

# ISOTRON® Accelerometer

**ENDEVCO  
MODEL  
2256AM2**

## Model 2256AM2

- Cryogenic Ready (to -185°C)
- Light Weight (5 gm)
- Hermetically Sealed
- Adhesive Mounting (Stud-Mount Option Available)
- Cold Temperature Vibration Measurement, Shock/Package Testing



Actual size

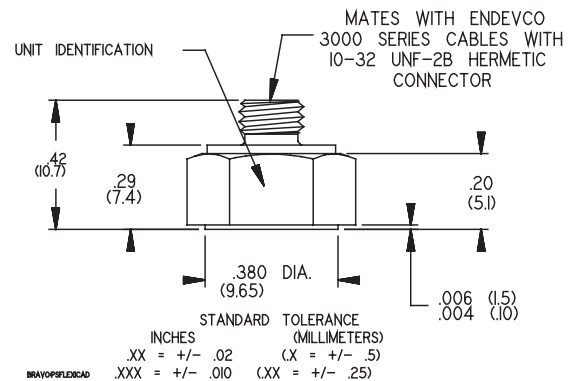
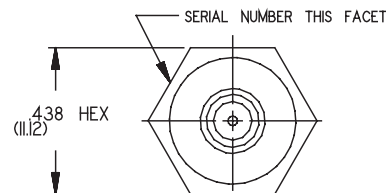


### DESCRIPTION

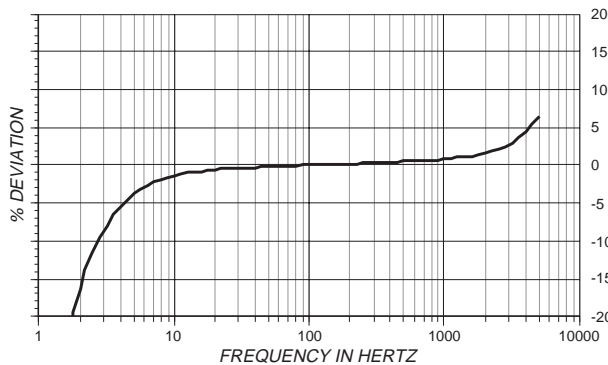
The ENDEVCO® Model 2256AM2 is a small, hermetically sealed piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration in cryogenic environments. The transducer features a hermetically sealed 10-32 top connector, and has a titanium hex base designed for adhesive mounting (optional stud mounting is available for custom order). Its light weight effectively minimizes mass loading effects.

The Model 2256AM2 features ENDEVCO's unique PIEZITE® Type P-10 crystal element, operating in annular shear mode, which exhibits excellent output stability over a wide temperature range. This accelerometer uses a special internal microelectronic amplifier designed for cryogenic temperature environments, which transmits its low impedance voltage output through the same two-wire cable that supplies the required constant current power. Model 2256AM2 can operate continuously at -185°C, and intermittently at -200°C. Outer case of the unit is electrically isolated from signal ground.

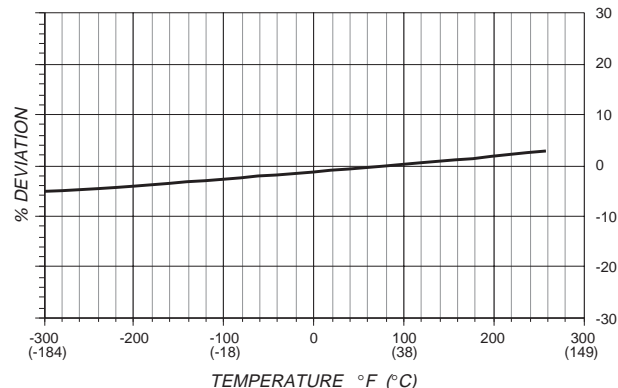
ENDEVCO Signal Conditioner Models 4416B, 133, 2792B, 2793, 2775A or OASIS 2000 Computer-Controlled System are recommended for use with this accelerometer.



TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE



# ENDEVCO MODEL 2256AM2

## ISOTRON® Accelerometer

### SPECIFICATIONS

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C), 4 mA, and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS	Units	
RANGE	g	±1000
VOLTAGE SENSITIVITY		
typical	mV/g	5
minimum	mV/g	4
FREQUENCY RESPONSE		See Typical Amplitude Response
RESONANCE FREQUENCY	kHz	20
AMPLITUDE RESPONSE		
±5%	Hz	3 to 3000
±1dB	Hz	1 to 8000
TEMPERATURE RESPONSE		See Typical Curve
TRANSVERSE SENSITIVITY	%	≤ 5
AMPLITUDE LINEARITY	%	≤ 1 to full scale

### OUTPUT CHARACTERISTICS

OUTPUT POLARITY		Acceleration directed into base of unit produces positive output
DC OUTPUT BIAS VOLTAGE	Vdc	+8.5 to +11.5
OUTPUT IMPEDANCE	Ω	≤ 200
FULL SCALE OUTPUT VOLTAGE	V	±5
RESOLUTION	equiv. g rms	0.0015
1 Hz to 8 kHz, broadband		
OVERLOAD RECOVERY	μ sec	≤ 10
GROUNDING		Signal ground connected to inner case but isolated from outer housing

### POWER REQUIREMENT

SUPPLY VOLTAGE	Vdc	+18 to +24
SUPPLY CURRENT	mA	+2 to +10
WARM-UP TIME	sec	< 5
To within 10% of final bias		

### ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE [1]		-300°F to +257°F (-185°C to +125°C)
HUMIDITY		Hermetically Sealed
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT [2]	g pk	2000
BASE STRAIN SENSITIVITY	equiv. g pk/μstrain	0.0008
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (°C)	0.1 (0.180)
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.0001

### PHYSICAL CHARACTERISTICS

DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	5 (0.18)
CASE MATERIAL		Titanium case, stainless steel housing
CONNECTOR		Coaxial, 10-32 thread, mates with Endevco 3000 Series Cable
MOUNTING [3]		Flat finish provided for adhesive mounting

### CALIBRATION

SUPPLIED:		
SENSITIVITY	mV/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE		20 Hz to 3 kHz
	dB	3 kHz to 50 kHz

### ACCESSORIES

Model 3060A-120 (10 ft) CABLE ASSEMBLY [2]  
MOUNTING WAX

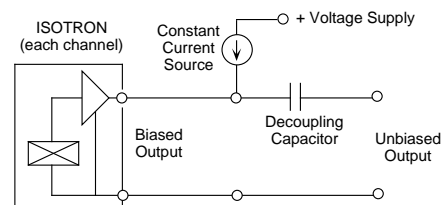
### OPTIONAL ACCESSORIES

P/N 31849 ADHESIVE MOUNTING KIT  
P/N 32227 MOUNTING WAX

### NOTES

- The accelerometer may be used intermittently (less than five minutes duration) at -200°C with no permanent damage.
- For applications require measurement below -185°C, Model 7722 or 7724 are recommended.
- 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.

- 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.



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.