

ISOTRON® Accelerometer

**ENDEVCO
MODEL
256-10
-100**

Model 256-10, -100

- Light Weight (3.2 gm)
- Hermetically Sealed
- Milli-g's Resolution
- Flat to 10 kHz
- Various Vibration and Shock Measurements on Small Structures
- Low Cost, Modal Ready



Actual size

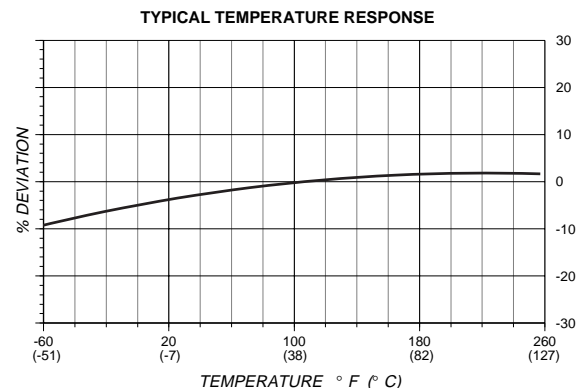
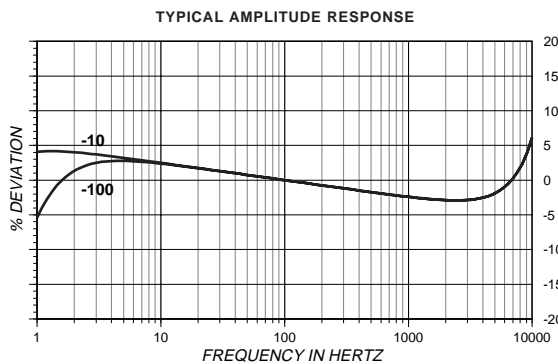
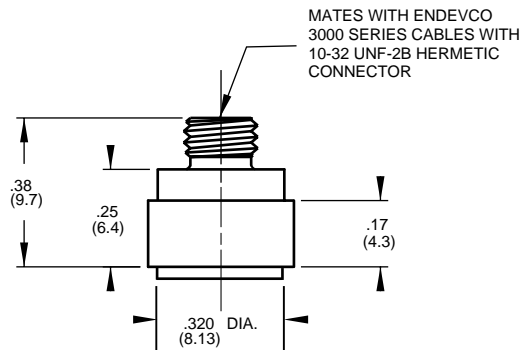
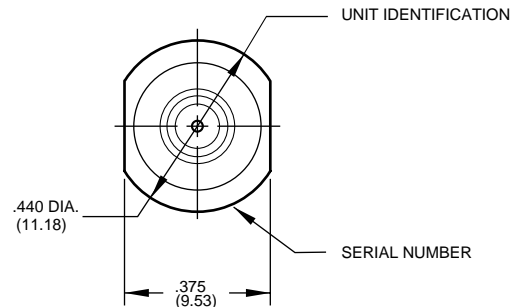


DESCRIPTION

The ENDEVCO® Model 256 is a small piezo-electric accelerometer with integral electronics, designed specifically for making modal and general vibration measurements on small structures. The transducer is designed for adhesive mounting. A dielectric layer isolates the case ground from the mounting surface. The hermetically sealed top connector and welded housing provide long-term reliability even in harsh environments. Its light weight (3.2 gm) effectively minimizes mass loading effects.

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



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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	mV/g	10	100
±10%			
FREQUENCY RESPONSE	See Typical Amplitude Response		
RESONANCE FREQUENCY	kHz	20	
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	0.003
.5 Hz to 10 kHz, broadband			
OVERLOAD RECOVERY	ms	≤ 0.3	
GROUNDING	Signal ground connects to case, and is isolated from the mounting surface by a dielectric layer.		

POWER REQUIREMENT

SUPPLY VOLTAGE	Vdc	+18 to +24
SUPPLY CURRENT	mA	+2 to +10
WARM-UP TIME	sec	< 8
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	0.01	0.001

PHYSICAL CHARACTERISTICS

DIMENSIONS	See Outline Drawing		
WEIGHT	gm (oz)	3.2 (0.11)	
CASE MATERIAL	Stainless steel		
CONNECTOR	Coaxial, 10-32 thread		

CALIBRATION

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

ACCESSORIES

Model 3061-120 (10 ft) CABLE ASSEMBLY
MOUNTING WAX

OPTIONAL ACCESSORIES

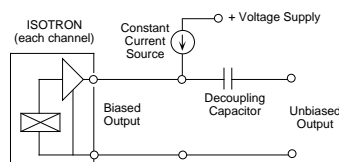
P/N 32227 MOUNTING WAX

NOTES:

- Depending on the dynamic and environmental requirements, adhesives such as petro-wax, hot-melt glue, and cyanoacrylate epoxy (super glue) may be used to mount the accelerometer temporarily to the test structure. An adhesive mounting kit (P/N 31849) is available as an option from Endevco.
- 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.

- To remove an epoxy mounted accelerometer, first soften the epoxy with an appropriate solvent and then twist the unit off with the supplied removal wrench. Damage to sensors caused by inappropriate removal procedures are not covered by Endevco's warranty.



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, 30700 RANCHO VIEJO ROAD, SAN JUAN CAPISTRANO, CA 92675 USA (800) 982-6732 (949) 493-8181 fax (949) 661-7231
www.endevco.com Email:applications@endevco.com