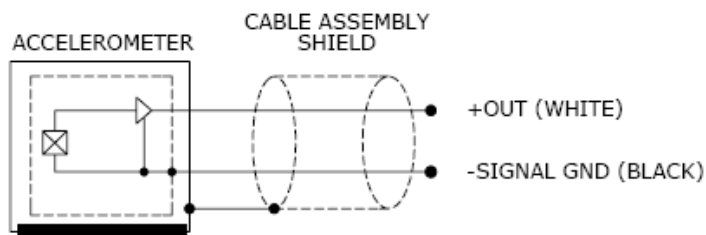
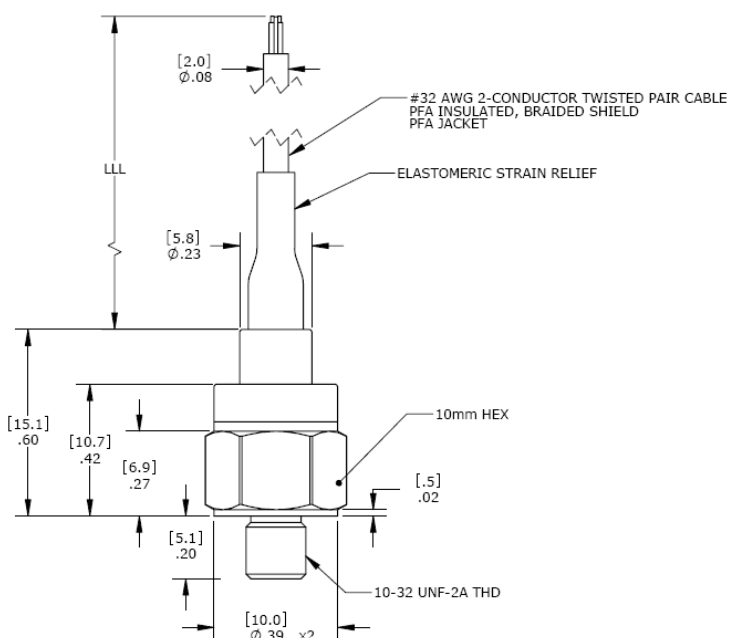




## DIMENSIONS



# MODEL 7109A ACCELEROMETER

## SPECIFICATIONS

- ◆ IEPE Shock Accelerometer
- ◆  $\pm 5,000g$  to  $\pm 20,000g$  Ranges
- ◆ Filtered Output
- ◆ Miniature, Stud Mount

The Model 7109A is a miniature stud mount IEPE shock accelerometer available in  $\pm 5,000g$  to  $\pm 20,000g$  ranges. The accelerometer features a welded hermetic stainless steel construction with an integral cable for electrical connection. The model 7109A incorporates a stable piezo-ceramic crystal in annular shear mode with outstanding linearity for shock measurements. The accelerometer has an operating range of  $0^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  and a flat frequency response to  $>10\text{kHz}$ .

## FEATURES

- ◆  $\pm 5,000g$  to  $\pm 20,000g$  Dynamic Range
- ◆ Welded Stainless Steel
- ◆ Hermetically Sealed
- ◆  $0^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  Operating Range
- ◆ Annular Shear Mode
- ◆ Case Isolated, Internally Shielded

## APPLICATIONS

- ◆ Far-field Shock Testing
- ◆ Drop Testing
- ◆ Structural Testing
- ◆ Impact Testing

## 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

	±5,000	±10,000	±20,000	Notes
Range (g)	±5,000	±10,000	±20,000	
Sensitivity (mV/g)	1.00	0.50	0.25	±25%
Frequency Response (Hz)	2-8000	2-10000	2-10000	±1dB
Filter Corner Frequency (-3dB)	25000	25000	25000	-40dB/decade rolloff
Natural Frequency (kHz)	>80	>90	>90	
Non-Linearity (%FSO)	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	
Shock Limit (g)	±50,000	±50,000	±50,000	

#### ELECTRICAL

Compliance Voltage (Vdc)	18 to 30	18 to 30	18 to 30	
Excitation Current (mA)	2 to 10	2 to 10	2 to 10	
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	
Insulation Resistance (MΩ)	>50	>50	>50	@100Vdc
Full Scale Output Voltage (V)	±5	±5	±5	
Residual Noise (g RMS)	0.06	0.04	0.03	Broadband 1Hz to 10kHz
Discharge Time Constant (sec)	1 to 3			
Warm-Up Time (sec)	<5			
Ground Isolation	Case Isolated, Internally Shielded			

#### ENVIRONMENTAL

Temperature Response (%)	See Typical Temperature Response Curve
Operating Temperature (°C)	0 to +85
Storage Temperature (°C)	-55 to +125
Humidity	Hermetically Sealed

#### PHYSICAL

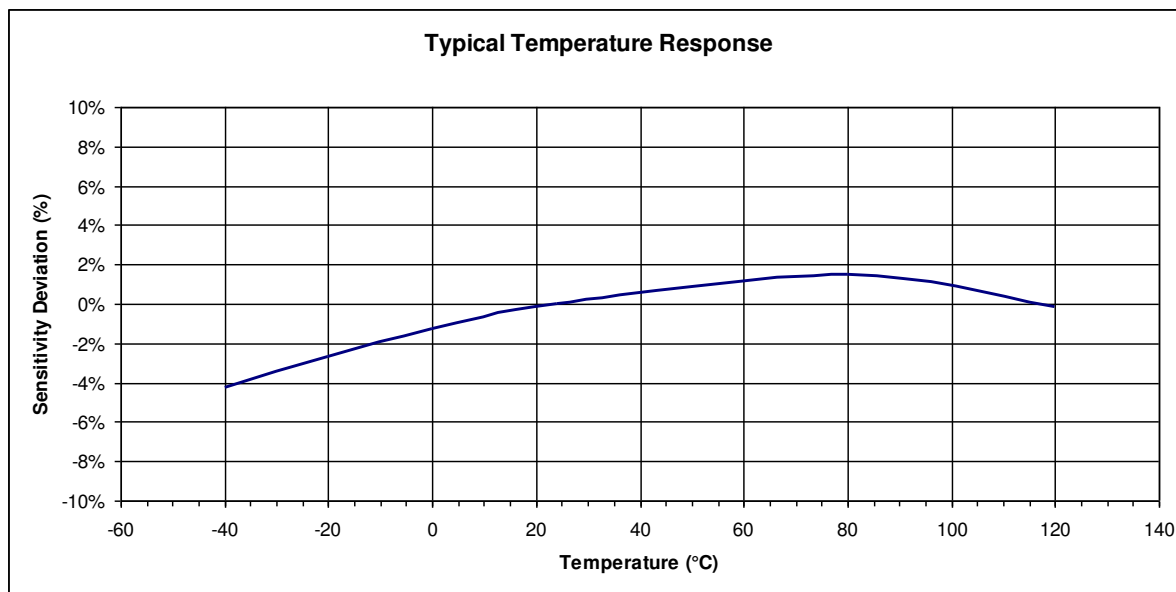
Sensing Element	Ceramic (shear mode)	
Case Material	Stainless Steel	
Cable	#32 AWG PFA Insulated Leads, Braided Shield, PFA Jacket	See Note 1
Weight (grams)	5	Cable not included
Mounting	#10-32 or M5x0.8 Mounting Stud	
Mounting Torque	18 lb-in (2.0 N-m)	

<sup>1</sup> A 10-32 Connector Option is Available, Installed at End of Cable Leads

**Calibration supplied:** CS-SKLIN NIST Traceable Shock Calibration at 5000g

**Optional accessories:** 161A 4-Channel PE & IEPE Signal Conditioner

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## ORDERING INFORMATION

PART NUMBERING Model Number+Range+Cable Length

7109A-GGG-LLL-XX

| | | Thread Option Dash Number  
 | | | Cable Length (120 is 120 inches)  
 | | | Range (10K is 10,000g)

Dash Number	Thread Options
-01	#10-32 UNF-2B
-02	M5 x 0.8 6g

Example: 7109A-10K-120-01

Model 7109A, 10,000g, 120inch cable length, #10-32 UNF-2B stud



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