MODEL 7101A ACCELEROMETER

SPECIFICATIONS

- **IEPE Accelerometer**
- **Wide Bandwidth to 10kHz**
- **M3 Side Connector**
- **Miniature, Lightweight (2.4gm)**

The Model 7101A is a miniature, high performance IEPE accelerometer available in ±50g to ±1000g dynamic ranges. The accelerometer is designed for high frequency vibration and shock measurements and offers a wide bandwidth to >10kHz utilizing stable piezo-ceramic crystals in annular shear mode. The model 7101A features a hermetically sealed titanium housing and the popular through hole mount configuration. The standard operating temperature range extends from -55°C to +125°C.

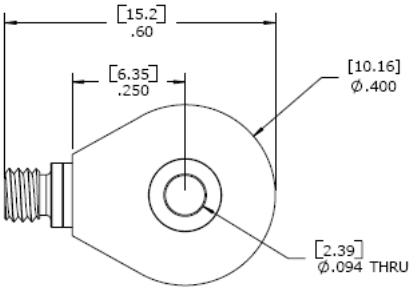
FEATURES

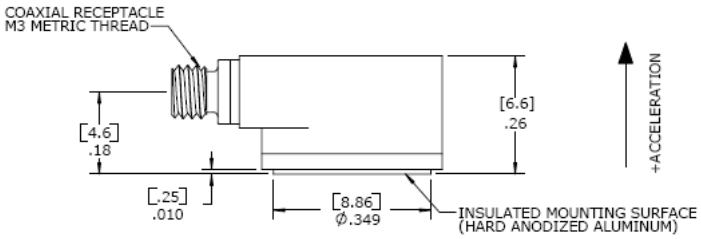
- ±50g to ±1000g Dynamic Range
- Wide bandwidth up to 10kHz
- Welded Construction, Titanium
- Hermetically Sealed
- Annular Shear Mode
- Stable Temperature Response
- Miniature, Through-Hole Mount

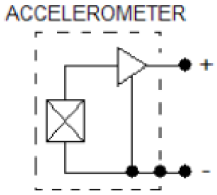
APPLICATIONS

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

DIMENSIONS





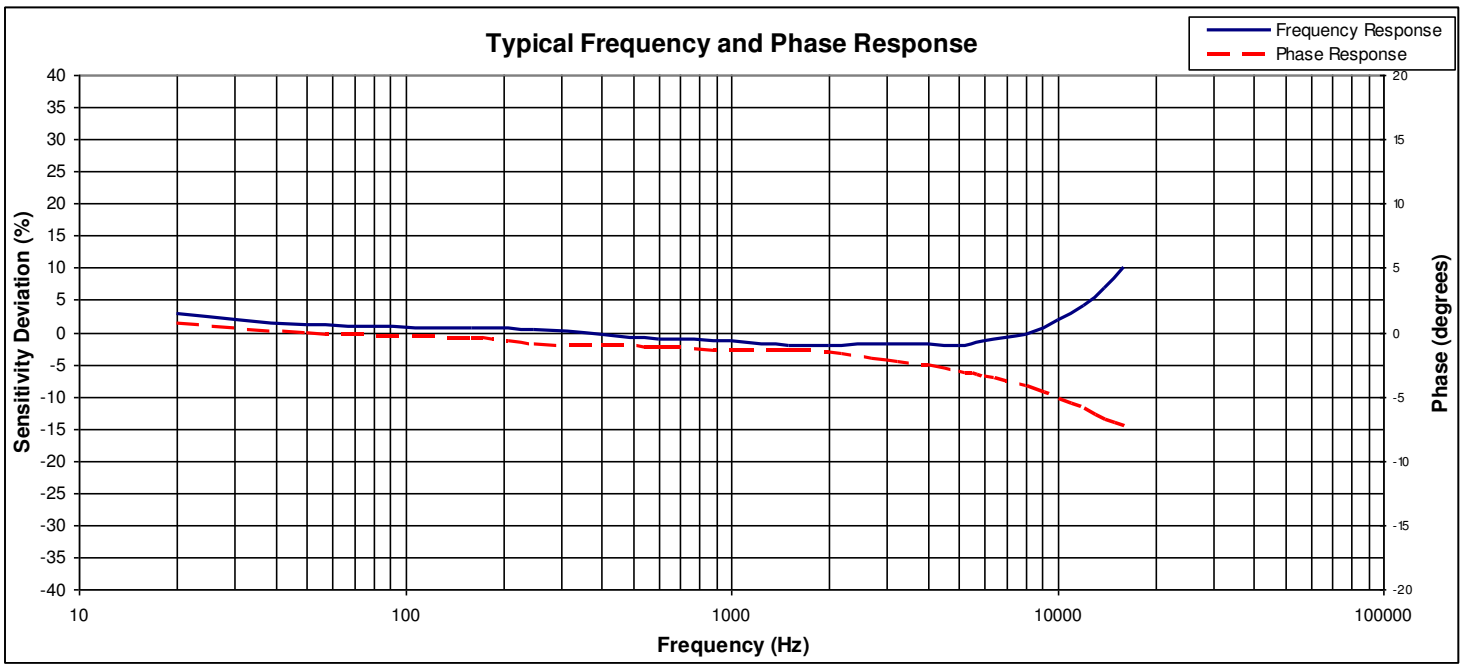


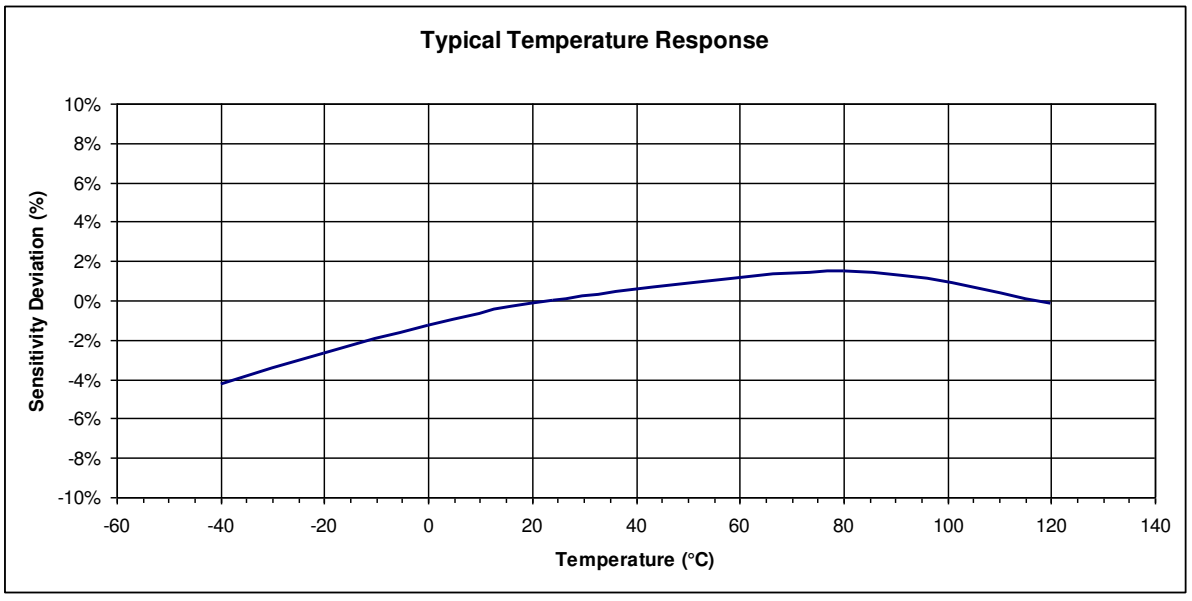
PERFORMANCE SPECIFICATIONS

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)	±50	±500	±1000	
Sensitivity (mV/g)	100	10	5	±10%
Frequency Response (Hz)	1-8000	1-8000	1-8000	±5%
Frequency Response (Hz)	0.5-10000	0.5-10000	0.5-10000	±1dB
Natural Frequency (Hz)	>50000	>50000	>50000	
Non-Linearity (%FSO)	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	
Shock Limit (g)	5000	5000	5000	
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 14	6 to 14	6 to 14	-55 to +125°C
Output Impedance (Ω)	<100	<100	<100	
Full Scale Output Voltage (V)	±5	±5	±5	
Residual Noise (g RMS)	0.0004	0.0008	0.001	Broadband 1Hz to 10kHz
Discharge Time Constant (sec)	0.8 to 1.2			
Ground Isolation	Isolated from Mounting Surface			
ENVIRONMENTAL				
Temperature Response (%)	See Typical Temperature Response Curve			
Operating Temperature (°C)	-55 to +125			
Storage Temperature (°C)	-55 to +125			
Humidity	Hermetically Sealed			
PHYSICAL				
Sensing Element	Ceramic (shear mode)			
Case Material	Titanium			
Electrical Connector	M3 Coaxial Receptacle			
Weight (grams)	2.4			
Mounting	#2-56 Insulated Mounting Screw (included)			
Mounting Torque	5 lb-in (0.6 N-m)			

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit
Supplied accessories:	AC-A03230	1x #2-56 Insulated Mounting Screw Assembly (7/16 inch length)
Optional accessories:	311-XXX	Cable Assembly, M3 to BNC (XXX designates length in inches, 10ft standard)
	AC-A04018	Triaxial Mounting Block
	161A	4-Channel PE & IEPE Signal Conditioner, Bench Top


Typical Frequency and Phase Response
Frequency Response
Phase Response
Sensitivity Deviation (%)
Phase (degrees)
Frequency (Hz)
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
20
15
10
5
0
-5
-10
-15
-20
10
100
1000
10000
100000


Typical Temperature Response
Sensitivity Deviation (%)
Temperature (°C)
10%
8%
6%
4%
2%
0%
-2%
-4%
-6%
-8%
-10%
-60
-40
-20
0
20
40
60
80
100
120
140

ORDERING INFORMATION

PART NUMBERING Model Number+Range

7101A-GGGG
l_____ Range (0050 is 50g)

Example: 7101A-0050
Model 7101A, 50g

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