

# Model 7514A Accelerometer



+260°C Charge Output Accelerometer  
50pC/g output, 14kHz Bandwidth  
Hermetically Sealed  
Stud Mount, Side Connector



**The Model 7514A** is a stud mounted piezoelectric charge mode accelerometer with an operating temperature range to +260°C. The accelerometer is designed for high frequency vibration and shock measurements and offers a wide bandwidth to >14kHz with a nominal charge output of 50pC/g. The model 7514A features a hermetically sealed stainless steel housing and a #10-32 stud mount configuration.

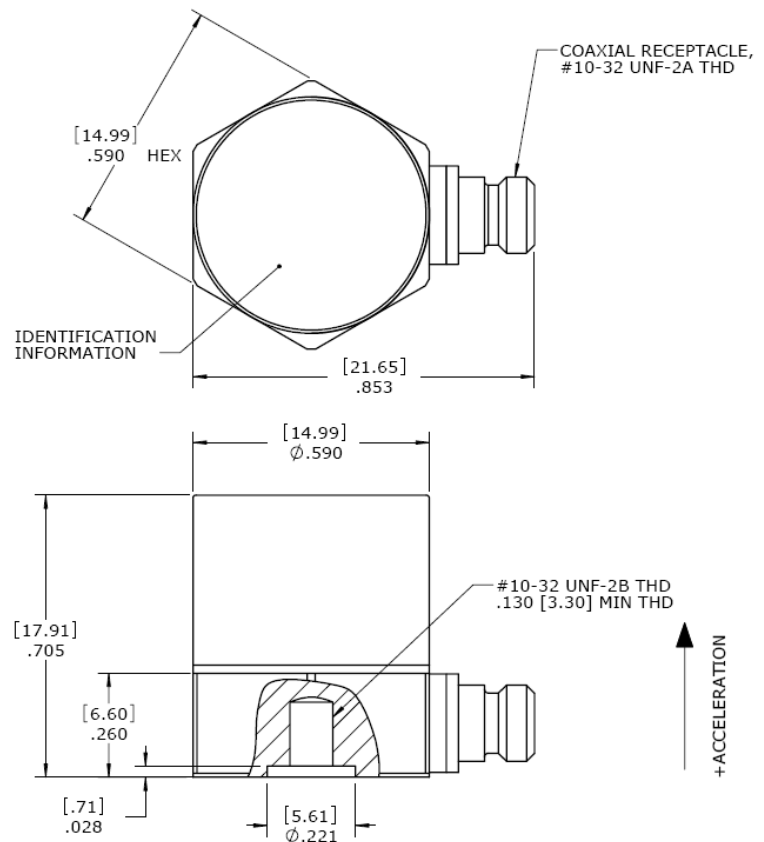
## FEATURES

- 13pC/g to 50pC/g Sensitivity
- Wide bandwidth up to >14kHz
- Stud Mounted
- Hermetically Sealed
- Annular Shear Mode
- -73°C to +260°C Operating Range
- Stable Temperature Response

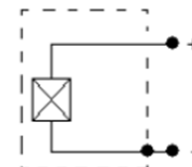
## APPLICATIONS

- Vibration & Shock Monitoring
- High Temp Applications
- Laboratory Testing
- High Frequency Applications
- Gearbox Vibration Monitoring

## dimensions



## ACCELEROMETER



# Model 7514A Accelerometer

## performance specifications

All values are typical at +24°C, 80Hz 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      | -30       | -20       | -13       | Notes   |
|--------------------------------------|----------|-----------|-----------|-----------|---------|
| Dash Number                          | 50       | 30        | 20        | 13        | Typical |
| Sensitivity (pC/g)                   | 40       | 24        | 14.5      | 9.0       | Minimum |
| Frequency Response (Hz) <sup>2</sup> | 0.5-6000 | 0.5-7000  | 0.5-9000  | 0.5-11000 | ±10%    |
| Frequency Response (Hz) <sup>2</sup> | 0.1-9000 | 0.1-10000 | 0.1-12000 | 0.1-14000 | ±2dB    |
| Natural Frequency (Hz)               | 26000    | 28000     | 30000     | 33000     |         |
| Non-Linearity (%FSO)                 | ±1/1000g | ±1/1000g  | ±1/1000g  | ±1/1000g  |         |
| Transverse Sensitivity (%)           | <5       | <5        | <5        | <5        |         |
| Dynamic Range (g) <sup>1</sup>       | ±500     | ±800      | ±1250     | ±2000     |         |
| Shock Limit (g)                      | 10000    | 10000     | 10000     | 10000     |         |
| Weight (grams)                       | 25       | 22        | 20        | 19        |         |

#### ELECTRICAL

|                            |               |  |  |  |          |
|----------------------------|---------------|--|--|--|----------|
| Capacitance (pF)           | 1050          |  |  |  | Nominal  |
| Insulation Resistance (MΩ) | >100          |  |  |  | @ 100Vdc |
| Grounding                  | Case Grounded |  |  |  |          |

#### ENVIRONMENTAL

|                            |  |
|----------------------------|--|
| Temperature Response (%)   | See Typical Temperature Response Curve |
| Operating Temperature (°C) | -73 to +260                            |
| Storage Temperature (°C)   | -73 to +260                            |
| Humidity                   | Hermetically Sealed, IP67              |

#### PHYSICAL

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

<sup>1</sup> Operating range over which the accelerometer meets the linearity specifications

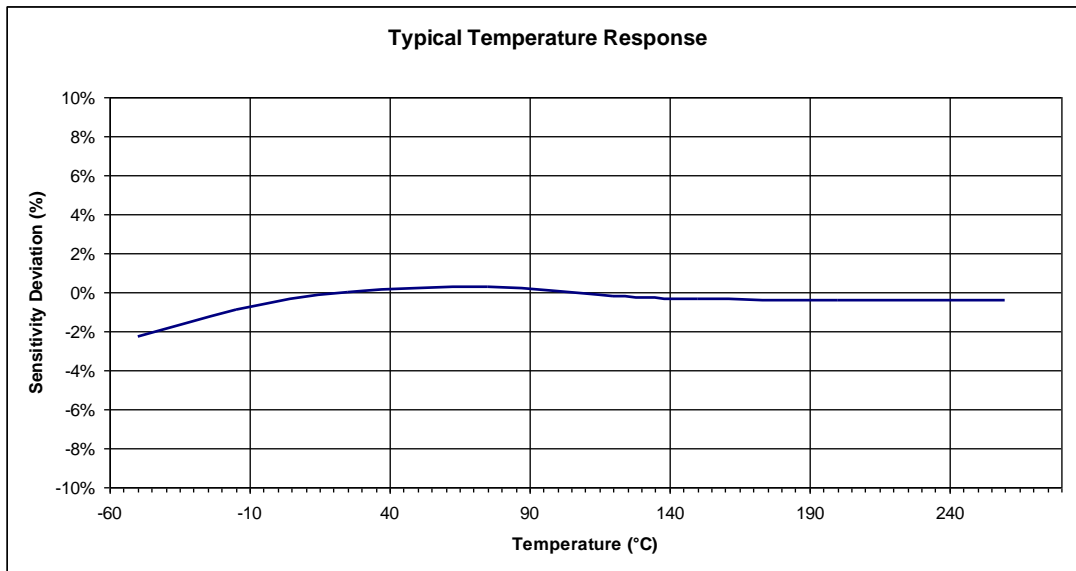
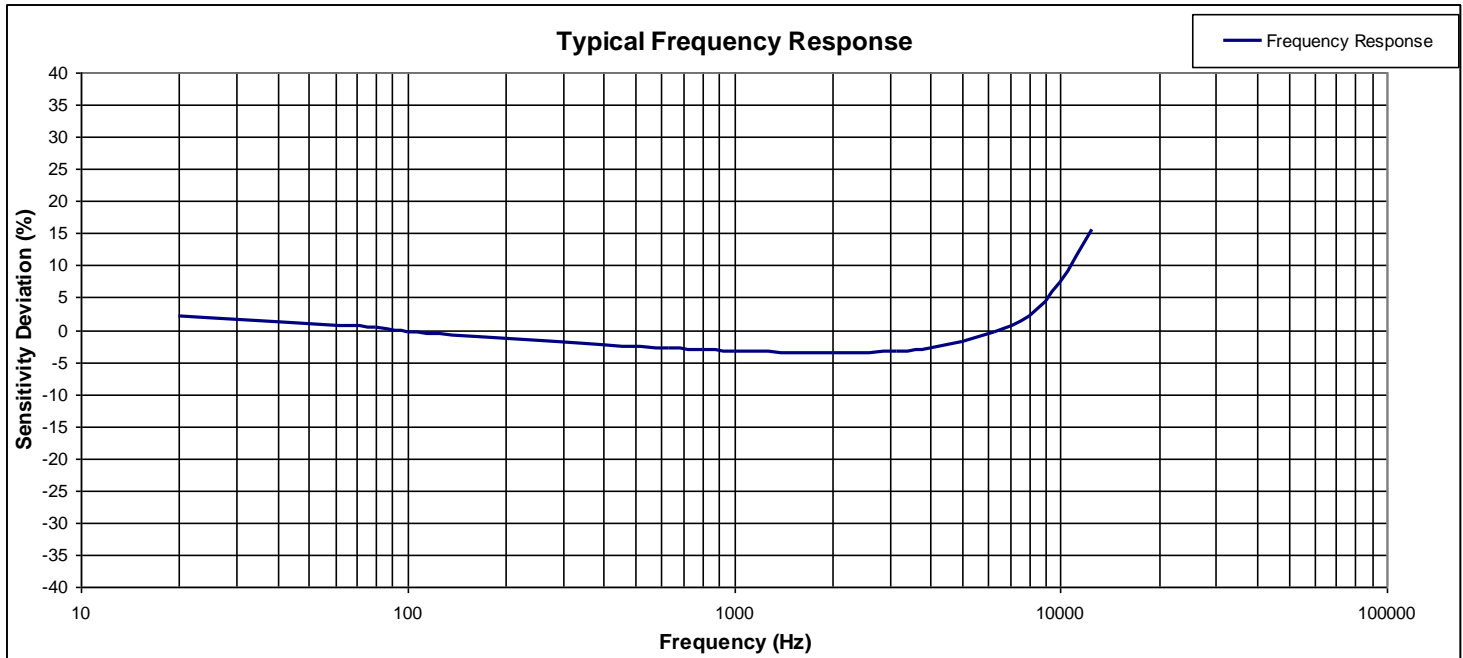
<sup>2</sup> Low-end response of the accelerometer is a function of its associated electronics.

|                              |              |   |
|------------------------------|--------------|---|
| <b>Calibration supplied:</b> | CS-FREQ-0100 | NIST Traceable Amplitude Calibration from 20Hz to ±2dB Frequency Response Limit |
| <b>Supplied accessories:</b> | AC-D02298    | 10-32 to 10-32 mounting stud  |
| <b>Optional accessories:</b> | 320-XXX      | Cable Assembly, 10-32 to 10-32 (XXX designates length in inches, 10ft standard) |
|                              | 324-XXX      | Cable Assembly, 10-32 to BNC (XXX designates length in inches, 10ft standard)   |
|                              | 130          | In-Line Charge Converter  |
|                              | 161A         | 4-Channel PE & IEPE Signal Conditioner  |
|                              | AC-A03470    | Adhesive Mounting Adaptor   |
|                              | AC-A03471    | Magnetic Mounting Adaptor   |

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# Model 7514A Accelerometer

## performance specifications



## ordering info

PART NUMBERING Model Number+Sensitivity

7514A-GG  
I\_\_\_\_\_ (50 is 50pC/g)

Example: 7514A-50  
Model 7514A, 50pC/g