

# Model 7114A Accelerometer



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  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

For a miniature stud mount version please review model 7104A, available in  $\pm 50g$  to  $\pm 500g$  dynamic ranges

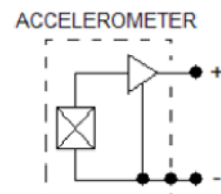
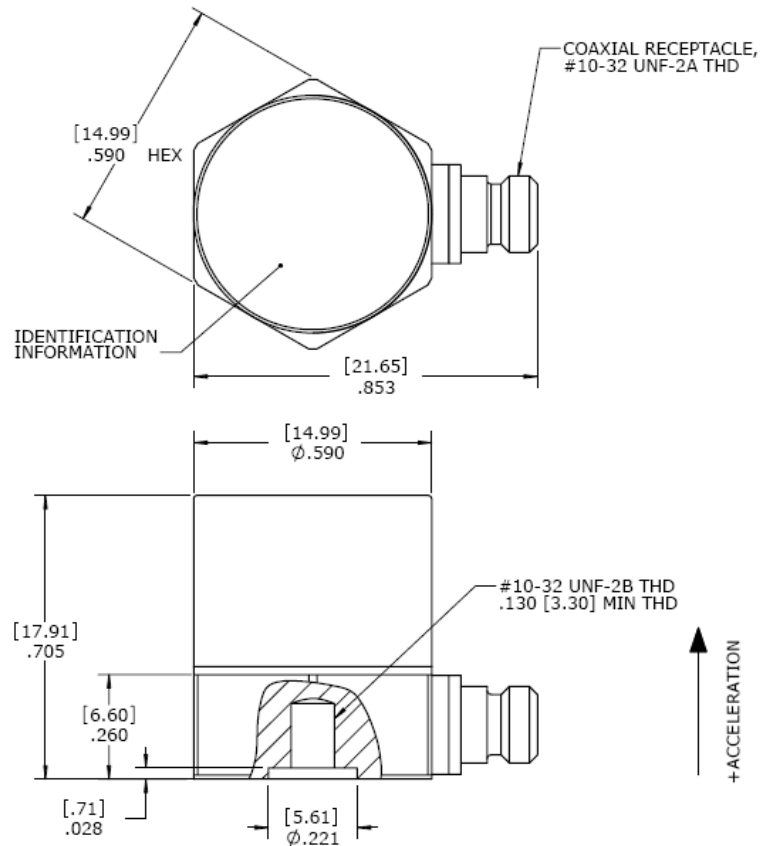
## FEATURES

- $\pm 5g$  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

## dimensions



# Model 7114A 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.

Parameters				Notes
<b>DYNAMIC</b>				
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	
<b>ELECTRICAL</b>				
Compliance Voltage (Vdc)	18 to 30	18 to 30	18 to 30	
Excitation Current (mA) <sup>1</sup>	2 to 10	2 to 10	2 to 10	See Note 1
Bias Voltage (Vdc)	8 to 12	8 to 12	8 to 12	Room Temperature
Bias Voltage (Vdc)	6 to 13	6 to 13	6 to 13	-55 to +125°C
Output Impedance (Ω)	<100	<100	<100	
Full Scale Output Voltage (V)	±5	±5	±5	
Residual Noise (g RMS)	0.0001	0.0002	0.0004	Broadband 1Hz to 10kHz
Discharge Time Constant (sec)	0.8 to 1.2			
Grounding	Case Grounded			
<b>ENVIRONMENTAL</b>				
Temperature Response (%)	±5	±5		
Operating Temperature (°C)	-55 to +125			
Storage Temperature (°C)	-55 to +125			
<b>PHYSICAL</b>				
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)			
<sup>1</sup> 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 info

PART NUMBERING Model Number+Range

7114A-GGGG  
 I \_\_\_\_\_ Range (0050 is 50g)

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