

Model 2229C Piezoelectric accelerometer

Features

- Ground isolated
- Top connector
- Stud mounted
- Requires no external power
- Vibration measurement on small structures

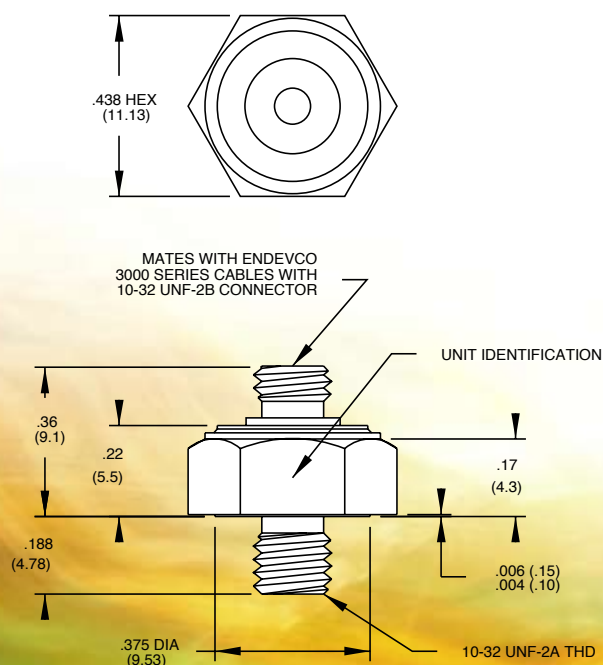


Description

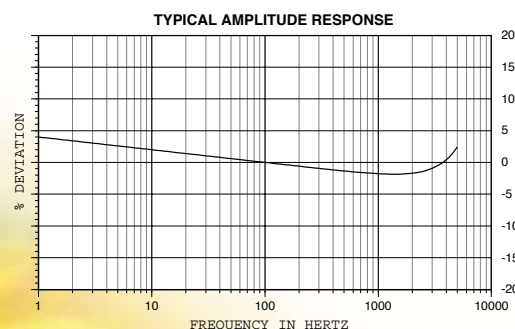
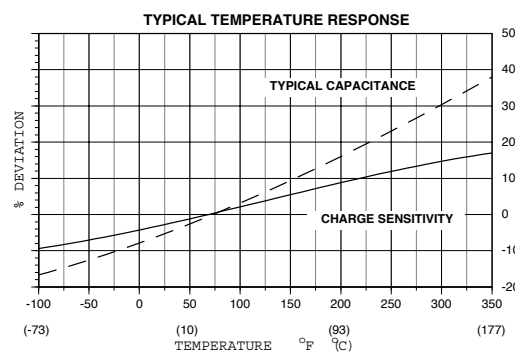
The Endevco® Model 2229C is a miniature, stud mounted piezoelectric accelerometer designed specifically for vibration measurement on small structures and objects. The transducer features a top-mounted 10-32 receptacle for installation convenience in tight space. Its light weight (4.9 gm) effectively minimizes mass loading. 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. This device 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 Oasis 2000 computer-controlled system are recommended for use with this high impedance accelerometer.



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



Model 2229C

Piezoelectric accelerometer

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	2.8
MINIMUM	pC/g	2.2
FREQUENCY RESPONSE		
RESONANCE FREQUENCY	kHz	21 (Typical)
AMPLITUDE RESPONSE [1]		
±5%	Hz	1 to 5000
±1dB	Hz	.5 to 6000
TEMPERATURE RESPONSE		
TRANSVERSE SENSITIVITY	%	See Typical Curve
AMPLITUDE LINEARITY [2]	%	≤ 5
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

- 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.

NOTES

- Low-end response of the transducer is a function of its associated electronics.
- 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.
- 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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