Model 7114A Accelerometer

measurement S P E C I A L T I E S ™

RoHS CE

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

The Model 7114A is a high performance IEPE accelerometer available in ±5g to ±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°C.
For a miniature stud mount version please review model 7104A, available in ±50g to ±500g dynamic ranges

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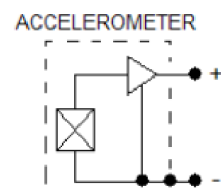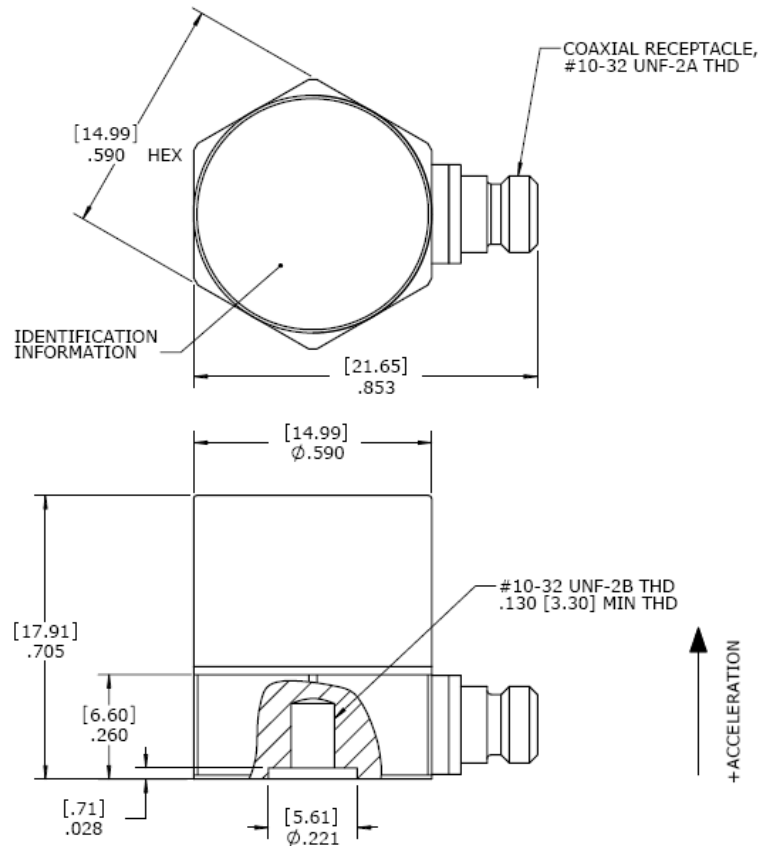- ±5g to ±50g Dynamic Range
- High Sensitivity, 1000mV/g
- Welded Construction
- Hermetically Sealed
- Annular Shear Mode
- Stable Temperature Response

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

dimensions

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				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		Notes
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

ordering info

PART NUMBERING   Model Number+Range

7114A-GGGG
I_____ Range (0050 is 50g)

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