

# 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

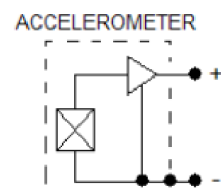
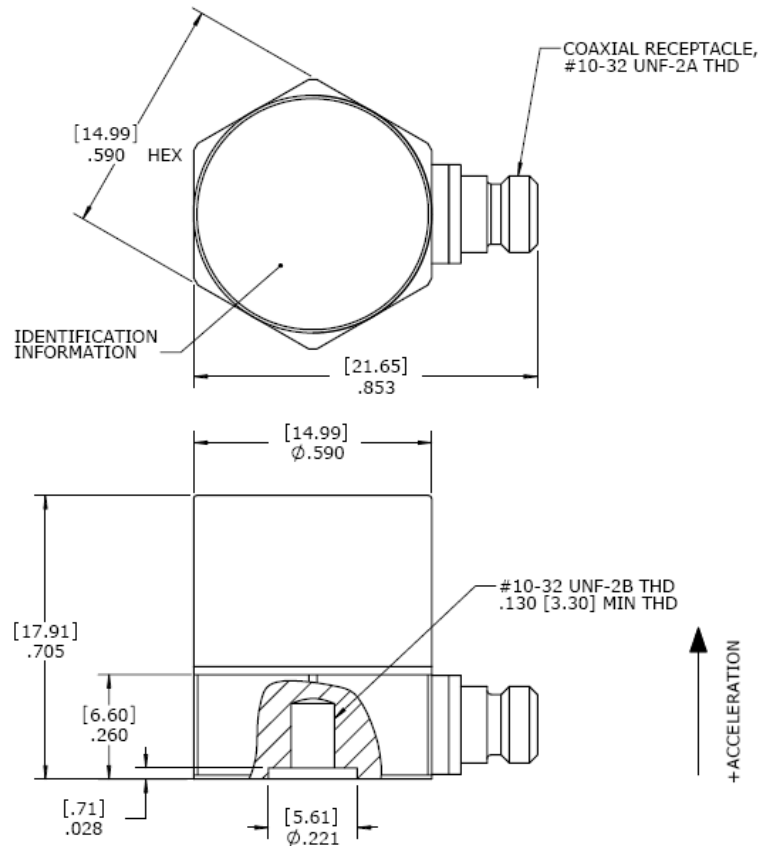
- $\pm 5g$  to  $\pm 50g$  Dynamic Range
- High Sensitivity, 1000mV/g
- Welded Construction
- Hermetically Sealed
- Annular Shear Mode
- Stable Temperature Response

## 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, 80Hz 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	
Residual Noise (g RMS)	0.0001	0.0002	0.0004	Broadband 1Hz to 10kHz
<b>ELECTRICAL</b>				
Compliance Voltage (Vdc)	18 to 30			
Excitation Current (mA) <sup>1</sup>	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			
<b>ENVIRONMENTAL</b>				
Temperature Response (%)	±5			
Operating Temperature (°C)	-55 to +125			
Storage Temperature (°C)	-55 to +125			
Humidity	Hermetically Sealed, IP67			
<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

<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit
<b>Supplied accessories:</b>	AC-D02298	10-32 to 10-32 mounting stud
<b>Optional accessories:</b>	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  
|\_\_\_\_ Range (0050 is 50g)

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