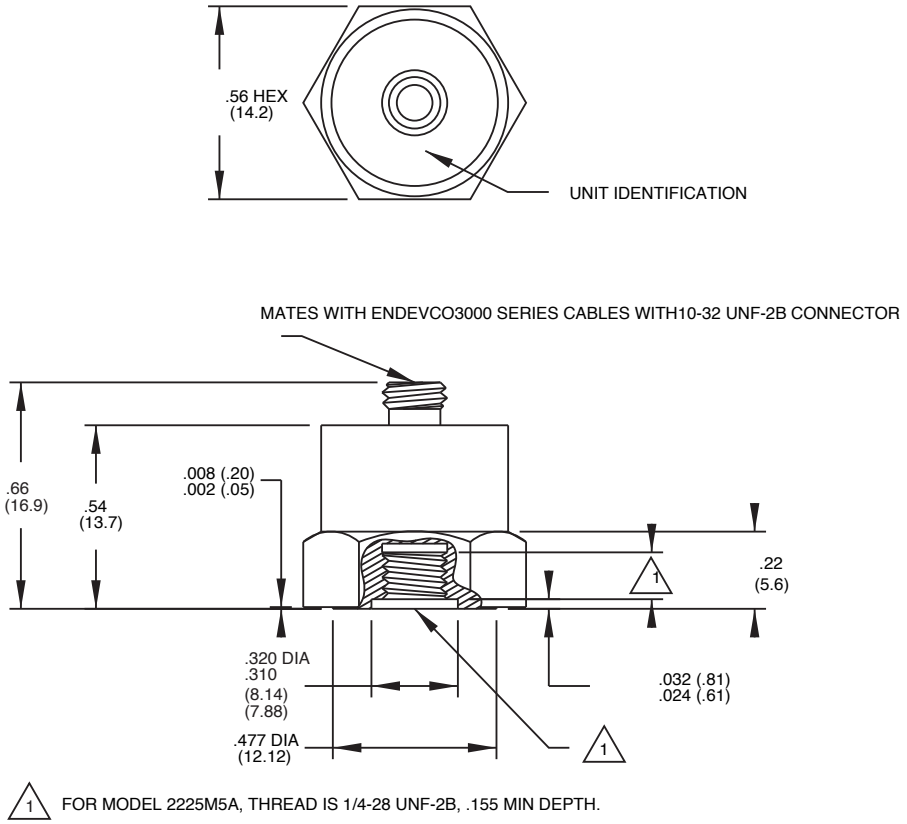
Endevco®

Model 2225M5A

Piezoelectric accelerometer



STANDARD TOLERANCE INCHES (MILLIMETERS).XX = +/- .02 (.X = +/- .5). XXX = +/- .010 (.XX = +/- .25)

Key features

- High amplitude shock
- Industry standard
- Rugged - requires no external power
- Annular shear
- High resonant frequency
- Small and lightweight

Description

The Endevco® model 2225M5A is a lightweight piezoelectric accelerometers designed specifically for high amplitude shock motion measurements. The model 2225M5A is designed to minimize "zero" shift caused by high acceleration amplitudes.This sensor is the industry standard for shock accelerometers. The model 2225M5A features a 1/4-28 threaded hole for additional mounting integrity needed during high-g shock. The accelerometer is a self-generating device that requires no external power source for operation.

Model 2225M5A features Endevco's Piezite® type P-10 crystal elements, operating in annular shear mode. These specially designed crystals exhibit low base strain sensitivity, high resonance frequency, and excellent output stability over time. Signal ground is connected to the outer case of the unit. The accelerometer features a 10-32 top connector and requires a low-noise coaxial cable for error-free operation.

Endevco signal conditioner models 133, 2771C, and 6634C are recommended for use with these high impedance accelerometers.

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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**	**2225M5A**
Charge sensitivity		
Typical	pC/g	0.025
Minimum	pC/g	0.020
Frequency response		
Resonance frequency	kHz	80
Dynamic range	g	100 000 [1]
Amplitude linearity	%	< 2% to 20 Kg, designed for less than 10% to 100 Kg
Cross-axis sensitivity, max	%	10
Electrical characteristics		
Capacity	pF	96
Output polarity		Acceleration directed into base produces positive output
Resistance at room temp (min @ 100 V)	GΩ	20
Voltage, 300 pF external capacity	mV pk/g pk	0.06
Environmental characteristics		
Temperature range		-65˚F to +150˚F (-54˚C to +66˚C)
Humidity		Epoxy sealed, non-hermetic
Sinusoidal vibration limit	g pk	N/A
Shock limit	g pk	100 000
Acceleration range	pk g	100 000 for 250 microseconds half-sine pulse in positive
direction [2]		
Physical characteristics		
Dimensions		See outline drawing
Weight	oz (gm)	0.46 (13)
Case material		Stainless steel
Connector		Coaxial, 10-32 thread, mates with Endevco 3060D series cables
Mounting torque	lbf-in (Nm)	18 (2)
Mounting		Holes for 2984-2 stud (1/4-28 thread)
Calibration		
Supplied:		
Frequency response	%	N/A
	dB	N/A
Charge sensitivity		[3] and [4]
Capacitance	pF	[3] and [5]
Maximum transverse sensitivity	%	N/A

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Accessories

Product	Description	2225
3060D-120	Cable assembly, 10 ft	Included
2984-2	Adapter stud 1/4-28 to 1/4-28	Included
EJ3	Connector	Optional
133	Signal conditioner	Optional
2771C	In-line charge convertor IEPE powered	Optional
6634C	Signal conditioner	Optional

Notes

1. Positive direction (through base). Not recommended for applications with high transient acceleration in side and negative directions.
2. Side and negative acceleration limits have not been determined experimentally.
3. Only charge sensitivity and capacitance is supplied.
4. By shock method, approx. 2500 pk g half-sine 0.2 ms duration.
5. At 100 Hz and 1000 Hz

Ordering information

1. 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.