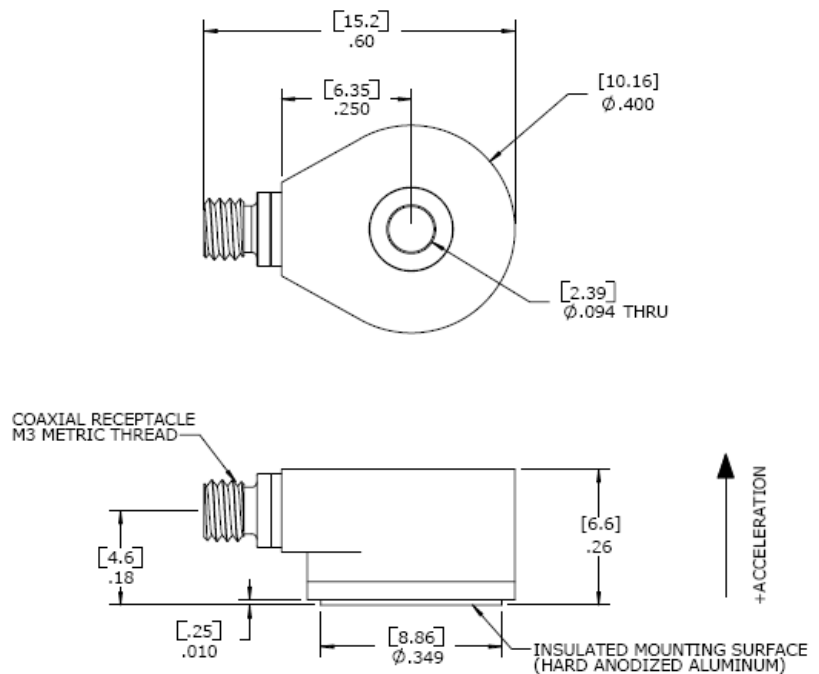
FEATURES

- $\pm 50g$ to $\pm 1000g$ Dynamic Range
- Wide bandwidth up to 10kHz
- Welded Construction, Titanium
- Hermetically Sealed
- Annular Shear Mode
- Stable Temperature Response
- Miniature, Through-Hole Mount

APPLICATIONS

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

dimensions



Model 7101A 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.

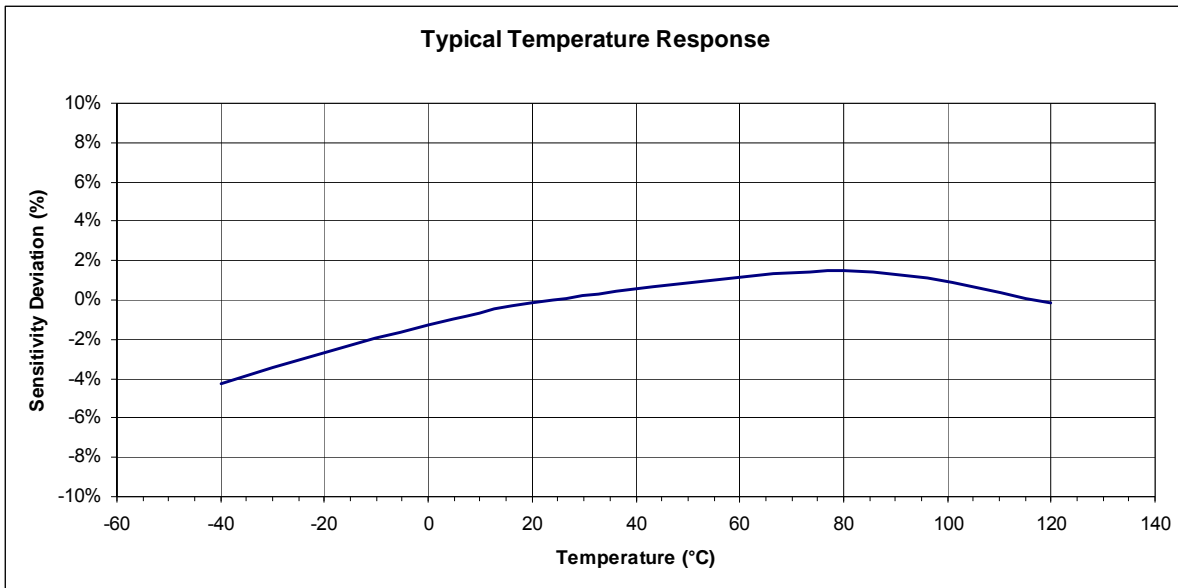
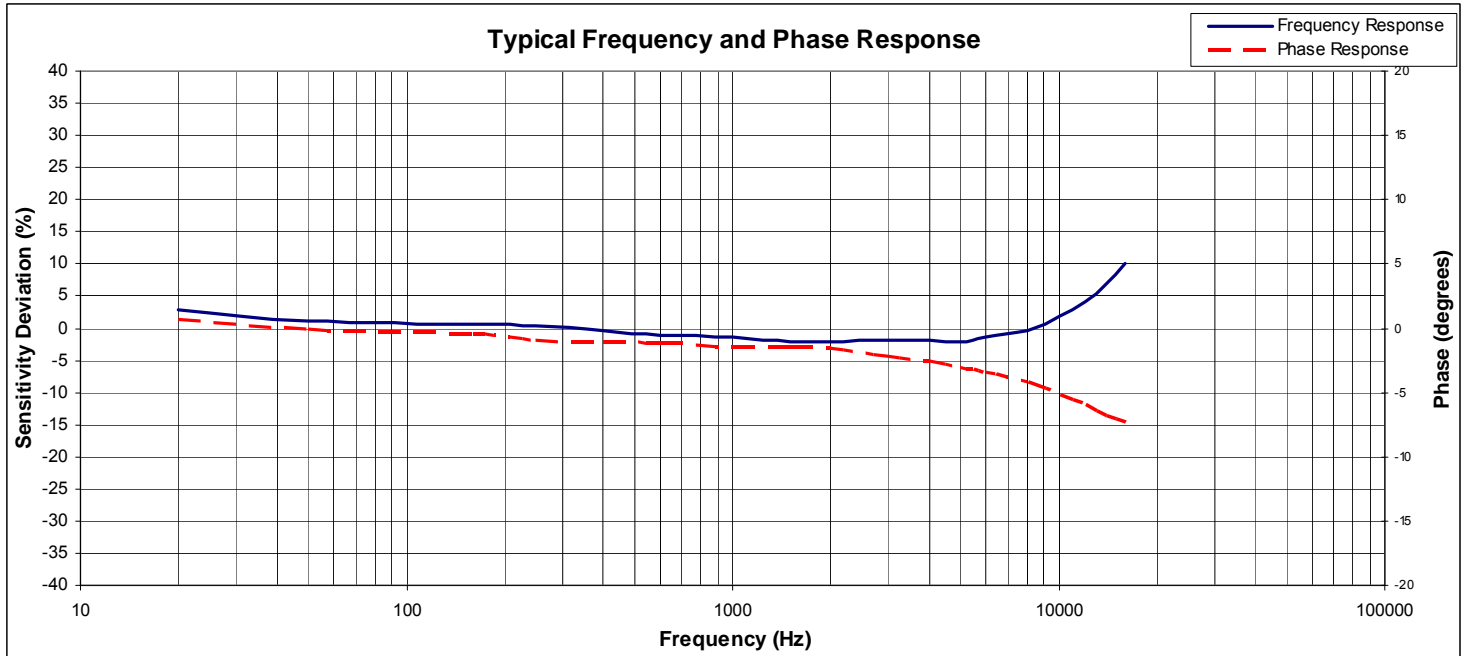
Parameters

| | | | | Notes |
|-------------------------------|-------------------------------------------|---------------------------------------------------------------------------------|-----------|------------------------|
| DYNAMIC | | | | |
| Range (g) | ±50 | ±500 | ±1000 | |
| Sensitivity (mV/g) | 100 | 10 | 5 | ±10% |
| Frequency Response (Hz) | 1-8000 | 1-8000 | 1-8000 | ±5% |
| Frequency Response (Hz) | 0.5-10000 | 0.5-10000 | 0.5-10000 | ±1dB |
| Natural Frequency (Hz) | >50000 | >50000 | >50000 | |
| Non-Linearity (%FSO) | ±1 | ±1 | ±1 | |
| Transverse Sensitivity (%) | <5 | <5 | <5 | |
| Shock Limit (g) | 5000 | 5000 | 5000 | |
| ELECTRICAL | | | | |
| Compliance Voltage (Vdc) | 18 to 30 | 18 to 30 | 18 to 30 | |
| Excitation Current (mA) | 2 to 10 | 2 to 10 | 2 to 10 | |
| Bias Voltage (Vdc) | 8 to 12 | 8 to 12 | 8 to 12 | Room Temperature |
| Bias Voltage (Vdc) | 6 to 14 | 6 to 14 | 6 to 14 | -55 to +125°C |
| Output Impedance (Ω) | <100 | <100 | <100 | |
| Full Scale Output Voltage (V) | ±5 | ±5 | ±5 | |
| Residual Noise (g RMS) | 0.0004 | 0.0008 | 0.001 | 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) | 2.4 | | | |
| Mounting | #2-56 Insulated Mounting Screw (included) | | | |
| Mounting Torque | 5 lb-in (0.6 N-m) | | | |
| Calibration supplied: | CS-FREQ-0100 | NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit | | |
| Supplied accessories: | AC-A03230 | 1x #2-56 Insulated Mounting Screw Assembly (7/16 inch length) | | |
| Optional accessories: | 311-XXX | Cable Assembly, M3 to BNC (XXX designates length in inches, 10ft standard) | | |

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performance specifications



ordering info

PART NUMBERING Model Number+Range

7101A-GGGG

I _____ Range (0050 is 50g)

Example: 7101A-0050

Model 7101A, 50g