

Model 2224C Piezoelectric accelerometer

Features

- Low cost
- Rugged
- Small size
- Top connector
- General purpose vibration measurement

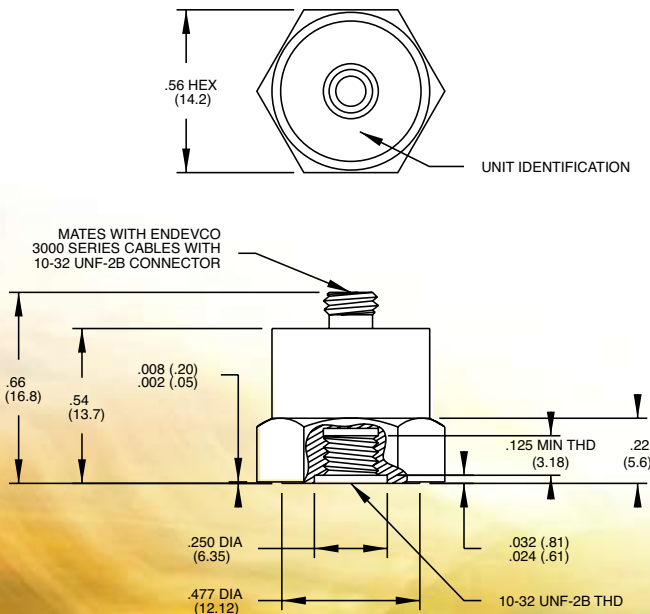


Description

The Endevco® model 2224C is a general purpose piezoelectric accelerometer designed for vibration measurement on small structures. The unit features a top connector for mounting convenience in limited space. The accelerometer is a self generating device that requires no external power source for operation.

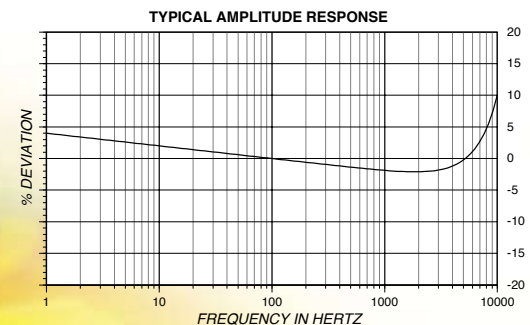
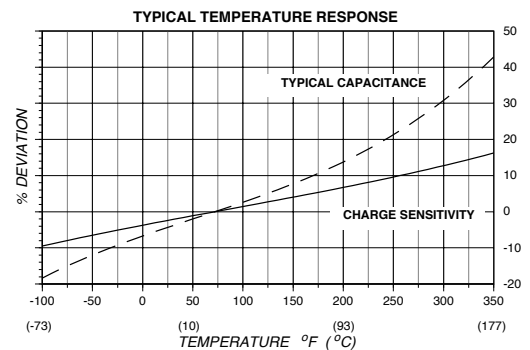
The model 2224C features Endevco's Piezite® Type P-8 crystal element operating in annular shear mode. This sensor exhibits low base strain sensitivity, high resonance frequency, and excellent output stability over time. Signal ground is connected to the outer case of the unit and, when used with an isolated mounting stud, the accelerometer case is electrically isolated from ground. A low-noise 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.



NOTE:
IF ALTERNATE STUD IS USED, THE LENGTH OF STUD FROM MOUNTING SURFACE MUST BE .140/.135 (3.56/3.43)

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



Model 2224C 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	12.0
Minimum	pC/g	8.5
Frequency response		See typical amplitude response
Resonance frequency	kHz	32
Amplitude response [1]		
±5 %	Hz	1 to 6000
±1 dB	Hz	.1 to 10 000
Temperature response		See typical curve
Transverse sensitivity	%	≤ 3 (≤ 1 on special order)
Amplitude linearity [2]	%	1
Per 250 g, 0 to 1000 g		

Electrical characteristics

Output polarity		Acceleration into the base produces positive output
Resistance	GΩ	≥ 10
Capacitance	pF	800
Grounding		Signal ground common to transducer 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	0.002
Thermal transient sensitivity	equiv. g pk/°F (I/°C)	0.001 (0.002)
Electromagnetic sensitivity	equiv. g rms/gauss	0.0001

Physical characteristics

Dimensions		See outline drawing
Weight	gm (oz)	16 (0.56)
Case material		303 stainless steel
Connector		Coaxial, 10-32 thread, mates with Endevco 3000 series cable
Mounting torque	lbf-in (Nm)	18 (2)

Calibration

Supplied:		
Charge sensitivity	pC/g	
Capacitance	pF	
Maximum transverse sensitivity	%	
Charge frequency response		20 to 6 kHz
		6 kHz to 40 kHz

Accessories

Model 3090C-120 (10 ft)	Cable assembly
Model 92981-12	Mounting stud, 10-32, Hex I.D.
EHM464	Wrench, Hex key

Optional accessories	
Model 2771AM3	In-line charge convertor for use with constant current source
Model 2981-12	Mounting stud, 10-32 to 10-32
Model 2950	Triaxial mounting block

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. 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 turnaround time for these services as well as for quotations on our standard products.



APPLIES TO CALIFORNIA FACILITY

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.

© ENDEVCO CORPORATION. ALL RIGHTS RESERVED 30700 RANCHO VIEJO ROAD, SAN JUAN CAPISTRANO, CA92675 USA
(800) 982-6732 • (949) 493-8181 fax (949) 661-7231 • www.endevco.com • Email: applications@endevco.com

0508

MEGGITT
smart engineering for
extreme environments