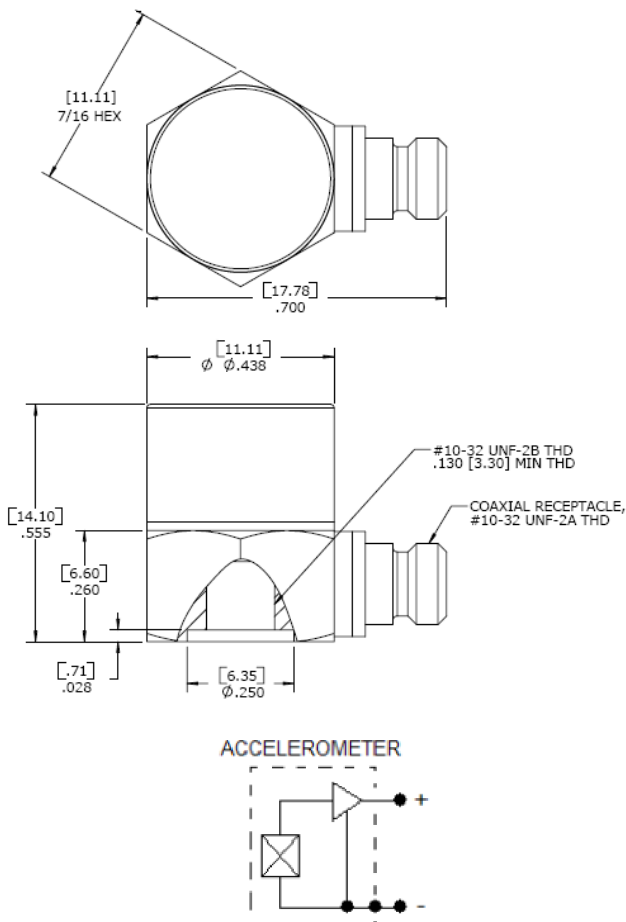


MODEL 7104A ACCELEROMETER



DIMENSIONS



SPECIFICATIONS

- ◆ IEPE Accelerometer
- ◆ Wide Bandwidth to >10kHz
- ◆ 10-32 Side Connector
- ◆ Stud Mount, Hermetic

The Model 7104A is a high performance IEPE accelerometer available in $\pm 50g$ to $\pm 1000g$ dynamic ranges. The stud mounted accelerometer features a welded hermetic construction with a side mount connector. The model 7104A incorporates stable piezo-ceramic crystals in annular shear mode which provide a flat frequency response up to >10kHz. The standard operating temperature range extends from -55°C to $+125^{\circ}\text{C}$.

FEATURES

- ◆ $\pm 50g$ to $\pm 1000g$ Dynamic Range
- ◆ Wide bandwidth up to >10kHz
- ◆ Welded Construction
- ◆ Hermetically Sealed
- ◆ Annular Shear Mode
- ◆ Stable Temperature Response
- ◆ TEDS Option

APPLICATIONS

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

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 | ±1000 | Notes |
|----------------------------|-----------|-----------|-----------|-----------|--------------|
| Range (g) | ±50 | ±100 | ±500 | ±1000 | |
| Sensitivity (mV/g) | 100 | 50 | 10 | 5 | ±10% |
| Frequency Response (Hz) | 0.5-6000 | 0.5-6000 | 0.5-8000 | 0.5-8000 | ±5% |
| Frequency Response (Hz) | 0.3-10000 | 0.3-10000 | 0.3-10000 | 0.3-10000 | ±1dB |
| Natural Frequency (Hz) | >50000 | >50000 | >50000 | >50000 | |
| 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) ¹ | 2 to 10 | 2 to 10 | 2 to 10 | 2 to 10 | See Note 1 |
| 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 | 0.0008 | 0.0014 | Broadband 1Hz to 10kHz |
| Discharge Time Constant (sec) | 0.8 to 1.2 | | | | |
| Grounding | Case Grounded | | | | |

ENVIRONMENTAL

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

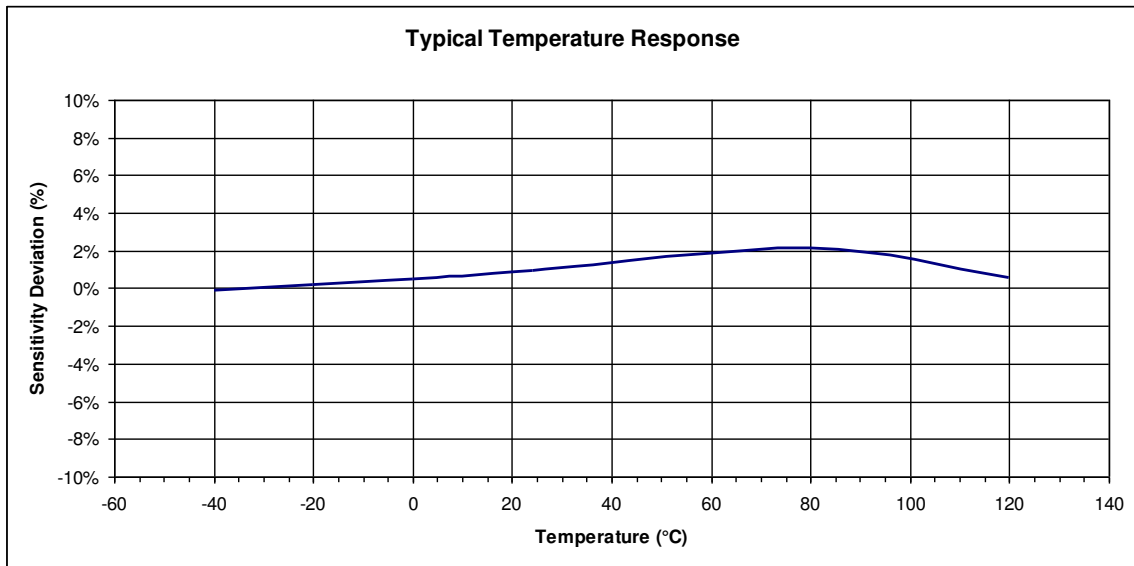
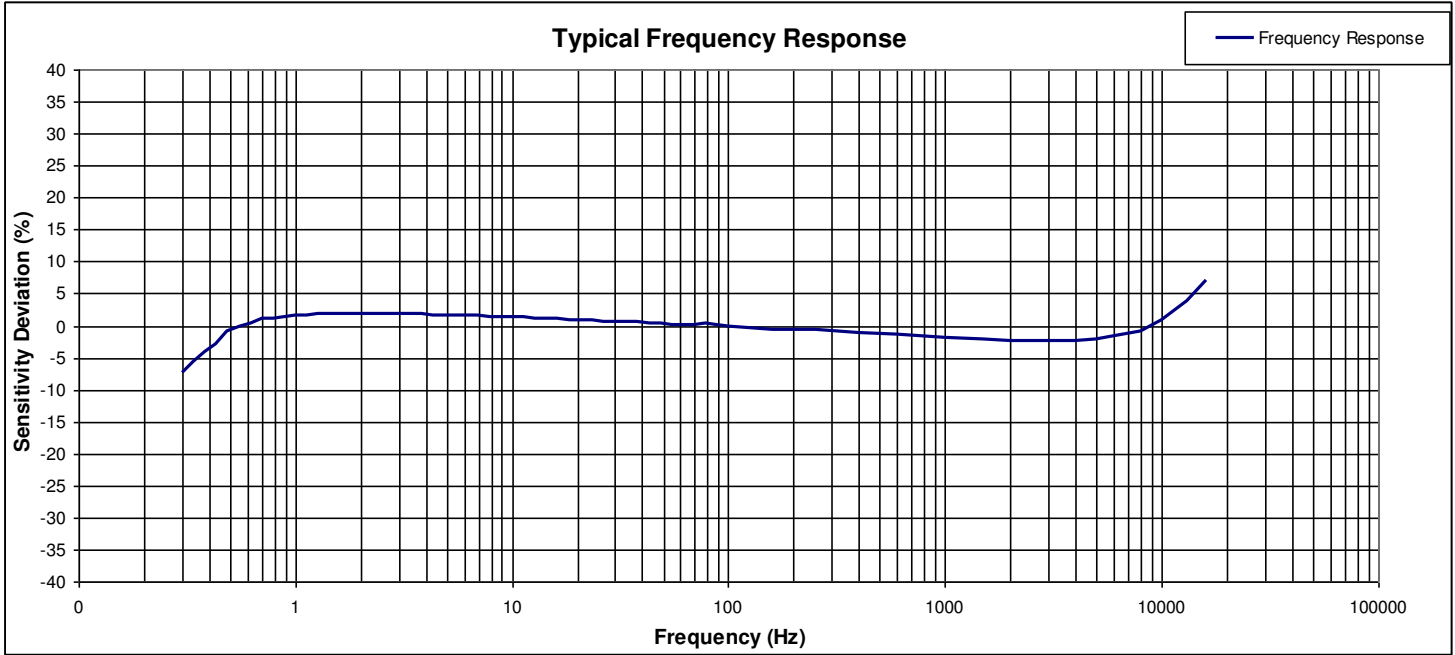
PHYSICAL

| | |
|----------------------|---|
| Sensing Element | Ceramic (shear mode) |
| Case Material | Stainless Steel |
| Electrical Connector | 10-32 Coaxial Receptacle |
| Weight (grams) | 8.6 |
| Mounting | #10-32 to #10-32 Mounting Stud (included) |
| Mounting Torque | 18 lb-in (2.0 N-m) |

¹ Maximum 4mA at +125°C

| | | |
|------------------------------|--------------|---|
| Calibration supplied: | CS-FREQ-0100 | NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit |
| Supplied accessories: | AC-D02298 | 10-32 to 10-32 mounting stud |
| Optional accessories: | 310-XXX | Cable Assembly, 10-32 to 10-32 (XXX designates length in inches, 10ft standard) |
| | 314-XXX | Cable Assembly, 10-32 to BNC (XXX designates length in inches, 10ft standard) |
| | AC-A03470 | Adhesive Mounting Adaptor |
| | AC-A03471 | Magnetic Mounting Adaptor |
| | AC-A03500 | Isolated Mounting Adaptor (#10-32 to M5x0.8 thread) |
| | 161A | 4-Channel PE & IEPE Signal Conditioner, Bench Top |

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ORDERING INFORMATION

PART NUMBERING Model Number+Range

7104AT-GGGG

 | | Range (0050 is 50g)

 | TEDS compliant to IEEE 1451.4 when 'T' option is included

Example: 7104A-0050
 Model 7104A, 50g

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