

Model 6240M10 Piezoelectric accelerometer

Features

- High-temperature operation (+760°C)
- Hermetically sealed
- Ground-isolated
- Requires no external power
- Aircraft gas-turbine testing

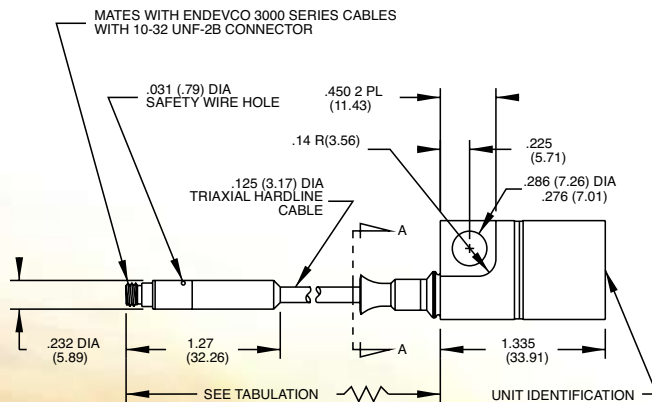


Description

The Endevco® Model 6240M10 piezoelectric accelerometer is uniquely designed for continuous operation at +1200°F (+650°C) and intermittent operation up to +1400°F (+760°C). The 6240M10 is ideally suited for applications on aircraft gas-turbine engines as part of vibration monitoring systems. The 6240M10's small size allows for installation in cramped quarters. It also features a relatively high sensitivity for low-level vibration analysis. The accelerometer is a self-generating device that requires no external power source for operation.

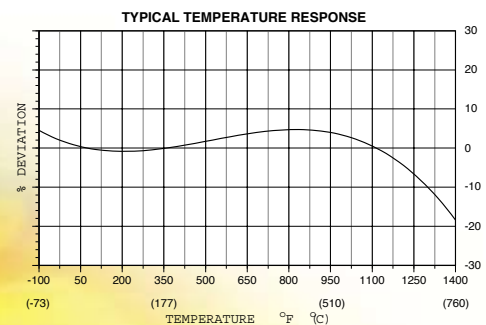
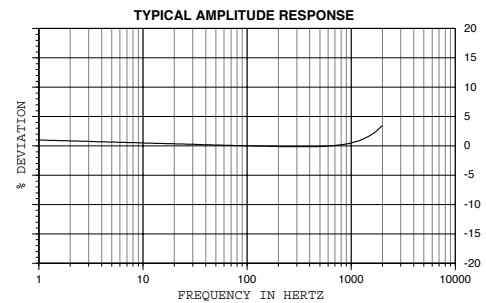
Electrical connection is made through an integral hardline triaxial cable terminated with a 10-32 receptacle. Cable assemblies 3075M21 (482°C), 3075M6 (482°C) and 3090C (260°C) are designed to mate with this receptacle. The sensing elements and integral shield are isolated from the case. The standard cable length is 120 inches, however, other cable lengths are also available on special order.

Endevco signal conditioner Model 2721B is recommended for use with this accelerometer. The 2771B remote charge convertor may also be compatible for applications using this high-impedance accelerometer, depending on the temperature the accelerometer will be exposed to.



TABULATION	
CABLE LENGTH	TOLERANCE
UP TO 72 (1829)	+/- 2.00 (51)
73 (1854) TO 144 (3658)	+/- 4.00 (102)
OVER 144 (3658)	+/- 4.00 (102) PER 144 (3658) OR PORTION THEREOF

STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .03 (.X = +/- .8)
.XXX = +/- .010 (.XX = +/- .25)



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Endevco

SPECIFICATIONS

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS		Units	
CHARGE SENSITIVITY, ±10%		pC/g	5.0
FREQUENCY RESPONSE [1]			See Typical Amplitude Response
RESONANCE FREQUENCY		kHz	10
AMPLITUDE RESPONSE [2]			
±5%		Hz	30 to 2000
±1dB		Hz	1 to 3000
TEMPERATURE RESPONSE			
TRANSVERSE SENSITIVITY		%	≤ 5
AMPLITUDE LINEARITY		%	1
Per 200 g, 0 to 1000 g			

ELECTRICAL CHARACTERISTICS

OUTPUT POLARITY			Acceleration directed into base of unit produces positive output
RESISTANCE (Between pins)	MΩ		≥ 100
At +1200°F (+650°C)	kΩ		≥ 10
ISOLATION (Between pins)	MΩ		≥ 100
At +1200°F (+650°C)	kΩ		≥ 100
CAPACITANCE	pF		180
Accelerometer without hardline cable			
HARDLINE CABLE CAPACITANCE	pF/ft (pF/m)		110 (361)
(Center conductor to inner shield)			
GROUNDING			Signal return isolated from case

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE			
TRANSDUCER/HARDLINE CABLE [3]			
CONTINUOUS			-65°F to +1200°F (-54°C to +649°C)
INTERMITTENT			-65°F to +1400°F (-54°C to +760°C)
CONNECTOR			-65°F to +500°F (-54°C to +260°C)
HUMIDITY			
TRANSDUCER/CABLE			Hermetically sealed
CONNECTOR			Epoxy sealed, non-hermetic
SINUSOIDAL VIBRATION LIMIT	g pk		250
SHOCK LIMIT	g pk		1000

PHYSICAL CHARACTERISTICS

DIMENSIONS			See Outline Drawing
MASS			
Sensor without integral cable	gm (oz)		95 (3.3)
Integral Cable	gm/ft oz/ft		14 (0.49)
CASE MATERIAL			
Inconel			
HARDLINE CABLE		Triaxial, 0.125 inch-diameter, Inconel-jacketed, mineral-oxide-insulated. The model number suffix, "XXX," indicates cable length in inches.	
CONNECTOR		Coaxial receptacle with 10-32 UNF threads designed to mate with ENDEVCO 3000 Series Cable Assembly or equivalent. Receptacle must be handled with care.	
MOUNTING		Single recessed hole for 1/4 inch screw.	
MOUNTING TORQUE	lbf-in (Nm)		24 (2.7)

CALIBRATION

SUPPLIED:		
CHARGE SENSITIVITY	pC/g	at 100Hz; 3g's
TRANSVERSE SENSITIVITY	%	
CAPACITANCE	pF	

INCLUDED ACCESSORIES

P/N EH301	MOUNTING SCREW 1/4-28 UNF x 0.75 in socket head cap
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OPTIONAL ACCESSORIES

3090C-XXX	CABLE ASSEMBLY (500°F)
3075M21-XXX	CABLE ASSEMBLY (900°F)
3075M6-XXX	CABLE ASSEMBLY (900°F)

NOTES

- Frequency response is controlled by the resonance characteristics of the transducer. Estimated calibration errors are ± 1.5% to 900 Hz and 2.5% from 900 Hz to 5000 Hz.

- Low-end response of the transducer is a function of its associated electronics.
- For cable lengths of less than 12 inches (0.30 m), the maximum operating temperature is +500°F (+260°C).
- Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

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