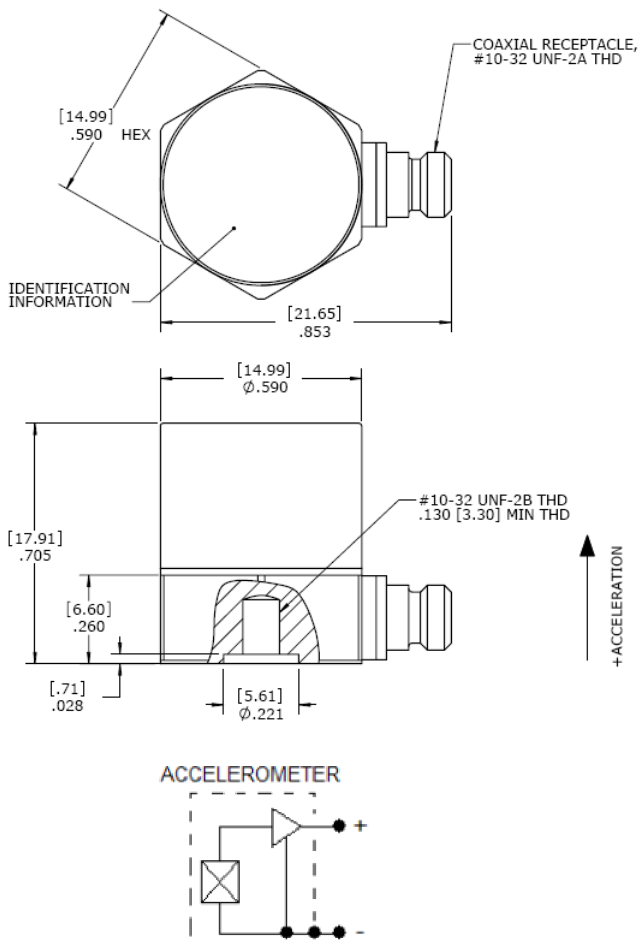


DIMENSIONS



MODEL 7114A ACCELEROMETER

SPECIFICATIONS

- IEPE Accelerometer
- High Sensitivity, 1000mV/g
- 10-32 Side Connector
- Stud Mount, Hermetic

The Model 7114A is a high performance IEPE accelerometer available in $\pm 5g$ to $\pm 50g$ dynamic ranges. The stud mounted accelerometer features a welded hermetic construction with a side mount connector. The model 7114A incorporates stable piezo-ceramic crystals in annular shear mode which provide a wide bandwidth. The standard operating temperature range extends from -55°C to $+125^{\circ}\text{C}$. For a miniature stud mount version please review model 7104A, available in $\pm 50g$ to $\pm 500g$ dynamic ranges.

FEATURES

- $\pm 5g$ to $\pm 50g$ Dynamic Range
- High Sensitivity, 1000mV/g
- Welded Construction
- Hermetically Sealed
- Annular Shear Mode
- Stable Temperature Response

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

| | ±5 | ±10 | ±50 | Notes |
|----------------------------|----------|----------|----------|------------------------|
| Range (g) | ±5 | ±10 | ±50 | |
| Sensitivity (mV/g) | 1000 | 500 | 100 | |
| Frequency Response (Hz) | 1-4000 | 1-5000 | 1-8000 | ±5% |
| Frequency Response (Hz) | 0.5-5000 | 0.5-6000 | 0.5-9000 | ±1dB |
| Natural Frequency (Hz) | 26000 | 28000 | 30000 | |
| Phase Response (Hz) | 1-2000 | 1-2000 | 1-2500 | <5° |
| Non-Linearity (%FSO) | ±1 | ±1 | ±1 | |
| Transverse Sensitivity (%) | <5 | <5 | <5 | |
| Shock Limit (g) | 5000 | 5000 | 5000 | |
| Residual Noise (g RMS) | 0.0001 | 0.0002 | 0.0004 | Broadband 1Hz to 10kHz |

ELECTRICAL

| | | | | |
|--------------------------------------|---------------|--|--|------------------|
| Compliance Voltage (Vdc) | 18 to 30 | | | |
| Excitation Current (mA) ¹ | 2 to 10 | | | See Note 1 |
| 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 | | | |
| Grounding | Case Grounded | | | |

ENVIRONMENTAL

| | |
|----------------------------|---------------------------|
| Temperature Response (%) | ±5 |
| Operating Temperature (°C) | -55 to +125 |
| Storage Temperature (°C) | -55 to +125 |
| Humidity | Hermetically Sealed, IP67 |

PHYSICAL

| | |
|-----------------|---|
| Sensing Element | Ceramic (shear mode) |
| Case Material | Stainless Steel |
| Weight (grams) | 19 |
| 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 |
| | 161A | 4-Channel PE & IEPE Signal Conditioner |

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ORDERING INFORMATION

PART NUMBERING Model Number+Range

7114A-GGGG
|_____ Range (0050 is 50g)

Example: 7114A-0050
Model 7114A, 50g

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