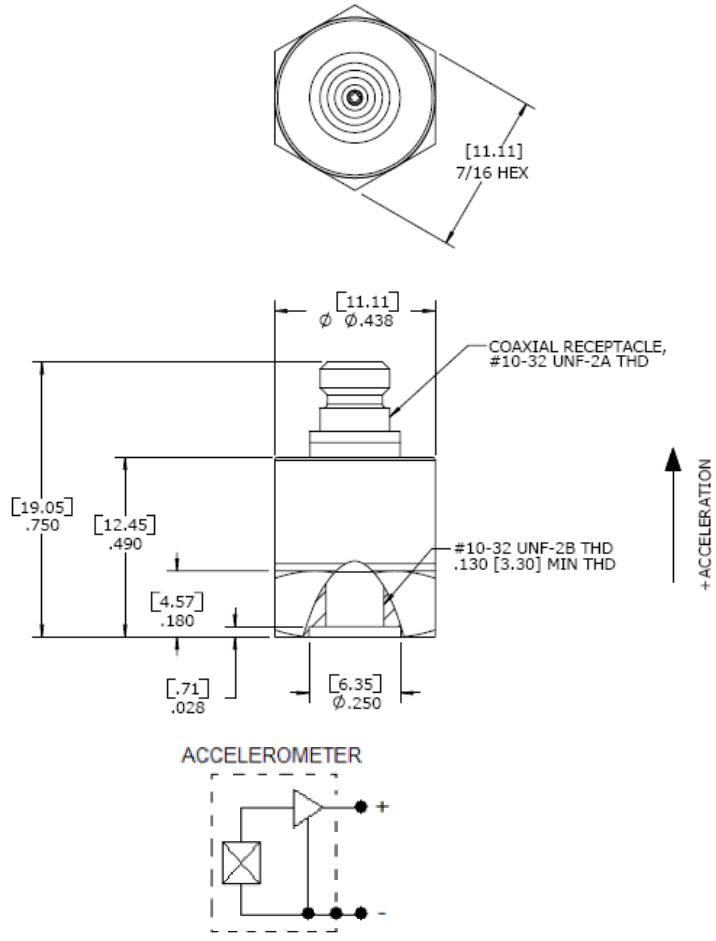
MODEL 7105A ACCELEROMETER

SPECIFICATIONS

- **IEPE Accelerometer**
- **Wide Bandwidth to >10kHz**
- **10-32 Top Connector**
- **Stud Mount, Hermetic**

The Model 7105A is a high performance IEPE accelerometer available in ±50g to ±1000g dynamic ranges. The stud mounted accelerometer features a welded hermetic construction with a top mount connector. The model 7105A incorporates stable piezo-ceramic crystals in annular shear mode which provide a flat frequency response up to >10kHz. The standard operating temperature range extends from -55°C to +125°C.

DIMENSIONS



FEATURES

- ±50g to ±1000g Dynamic Range
- Wide bandwidth up to >10kHz
- Welded Construction
- Hermetically Sealed
- Annular Shear Mode
- Stable Temperature Response
- TEDS Option

APPLICATIONS

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

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	±100	±500	±1000	
Sensitivity (mV/g)	100	50	10	5	±10%
Frequency Response (Hz)	0.5-6000	0.5-6000	0.5-8000	0.5-8000	±5%
Frequency Response (Hz)	0.3-10000	0.3-10000	0.3-10000	0.3-10000	±1dB
Natural Frequency (Hz)	>50000	>50000	>50000	>50000	
Non-Linearity (%FSO)	±1	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	<5	
Shock Limit (g)	5000	5000	5000	5000	
ELECTRICAL					
Compliance Voltage (Vdc)	18 to 30	18 to 30	18 to 30	18 to 30	
Excitation Current (mA)[1]	2 to 10	2 to 10	2 to 10	2 to 10	See Note 1
Bias Voltage (Vdc)	8 to 12	8 to 12	8 to 12	8 to 12	Room Temperature
Bias Voltage (Vdc)	6 to 13	6 to 13	6 to 13	6 to 13	-55 to +125°C
Output Impedance (Ω)	<100	<100	<100	<100	
Full Scale Output Voltage (V)	±5	±5	±5	±5	
Residual Noise (g RMS)	0.0004	0.0005	0.0008	0.0014	Broadband 1Hz to 10kHz
Discharge Time Constant (sec)	0.8 to 1.2				
Grounding	Case Grounded				
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	Stainless Steel				
Electrical Connector	10-32 Coaxial Receptacle				
Weight (grams)	7.3				
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
	AC-A03500	Isolated Mounting Adaptor (#10-32 to M5x0.8 thread)
	161A	4-Channel PE & IEPE Signal Conditioner, Bench Top

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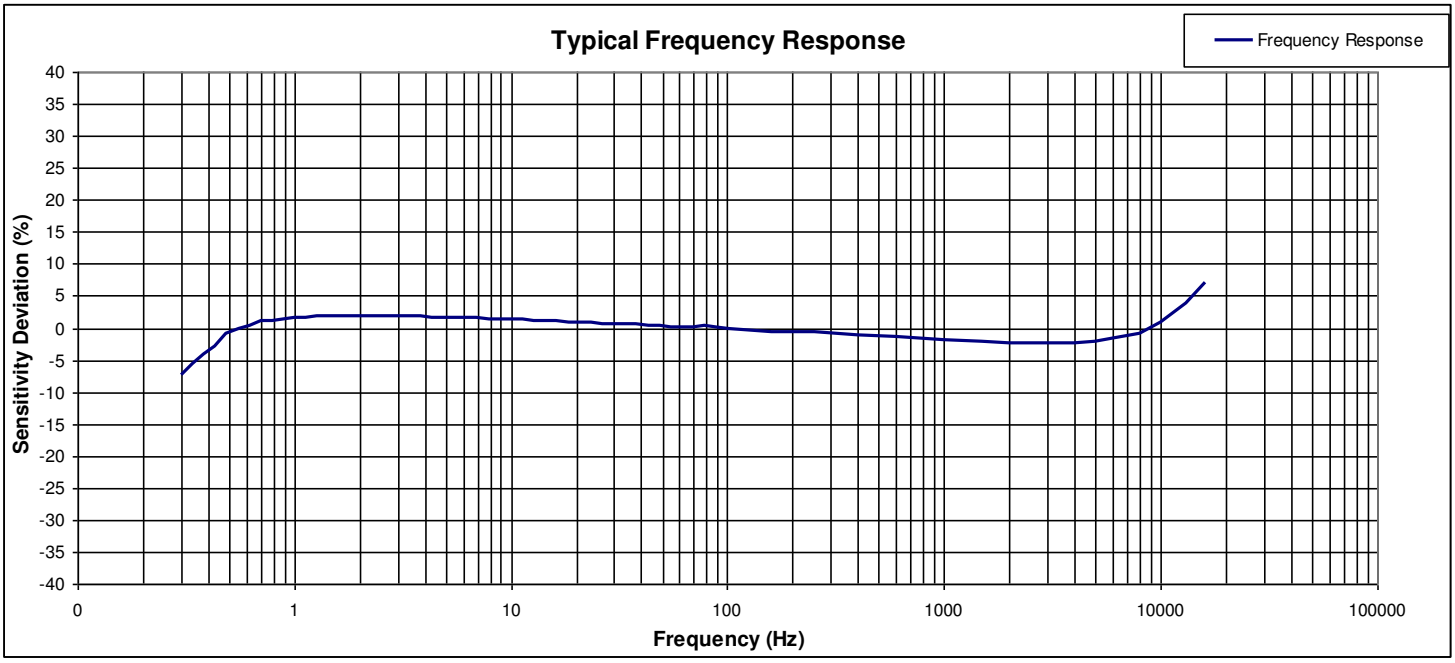
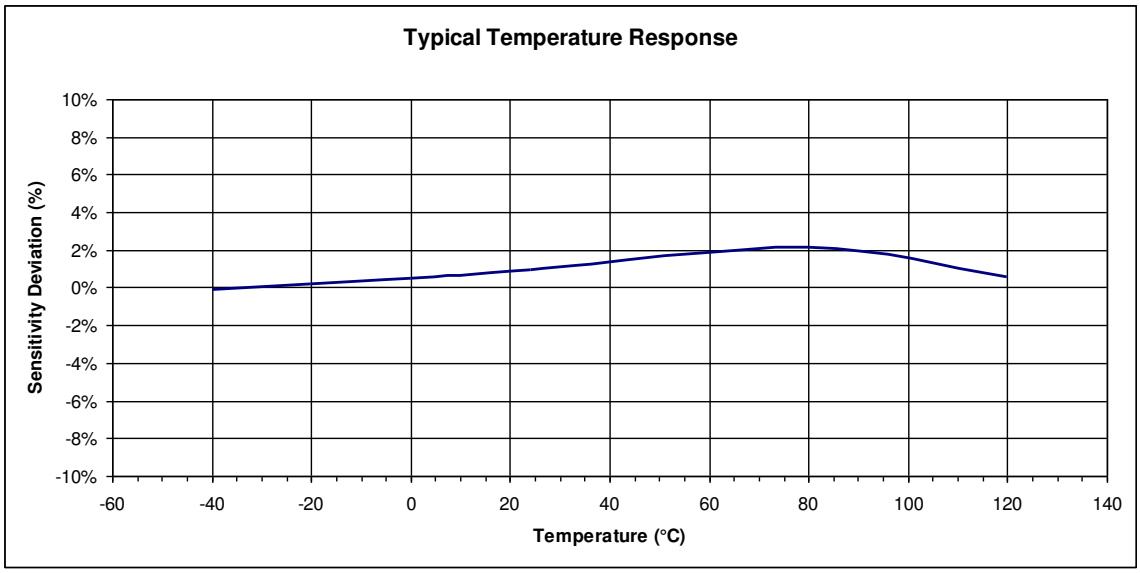

Typical Frequency Response
Frequency Response
Sensitivity Deviation (%)
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
0
1
10
100
1000
10000
100000
Frequency (Hz)


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

ORDERING INFORMATION

PART NUMBERING Model Number+Range

7105AT-GGGG
I I_____ Range (0050 is 50g)
I_____ TEDS compliant to IEEE 1451.4 when 'T' option is included

Example: 7105A-0050
Model 7105A, 50g

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