

Model 2222D Piezoelectric accelerometer

Features

- Industry standard
- Lightweight (1 gm)
- Ground isolated with supplied mounting accessory
- Adhesive mounting
- Small structure vibration measurement
- Broad linear frequency response

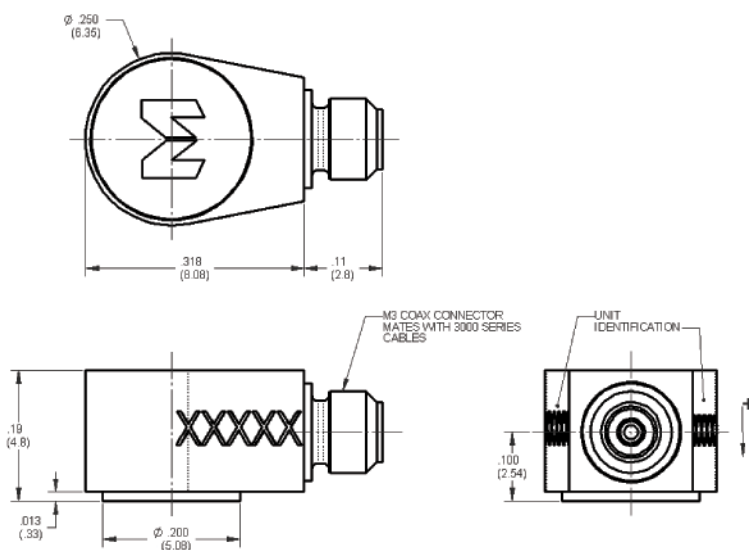


Description

The Endevco® Model 2222D is the world's most popular miniature piezoelectric accelerometer for vibration measurement on mini-structures and small objects. Its light weight (1 gm) minimizes mass loading. The accelerometer is a self generating device that requires no external power source for operation.

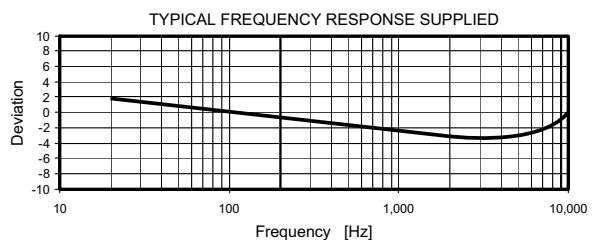
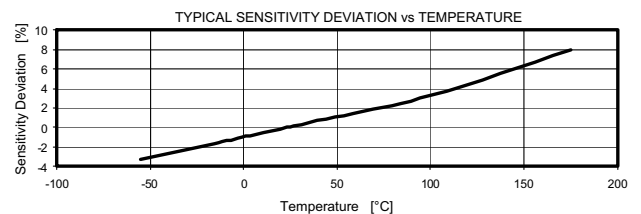
The Model 2222D features Endevco's Piezite® Type P-8 crystal element, operating in the annular shear mode. This sensor exhibits excellent output sensitivity stability over time. Signal ground is isolated from the mounting surface of the unit with a supplied hard-anodized mounting adapter. An incredibly flexible low-noise coaxial cable is supplied for error-free operation. Accelerometer and cable removal tools are included in the package to ensure proper removal in the field.

Endevco signal conditioner Models 133, 2775B or Oasis 2000 computer-controlled system are recommended for use with this high impedance accelerometer.



STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = .02 (.XX = .5)
.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		
TYPICAL	pC/g	1.1
MINIMUM	pC/g	0.95
FREQUENCY RESPONSE		See Typical Amplitude Response
RESONANCE FREQUENCY	kHz	45, Typical
AMPLITUDE RESPONSE [1]		
±5%	Hz	3 to 10 000
±1dB	Hz	0.1 to 12 000
TEMPERATURE RESPONSE		See Typical Curve
TRANSVERSE SENSITIVITY	%	≤5
AMPLITUDE LINEARITY [4]	%	<1

ELECTRICAL CHARACTERISTICS		
OUTPUT POLARITY		Acceleration directed into the base of the unit produces positive output
RESISTANCE	GΩ	≥ 10
CAPACITANCE	pF	120, Typical
GROUNDING		Signal ground connected to case

ENVIRONMENTAL CHARACTERISTICS		
TEMPERATURE RANGE		-67°F to +347°F (-55°C to +175°C)
HUMIDITY		Hermetically Sealed
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT [2] [3]	g pk	10 000
BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.04

PHYSICAL CHARACTERISTICS		
DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	1 (0.035)
CASE MATERIAL		Titanium alloy GAI-4V
CONNECTOR		M3 Coaxial side mount
MOUNTING [4]		Adhesive

CALIBRATION [5]		
SUPPLIED:		
CHARGE FREQUENCY RESPONSE	%	20 to 10 000 Hz
CHARGE SENSITIVITY	pC/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
MOUNTED RESONANCE FREQUENCY	kHz	

INCLUDED ACCESSORIES

Model 2943M1	REMOVAL TOOL
Model 3053V-120 (10 ft.)	CABLE ASSEMBLY, versaFLEX
2987M9	GROUND ISOLATION MOUNT

OPTIONAL ACCESSORIES

Model 2771BM1-1	IN-LINE CHARGE CONVERTOR FOR USE WITH CONSTANT CURRENT SOURCE
Model 2961	TRIAxIAL MOUNTING BLOCK
P/N 31849	ADHESIVE MOUNTING KIT
3053H-120 (10 ft.)	CABLE ASSEMBLY, hyperFLEX

NOTES

- Low-end response of the transducer is a function of its associated electronics.
- When exposed to high g and large displacement, the cable must be tied down as close to the accelerometer as possible to prevent cable whip and subsequent cable failure.

- Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors. Send for TP290 for more details.
- Adhesives such as petro-wax, hot-melt glue, and cyanoacrylate epoxy (super glue) may be used to mount the accelerometer temporarily to the test structure. An adhesive mounting kit (P/N 31849) is available as an option from Endevco. To remove an epoxy-mounted accelerometer, first soften the epoxy with an appropriate solvent and then twist the unit off with the supplied removal wrench. Damage to sensors caused by inappropriate removal procedures are not covered by Endevco's warranty.
- 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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