Model 7204A Accelerometer

measurement
SPECIALTIES

CE

Internally Shielded IEPE Accelerometer
43kHz Resonant Frequency
+130°C Operating Temperature
Hermetically Sealed

The Model 7204A is a case isolated high temperature IEPE accelerometer with internal shielding. The accelerometer has a flat bandwidth up to greater than15kHz with a resonant frequency greater than 40kHz. The model 7204A is available in ±10 to ±500g ranges and has an operating temperature range up to +130°C. The unit is hermetically sealed and features the popular through hole mount installation for standard mounting screws. A three pin integral connector is featured as the electrical interface.
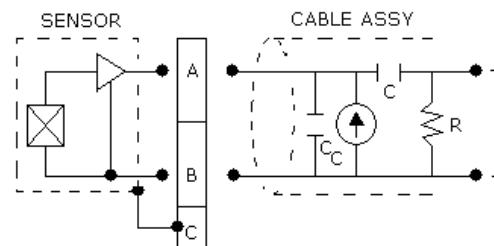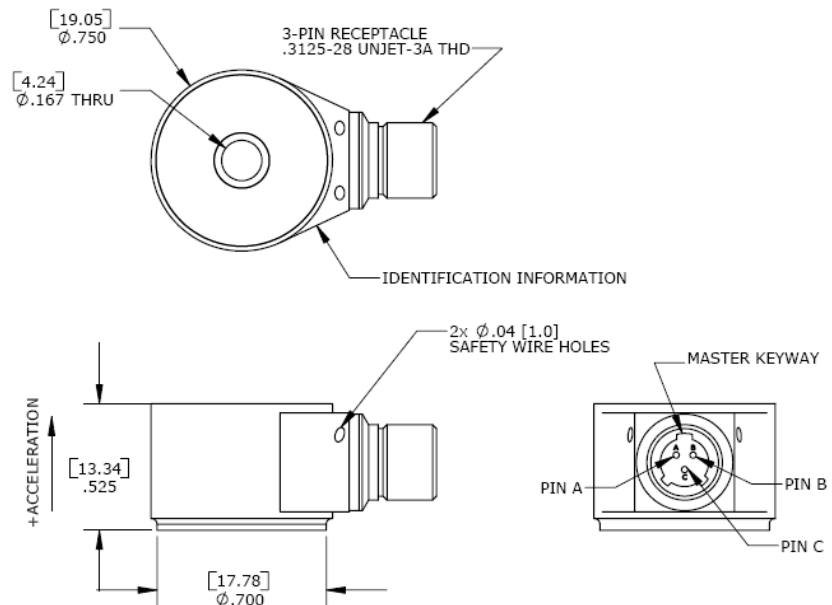
FEATURES

- ±10g to ±500g Dynamic Range
- Wide bandwidth up to 15kHz
- Case Isolated, Internally Shielded
- Hermetically Sealed
- Annular Shear Mode
- Through Hole Mount
- Stable Temperature Response
- 3-Pin Connector

APPLICATIONS

- Health Usage Monitoring Systems
- Flight Testing
- Gearbox Vibration Monitoring
- High Frequency Applications
- Harsh Environments

dimensions

performance specifications

All values are typical at +24°C, 100Hz and 4mA excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1003 for Plug & Play AC Accelerometers.

Parameters

DYNAMIC

				Notes
Range (g)	±10	±50	±500	
Sensitivity (mV/g)	500	100	10	
Frequency Response (Hz)	1-4000	1-5000	1-10000	±5%
Frequency Response (Hz)	0.6-8000	0.6-10000	0.6-20000	±1dB[2]
Natural Frequency (Hz)	25000	33000	44000	
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 20	2 to 20	2 to 20	
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 +130°C
Output Impedance (Ω)	<100	<100	<100	
Full Scale Output Voltage (V)	±5	±5	±5	
Residual Noise (g RMS)	0.0003	0.0001	0.00025	
Discharge Time Constant (sec)	0.8 to 1.2			
Warm-Up Time (sec)	2			
Case Grounding	Case Isolated, Internally Shielded			

ENVIRONMENTAL

Temperature Response (%)	See Typical Temperature Response Curve	
Operating Temperature (°C)	-55 to +130	See Note 1
Storage Temperature (°C)	-55 to +130	See Note 1
Humidity	Hermetically Sealed	

PHYSICAL

Sensing Element	Ceramic (shear mode)
Case Material	Stainless Steel
Electrical Connector	3-Pin Receptacle
Weight (grams)	23
Mounting	Through Hole (#8 or M4 cap screw)
Mounting Torque	20 lb-in (2.3 N-m)

[1] Contact factory for +150°C temperature option.

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit[2]
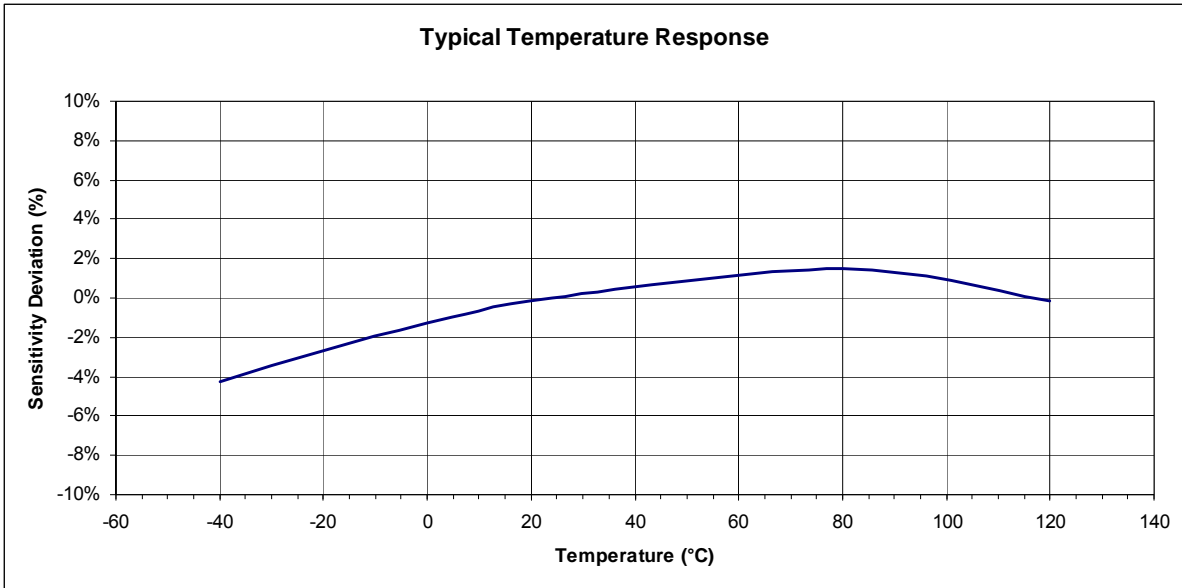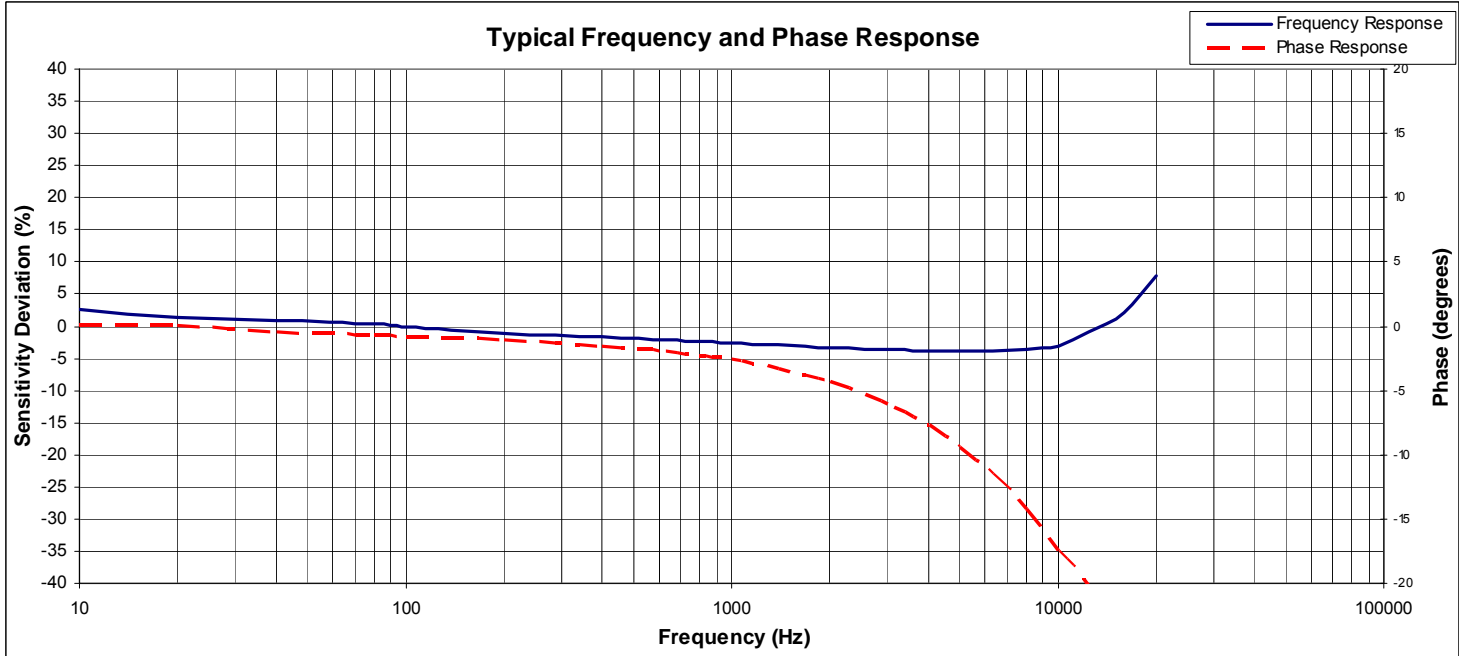
Supplied accessories: 1x #8-32 Mounting Screw (5/8 inch length)

Optional accessories: 312-XXX Cable Assembly (XXX designates length in inches, 10ft standard)

Model 7204A Accelerometer

performance specifications

Typical Frequency and Phase Response

Legend: Frequency Response, Phase Response

X-axis: Frequency (Hz), Y-axis left: Sensitivity Deviation (%), Y-axis right: Phase (degrees)

Typical Temperature Response

X-axis: Temperature (°C), Y-axis: Sensitivity Deviation (%)

ordering info

PART NUMBERING   Model Number+Range

    7204A-GGGG
                I
                I_____ Range (0500 is 500g)

    Example: 7204A-0500
                Model 7204A, 500g