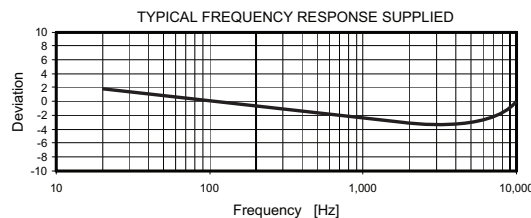
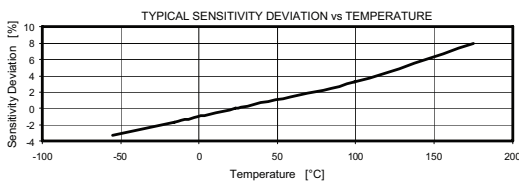
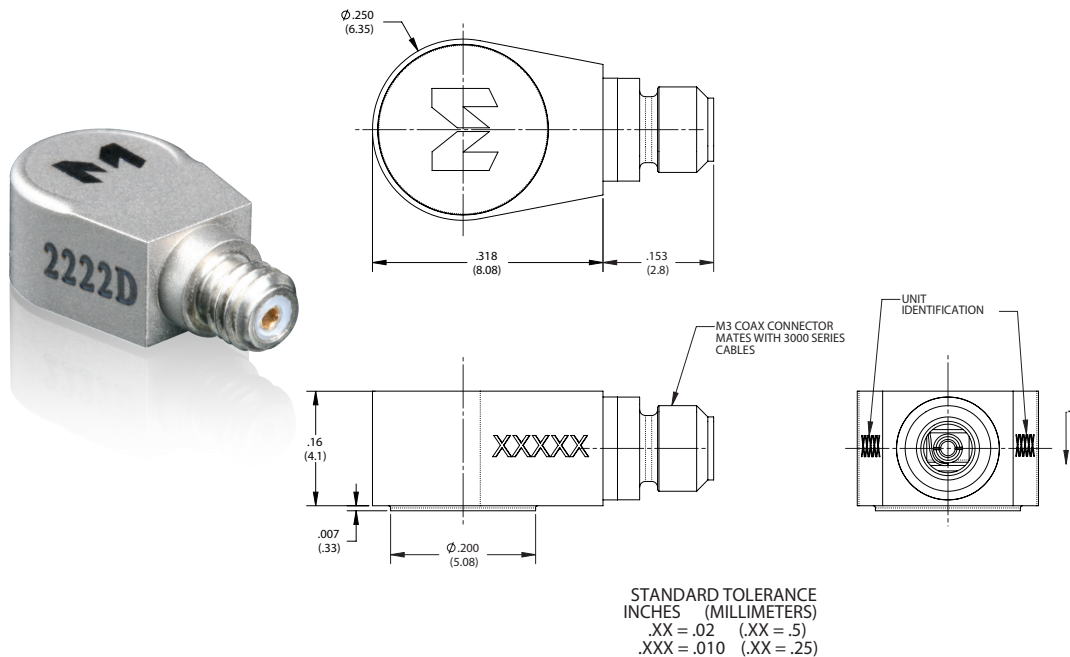


# Piezoelectric accelerometer

## Model 2222D



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 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 2771C, 2775B or OASIS 2000 computer-controlled system are recommended for use with this high impedance accelerometer.

### Key features

- NEW! 2222D-R available as a replacement sensor
- Industry standard
- Lightweight (1 gm)
- Ground isolated with supplied mounting accessory
- Adhesive mounting
- Small structure vibration measurement
- Broad linear frequency response

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### 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
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	%	< 1

#### Electrical characteristics

Output polarity		Acceleration directed into the base of unit produces positive output
Resistance	GΩ	≥ 10
Capacitance	pF	120
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 at 250 μ strain	equiv. g pk/μ strain	0.04

#### Physical characteristics

Dimensions		See outline drawing
Weight	gm (oz)	1 (0.035)
Case material		Titanium alloy 6Al-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	%	

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### Accessories

Product	Description	2222D	2222D-R
2943M1	Removal tool	Included	Optional
3053V-120	Cable assembly, versaFLEX, 10 ft	Included	Optional
2987M9	Ground isolation mount	Included	Optional
2771C	In-line charge convertor for use with constant current source	Optional	Optional
2961	Triaxial mounting block	Optional	Optional
31849	Adhesive mounting kit	Optional	Optional
32279	Mounting wax	Included	Optional
2775B	Signal conditioner	Optional	Optional
4990A-1	OASIS 2000 computer-controlled system	Optional	Optional

### Notes

1. Low-end response of the transducer is a function of its associated electronics.
2. 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.
3. 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.
4. 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 supplied removal wrench. Damage to sensors caused by inappropriate removal procedures are not covered by Endevco's warranty.
5. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

### Contact

#### ENDEVCO

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