Piezoelectric Accelerometer

ENDEVCO MODEL 2229C

Model 2229C

- **Requires No External Power**
- **Annular Shear**
- **To +350°F (+177°C)**
- **Light Weight (4.9 gm)**
- **Top Connector**
- **Stud Mounted**
- **Ground Isolated**

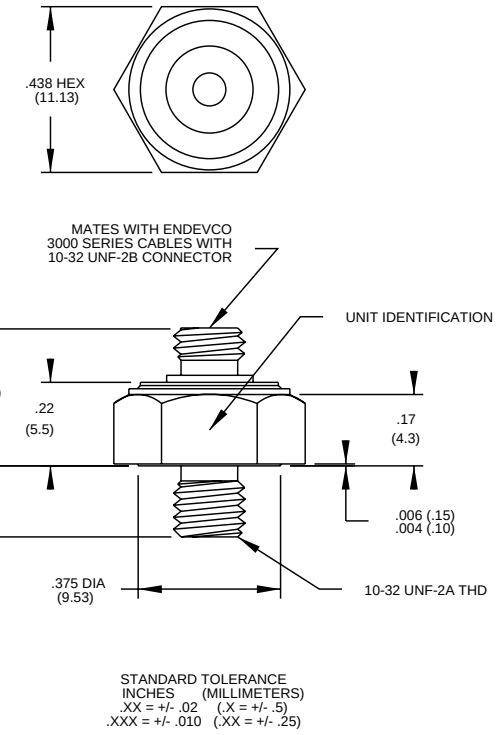


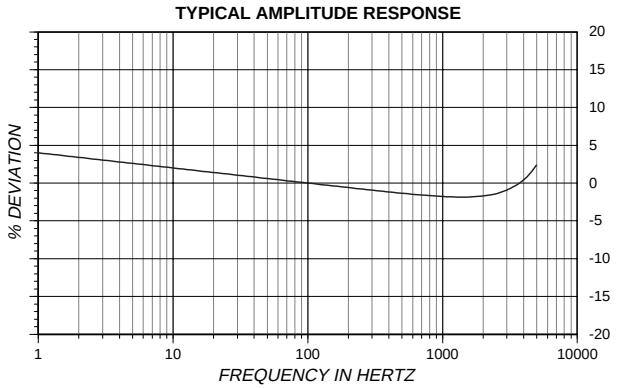
DESCRIPTION

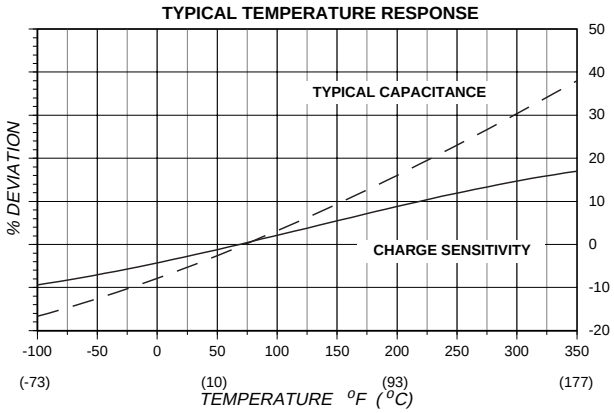
The ENDEVCO® Model 2229C is a miniature, stud mounted piezoelectric accelerometer designed specifically for vibration measurement on small structures and objects. The transducer features a top-mounted 10-32 receptacle for installation convenience in tight space. Its light weight (4.9 gm) effectively minimizes mass loading effects. The accelerometer is a self-generating device that requires no external power source for operation.

The Model 2229C features ENDEVCO's PIEZITE® Type P-8 crystal element, operating in annular shear mode, which exhibits excellent output sensitivity stability over time. Signal ground is isolated from the mounting surface of the unit. A low-noise, flexible coaxial cable is supplied for error-free operation.

ENDEVCO Signal Conditioner Models 133, 2775A or CCAS™ are recommended for use with this high impedance accelerometer.







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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	2.8
MINIMUM	pC/g	2.2
FREQUENCY RESPONSE		See Typical Amplitude Response
RESONANCE FREQUENCY	kHz	21
AMPLITUDE RESPONSE [1] ±5%	Hz	1 to 5000
TEMPERATURE RESPONSE		See Typical Curve
TRANSVERSE SENSITIVITY	%	≤ 5
AMPLITUDE LINEARITY [2] Per 500 g, 0 to 2000 g	%	1

ELECTRICAL CHARACTERISTICS		
OUTPUT POLARITY		Acceleration directed into the base of the unit produces positive output
RESISTANCE	GΩ	≥ 10
ISOLATION RESISTANCE	MΩ	10
CAPACITANCE	pF	400
GROUNDING		Signal return is isolated from case

ENVIRONMENTAL CHARACTERISTICS		
TEMPERATURE RANGE		-67°F to +350°F (-55°C to +177°C)
HUMIDITY		Epoxy sealed, non-hermetic
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT	g pk	2000
BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.005
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (/°C)	0.004 (0.007)
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.001

PHYSICAL CHARACTERISTICS		
DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	4.9 (0.17)
CASE MATERIAL		Stainless Steel
CONNECTOR		Coaxial, 10-32 thread. Mates with Endevco 3060A Cable
MOUNTING TORQUE	lbf-in (Nm)	18 (2)

CALIBRATION		
SUPPLIED:		
CHARGE SENSITIVITY	pC/g	
CAPACITANCE	pF	
MAXIMUM TRANSVERSE SENSITIVITY	%	
CHARGE FREQUENCY RESPONSE	%	20 Hz to 5000 Hz
	dB	5 kHz to 30 kHz

ACCESSORIES

Model 3060A-120 (10 ft) CABLE ASSEMBLY [3]

OPTIONAL ACCESSORIES

Model 2771AM3 IN-LINE CHARGE CONVERTOR FOR USE WITH CONSTANT CURRENT SOURCE

NOTES

1. Low-end response of the transducer is a function of its associated electronics.
2. 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.
3. Flexible cable, such as the supplied 3060A, should be used to minimize cable-strain errors.

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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