ISOTRON® Accelerometer

ENDEVCO MODEL 256HX-10 -100

Model 256HX-10, -100

- **Light Weight (4.2 gm)**
- **Hermetically Sealed**
- **Milli-g's Resolution**
- **Low Cost, Modal Ready**
- **Stud Mount Capability on Small Structure Vibration Measurements**

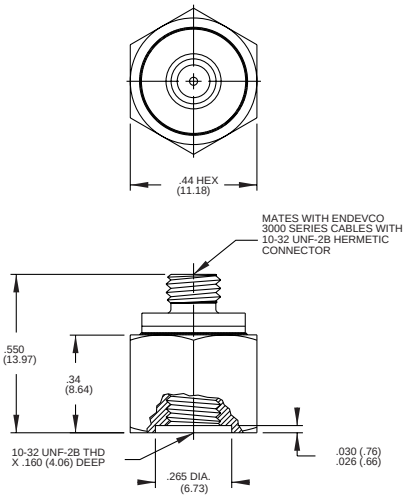
Actual size

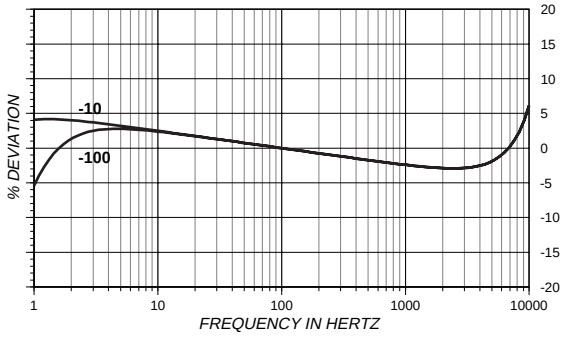
DESCRIPTION

The ENDEVCO® Model 256HX is a small piezoelectric accelerometer with integral electronics, designed specifically for making modal and other vibration measurements on small structures. The transducer is designed for stud mounting, and its case ground is isolated from the mounting surface. The hermetically sealed top connector and welded housing provide long-term reliability even in harsh environment. Its light weight (4.2 gm) effectively minimizes mass loading effects.

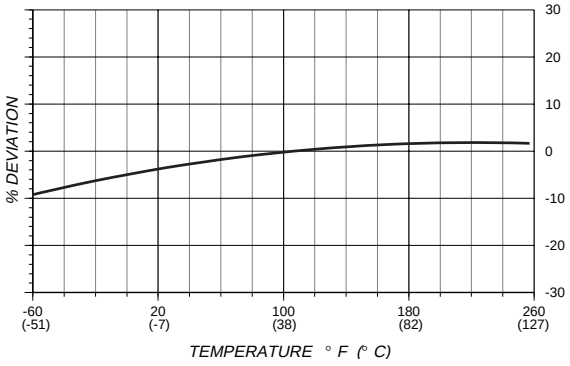
The Model 256HX features ENDEVCO's unique PIEZITE® Type P-8 crystal element, operating in annular shear mode, which exhibits excellent thermal transients stability. This accelerometer uses a built-in low noise microelectronic amplifier which transmits its low impedance voltage output through the same two-wire cable that supplies the required constant current power. A model suffix indicates output sensitivity in mV/g, i.e., 256HX-10 features output sensitivity of 10 mV/g.

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





TYPICAL TEMPERATURE RESPONSE



ENDEVCO
MODEL
256HX-10
-100

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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), 4 mA, and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS	Units	-10	-100
RANGE	g	±500	±50
VOLTAGE SENSITIVITY ±10%	mV/g	10	100
FREQUENCY RESPONSE		See Typical Amplitude Response	
RESONANCE FREQUENCY	kHz	25	
AMPLITUDE RESPONSE			
±5%	Hz	1 to 8000	
±1 dB	Hz	.5 to 10 000	
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	+11.3 to +12.7	
OUTPUT IMPEDANCE	Ω	≤ 200	
FULL SCALE OUTPUT VOLTAGE	V	±5	
RESOLUTION	equiv. g rms	0.001	0.0003
.5 Hz to 10 kHz, broadband			
OVERLOAD RECOVERY	m/sec	≤ 0.3	
GROUNDING		Signal ground connects to case, and isolated from mounting surface.	

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		-67°F to +257°F (-55°C to +125°C)	
HUMIDITY		Hermetically Sealed	
SINUSOIDAL VIBRATION LIMIT	g pk	1000	
SHOCK LIMIT [1]	g pk	2000	
BASE STRAIN SENSITIVITY	equiv. g pk/µstrain	0.0008	
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (/°C)	0.5 (0.9)	
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.0001	0.00001

PHYSICAL CHARACTERISTICS		
DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	4.2 (0.15)
CASE MATERIAL		Stainless steel, Aluminum Hex
CONNECTOR		Coaxial, 10-32 thread

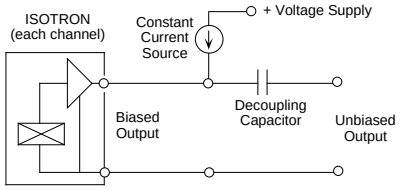
CALIBRATION		
SUPPLIED:		
SENSITIVITY	mV/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE	dB	20 Hz to 50 kHz

ACCESSORIES

Model 2981-12 MOUNTING STUD, 10-32 to 10-32
Model 3061-120 (10 ft) CABLE ASSEMBLY

NOTES:

1. ±5% sensitivity on special order.
2. Short duration shock pulse, such as those generated by metal-to metal impacts, may excite transducer resonance and cause linearity errors. Send for TP290 for more details.
3. An adhesive mounted version, Model 256, is also available.
4. 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.

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