

# Model 7130A Accelerometer



Triaxial IEPE Accelerometer  
Wide Bandwidth to 9kHz  
Hermetically Sealed  
Annular Shear Mode



The Model 7130A is a triaxial IEPE accelerometer available in  $\pm 50g$  to  $\pm 500g$  dynamic ranges. The accelerometer features three independent welded stainless steel assemblies incorporated into a hard anodized aluminum housing. The model 7130A incorporates a stable piezo-ceramic crystal in annular shear mode, installed with a compression ring that eliminates the usage of epoxies that can affect long term stability. The accelerometer has an operating range of  $-55^{\circ}C$  to  $+125^{\circ}C$  and a flat frequency response to 9kHz.

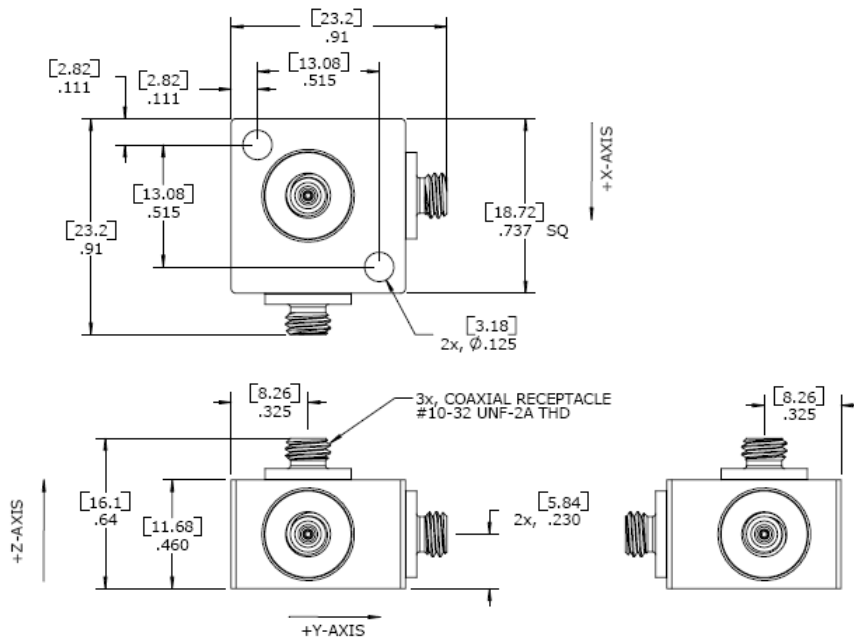
## FEATURES

- $\pm 50g$  to  $\pm 500g$  Dynamic Range
- Wide bandwidth up to 9kHz
- Isolated Aluminum Housing
- Independent Channels
- Annular Shear Mode Crystals
- Stable Temperature Response

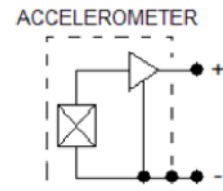
## APPLICATIONS

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

## dimensions



## SCHEMATIC (EACH CHANNEL)



# Model 7130A 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

|                            |          |          | Notes |
|----------------------------|----------|----------|-------|
| Range (g)                  | ±50      | ±500     |       |
| Sensitivity (mV/g)         | 100      | 10       | ±10%  |
| Frequency Response (Hz)    | 1-7000   | 1-7000   | ±10%  |
| Frequency Response (Hz)    | 0.5-9000 | 0.5-9000 | ±2dB  |
| Natural Frequency (Hz)     | 32000    | 32000    |       |
| Non-Linearity (%FSO)       | ±1       | ±1       |       |
| Transverse Sensitivity (%) | <5       | <5       |       |
| Shock Limit (g)            | 5000     | 5000     |       |

#### ELECTRICAL

|                               |   |          |                        |
|-------------------------------|---|----------|------------------------|
| Compliance Voltage (Vdc)      | 18 to 30  | 18 to 30 |                        |
| Excitation Current (mA)       | 2 to 10   | 2 to 10  |                        |
| Bias Voltage (Vdc)            | 8 to 12   | 8 to 12  | Room Temperature       |
| Bias Voltage (Vdc)            | 6 to 14   | 6 to 14  | -55 to +125°C          |
| Output Impedance (Ω)          | <100  | <100     |                        |
| Full Scale Output Voltage (V) | ±5  | ±5       |                        |
| Residual Noise (g RMS)        | 0.0004  | 0.0008   | Broadband 1Hz to 10kHz |
| Discharge Time Constant (sec) | 0.8 to 1.2                                      |          |                        |
| Ground Isolation              | Isolated from Mounting Surface by Aluminum Case |          |                        |

#### 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        | Hard Anodized Aluminum   |
| Electrical Connector | 10-32 Coaxial Receptacle |
| Weight (grams)       | 15                       |
| Mounting             | 2x #4 or M3 Screws       |
| Mounting Torque      | 6 lb-in (0.7 N-m)        |

**Supplied accessories:** 2x #4-40 (5/8 length) Socket Head Cap Screw and Washer

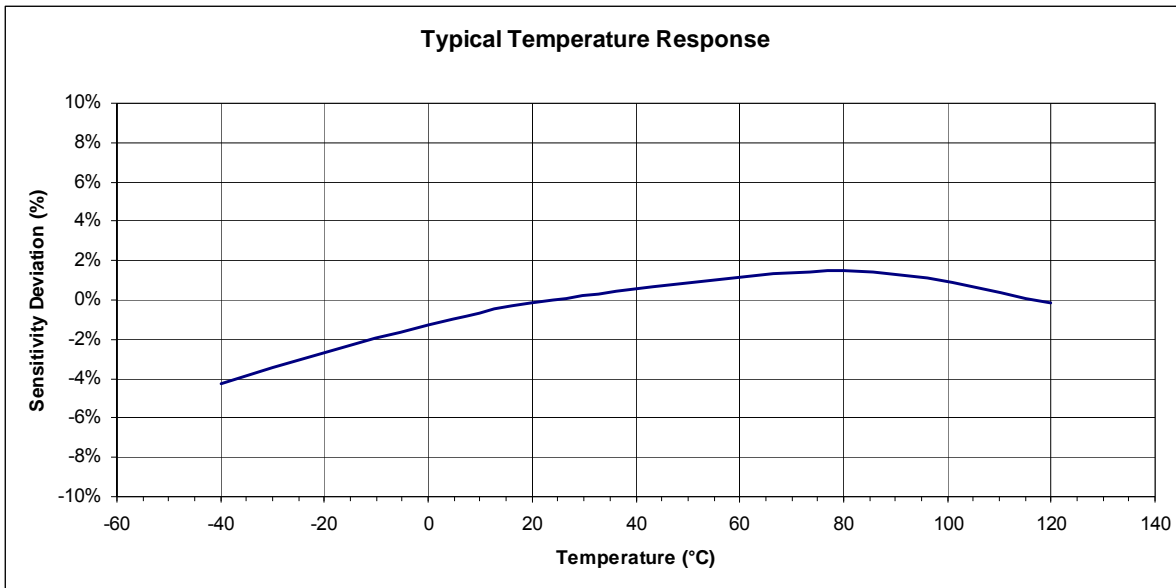
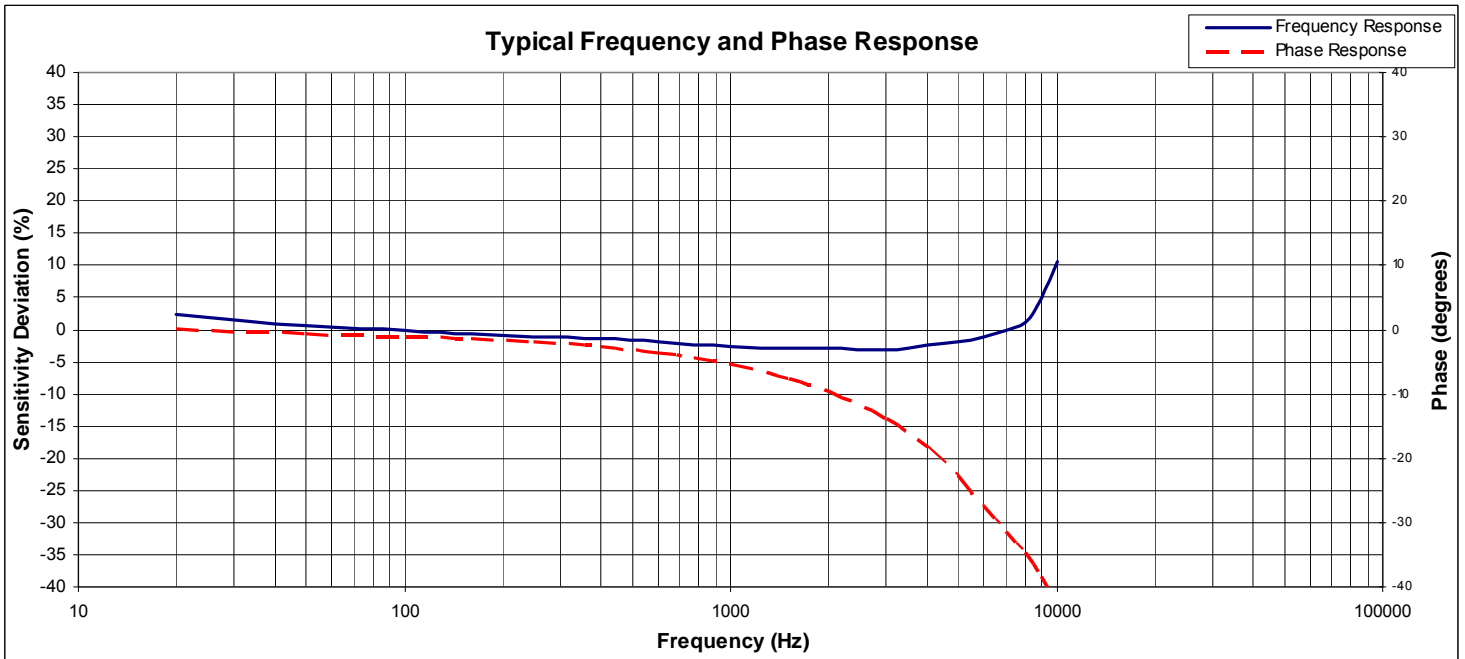
**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±2dB Frequency Response Limit

**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)  
 161 Three Channel PE & IEPE Signal Conditioner

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

# Model 7130A Accelerometer

## performance specifications



## ordering info

PART NUMBERING Model Number+Range

7130A-GGGG

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

Example: 7130A-0050  
Model 7130A, 50g