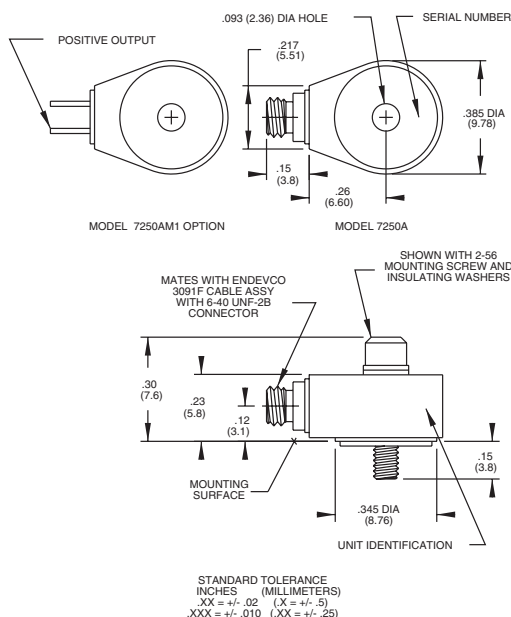


Isotron® accelerometer

Model 7250A -2, -10



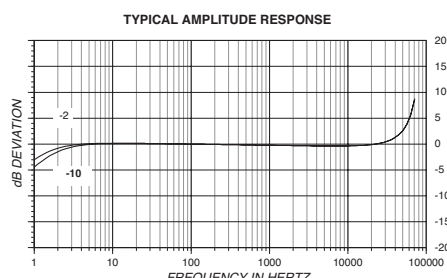
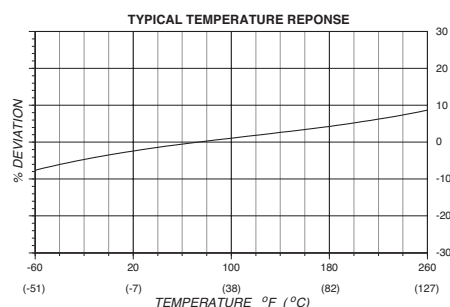
Key features

- Low impedance output
- Hermetically sealed
- 360° cable orientation
- Light weight (1.8 gm)
- Flight test applications

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 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, 2793, 2775B, 4999, 6634C or Oasis 2000 [4990A-X with cards 428 and/or 433] computer-controlled system are recommended for use with these accelerometers.





Isotron® accelerometer

Model 7250A -2, -10

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	-2	-10
Range		g	±2500	±500
Voltage sensitivity ±10%		mV/g	2	10
Frequency response			See typical amplitude response	
Resonance frequency		kHz	85	
Amplitude response ±1 dB		Hz	3 to 20 000	4 to 20 000
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		+11.0 to +14.0	
Output impedance	Ω		≤ 200	
Full scale output voltage	V		±5	
Resolution (2 Hz to 20 kHz)		equiv. g rms	0.0035	0.001
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 +20	
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 [1]	g pk		10 000	
Base strain sensitivity				
Screw mounted	eq. g pk/μ strain		0.08	
Adhesive mounted	eq. g pk/μ strain		0.0004	
Thermal transient sensitivity	eq. g pk/°F (°C)		0.5 (0.9)	
Electromagnetic sensitivity	eq. g rms/gauss		0.2	
Acoustic sensitivity (at 155 dB SPL)	equiv. g		0.1	
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	



Isotron® accelerometer

Model 7250A -2, -10

Accessories

Product	Description	7250A
3091F-120	Cable assembly	Included
EHM178	Hex wrench	Included
12746	Insulated mounting screw assembly	Included
EH96	Screw cap, hex socket, 2.56 x 3/8	Optional
EHN64	Nut, 2-56	Optional
EHW95	Washer	Optional
2950M18	Triaxial mounting block	Optional
133	Signal conditioner	Optional
2775B	Signal conditioner	Optional
2793	Isotron® Signal conditioner	Optional
4416B	Signal conditioner	Optional
4999	Signal conditioner	Optional
6634C	Signal conditioner	Optional
4990A-X	OASIS 2000 computer controlled system	Optional

Notes

1. Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors. Read TP290 for more details.
8. Maintain high levels of precision and accuracy using Meggitt's factory calibration services. Call Meggitt'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.

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Continued product improvement necessitates that Meggitt reserve the right to modify these specifications without notice. Meggitt 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. 030514

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