ISOTRON® Accelerometer

ENDEVCO MODEL 7250A-2 -10

Model 7250A-2 and -10

- **Low Impedance Output**
- **Hermetically Sealed**
- **360° Cable Orientation**
- **Light Weight (1.8 gm)**
- **Flight Test Applications**



Actual size

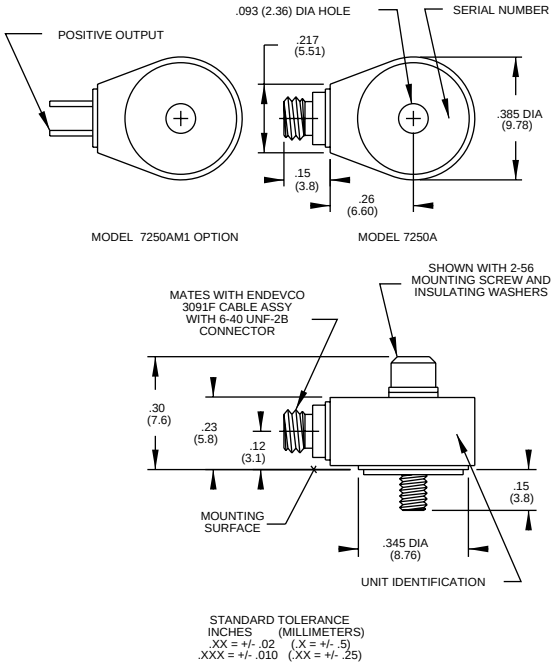
DESCRIPTION

The ENDEVCO® Model 7250A is a subminiature, piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration on small objects. The unit is hermetically sealed for use in extreme environments and to ensure long term stability. This accelerometer offers high resonance frequency and wide bandwidth, its light weight (1.8 gm) effectively eliminates mass loading effects. The Model 7250A features a standard 6-40 coaxial connector which requires a specially designed coaxial cable for error free operation.

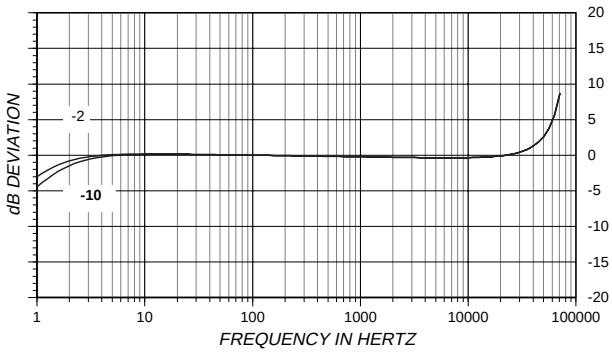
The Model 7250A features ENDEVCO's PIEZITE® Type P-8 crystal element, operating in annular shear mode. This accelerometer incorporates an internal hybrid signal conditioner in a two-wire system, which transmits its low impedance voltage output through the same cable that supplies the constant current power. Signal ground is connected to the outer case of the unit and, when used with the supplied isolated mounting screw/washer, it is electrically isolated from ground. The centrally located mounting bolt permits 360° cable orientation, however, the unit may also be adhesively mounted. A model number suffix indicates acceleration sensitivity in mV/g; i.e., 7250A-10 features output sensitivity of 10 mV/g.

A special version, Model 7250AM1, is available with solder pins as output terminals instead of the 6-40 UNF connector.

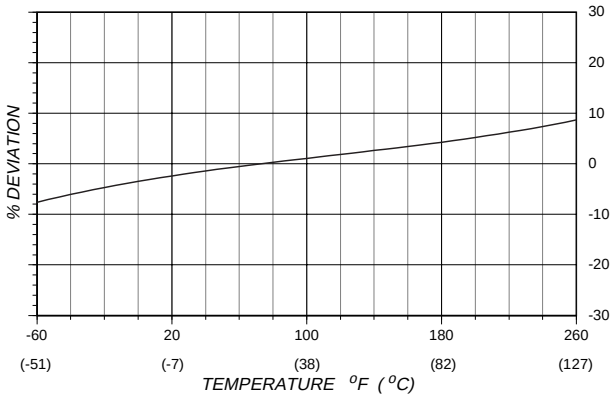
ENDEVCO Signal Conditioner Models 4416B, 133, 2792B, 2793, 2775A or OASIS 2000 Computer-Controlled System are recommended for use with these accelerometers.



TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE REPONSE



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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	-2	-10
RANGE	g	±5000	±500
VOLTAGE SENSITIVITY [1] ±10%	mV/g	2	10
FREQUENCY RESPONSE		See Typical Amplitude Response	
RESONANCE FREQUENCY	kHz	85	
AMPLITUDE RESPONSE			
±5%	Hz	3 to 10 000	3 to 10 000
±1 dB	Hz	2 to 20 000	2 to 20 000
TEMPERATURE RESPONSE		See Typical Curve	
TRANSVERSE SENSITIVITY	%	≤ 5	
AMPLITUDE LINEARITY [2]	%	1 to full scale	
OUTPUT CHARACTERISTICS			
OUTPUT POLARITY		Acceleration directed into base of unit produces positive output	
DC OUTPUT BIAS VOLTAGE	Vdc	+11.0 to +14.0	+8.5 to +11.5
OUTPUT IMPEDANCE	Ω	≤ 200	
FULL SCALE OUTPUT VOLTAGE	V	±10	±5
RESOLUTION 2 Hz to 20 kHz	equiv. g rms	0.01	0.02
GROUNDING		Signal ground connected to case. Isolation achieved via isolated mounting washer and isolated screw	
POWER REQUIREMENT			
SUPPLY VOLTAGE	Vdc	+24 to +28	+18 to +28
SUPPLY CURRENT	mA	+2 to +10	
WARM-UP TIME To 10% of final bias level	sec	< 3	
ENVIRONMENTAL CHARACTERISTICS			
TEMPERATURE RANGE		-67°F to +257°F (-55°C to +125°C)	
HUMIDITY		Hermetically sealed	
SINUSOIDAL VIBRATION LIMIT	g pk	2000	
SHOCK LIMIT	g pk	10 000	
BASE STRAIN SENSITIVITY			
Screw Mounted	equiv. g pk/μ strain	0.8	
Adhesive Mounted	equiv. g pk/μ strain	0.0004	
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (/°C)	0.5 (0.9)	
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.2	
PHYSICAL CHARACTERISTICS			
DIMENSIONS		See Outline Drawing	
WEIGHT			
Without Mounting Screw	gm (oz)	1.8 (0.06)	
With Mounting Screw	gm (oz)	2.3 (0.08)	
CASE MATERIAL		Nickel plated aluminum case. Invar 36 support	
CONNECTOR		6-40, Mates with Endevco 3091F	
MOUNTING TORQUE	lbf-in (Nm)	5 (0.57)	
CALIBRATION			
SUPPLIED:			
SENSITIVITY	mV/g		
MAXIMUM TRANSVERSE SENSITIVITY	%		
FREQUENCY RESPONSE	dB	20 Hz to 50 kHz	

ACCESSORIES

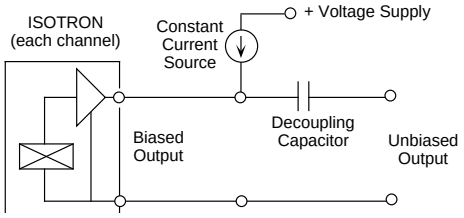
Model 3091F-120 (10 ft)	CABLE ASSEMBLY
P/N EHM178	ALLEN WRENCH
P/N 12746	INSULATED MOUNTING SCREW KIT

OPTIONAL ACCESSORIES

Model 2950M18	TRIAXIAL MOUNTING BLOCK

NOTES

1. Other sensitivity ranges available on special order.
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 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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