DATA SHEET

High Temperature Piezoelectric Accelerometer (HTPE)

Model 2248/2248M1

Model 2248

Model 2248M1

01 Description

The Meggitt model 2248 is a small piezoelectric accelerometer for shock and vibration measurement of structures subjected to very high temperatures. It features a side 10-32 receptacle, with either flange (2248) or integral stud-mount (2248M1). The accelerometer is a self- generating device that requires no external power source for operation.

The 2248 features Meggitt's crystal material in compression construction. The design provides mechanical isolation of base strain from the mounting surface. Signal ground is connected to case.

Model number definition:
2248 = mounting with 2 bolts
2248-R = replacement sensor, no accessories
2248M1= integral mounting stud
2248M1-R = replacement sensor, no accessories supplied
2248-US = Made in USA
2248M1-US = Made in USA

02 Key features and benefits

- Small size
- Light weight
- High temperature operation 900°F (+482°C)
- RoHS complaint

03 Applications

- Gas Turbine engine monitoring
- Nuclear applications

04 Contact

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DATA SHEET

HIGH TEMPERATURE PE ACCELEROMETER, Model 2248/2248M1

05 Specifications

The following performance specifications are typical values, referenced at +75°F (+24°C) unless otherwise noted.

Dynamic characteristics		
Charge Sensitivity		
(typical)	pC/g	3.0
Minimum	pC/g	2.4
Frequency response		See typical amplitude response
±1 dB	Hz	1 to 8K
±5%	Hz	1 to 5K
Resonance (typical)	kHz	25
Minimum	kHz	22
Temperature response	%	±18 max over temperature range
Transverse sensitivity	%	≤ 5
Amplitude linearity	%	1

Electrical characteristics	
Resistance at room temperature	
(typical)	≥1GΩ
At +900°F (+482°C)	≥100KΩ [1]
Capacitance	250 pF
Grounding	Signal return connected to case

Environmental characteristics	
Temperature range	-65°F to +900°F (-54°C to +482°C)
Humidity	Hermetically sealed
Sinusoidal vibration limit	500 g pk
Shock limit	3000 g pk
Base strain sensitivity	0.005pk/µstrain
Transient temperature	0.10 equiv g pk/°F [2]

Physical characteristics	
Dimensions	See Outline details
Weight	0.46 oz. (13 gm)
Case Material	Inconel
Connector	10-32 coaxial
Mounting torque	18 to 20 lbf-in (2 to 2.3 Nm)
Mounting (2248)	6-32 botls (qty 2)
Mounting (2248M1)	10-32 stud

Calibration Supplied	
Charge Sensitivity	pC/g
Frequency response through resonance	20 Hz to 8000 Hz, 8000 Hz through resonance
Maximum transverse sensitivity	%
Capacitance	pF

Accessories

SUPPLIED

EH535 Mounting screws 6-32 (Model 2248)

3075M6-120 or 3075M6-120-US Cable assembly, 900°F (+482°C)

OPTIONAL

Model 1001-120 Cable assembly, 550°F (+288°C)

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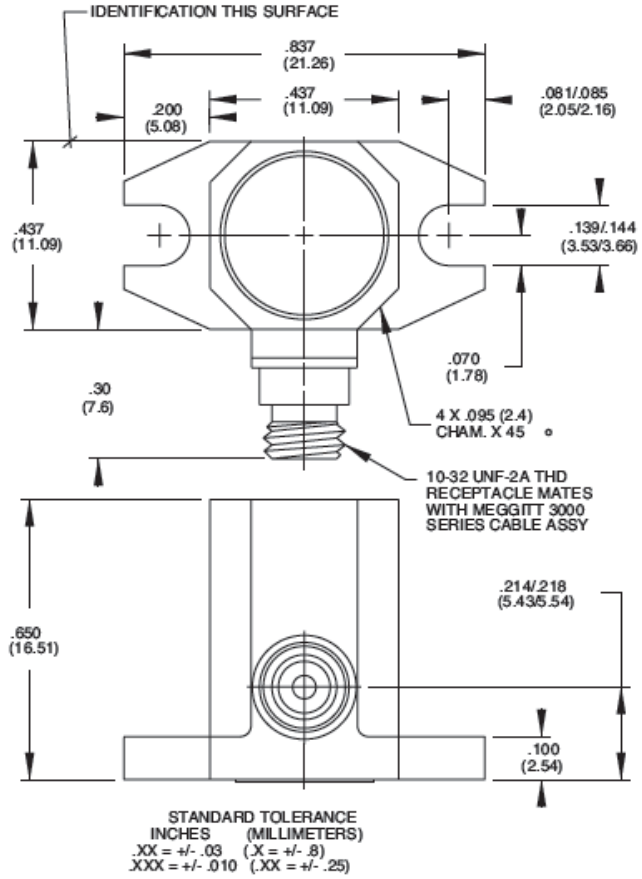
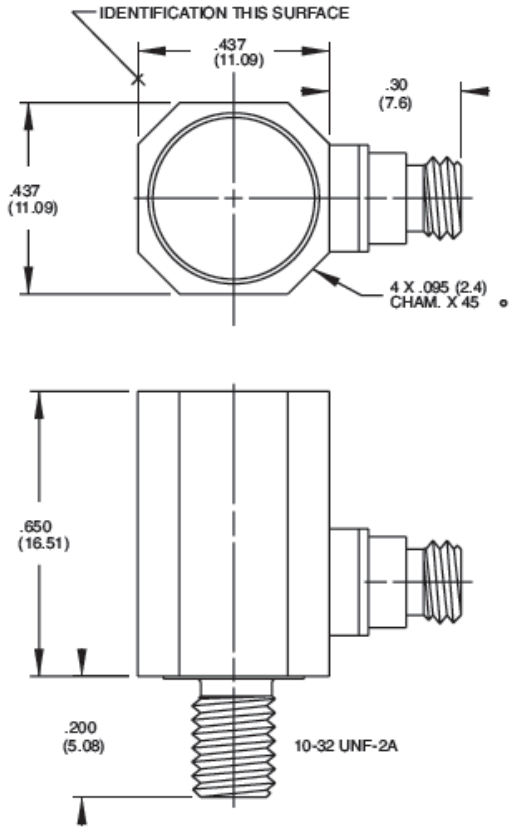
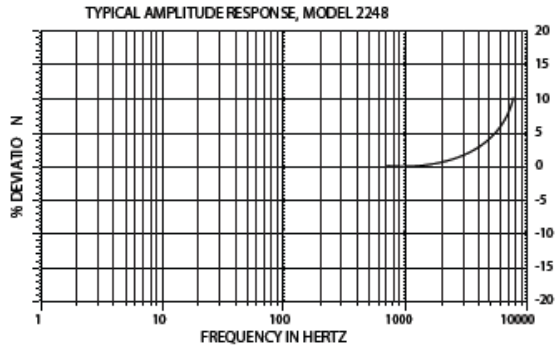
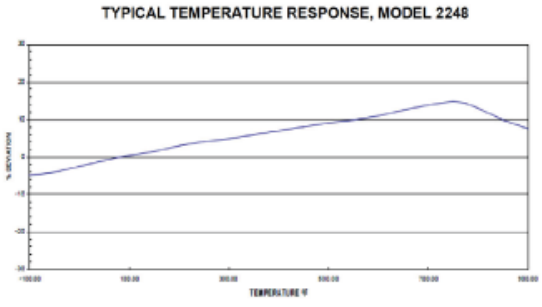
06 Outline details









Notes:
[1] Signal conditioner must be able to accept 100 k ohm source resistance
[2] Measured with a 1 Hz high pass filter.
[3] Parts made in the USA are marked with -US after the model number

APPLIES TO CALIFORNIA FACILITY

Note: Due to continous process improvement, specifications are subject to change without notice. TCO Review #336