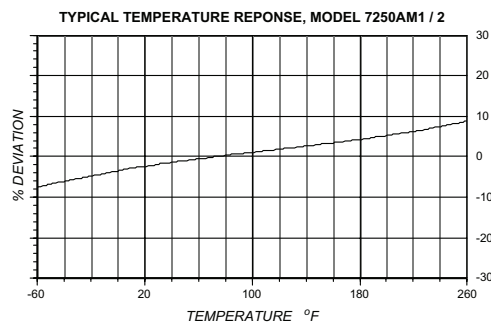
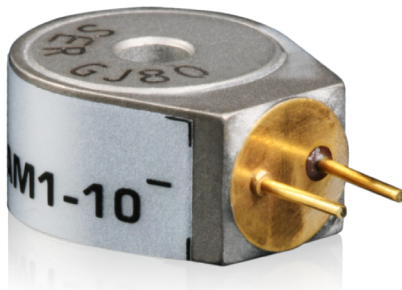


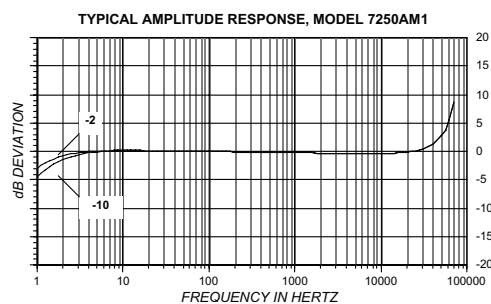
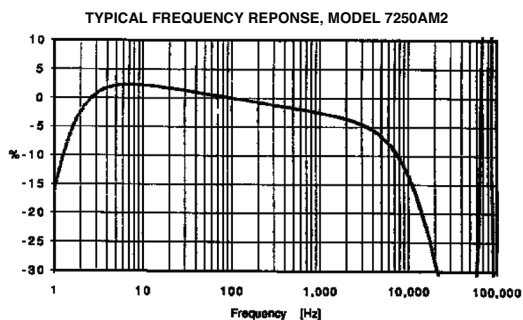
Isotron[®] accelerometer

Model 7250AM1 / 2



Key features

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



The Endevco[®] model 7250AM1/2 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 7250AM1/2 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. The 7250AM1/2 features two solderable terminals designed for light weight hook-up. A model number suffix indicates acceleration sensitivity in mV/g; i.e., 7250AM1-10 features output sensitivity of 10 mV/g.

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 7250AM1 / 2

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	7250AM1 -2	7250AM1 -10	7250AM2 -1
Range	g	±2500	±500	±5000
Voltage sensitivity ±10%	mV/g	2	10	1.0 typ (0.8 min)
Frequency response		• ————— See typical frequency response ————— •		
Resonance frequency	kHz	85	85	85
Amplitude response		• ————— See typical amplitude response ————— •		
±5%	Hz			3 to 2000
±1 dB	Hz	3 to 20 000	4 to 20 000	
-3 dB typical	Hz			20 000
Temperature response		• ————— See typical curve ————— •		
Transverse sensitivity	%	≤ 5	≤ 5	≤ 5
Amplitude linearity	%	1 to full scale	1 to full scale	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	+11.0 to +14.0	+11.0 to +14.0
-67°F to +257°F (-55°C to +125°C)	Vdc	+10.0 to +16.5	+7.5 to +14.0	+6.5 to +14.0
Output impedance	Ω	≤ 200	≤ 200	≤ 200
Full scale output voltage	V	±5 [1]	±5 [1]	±5 [1]
Residual noise (2 Hz to 30 kHz)	equiv. g rms	0.01	0.02	0.01
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	+24 to +28
Supply current	mA	+2 to +20	+2 to +20	+2 to +20
Warm-up time (to 10% of final bias level)	sec	< 3	< 3	< 3

Environmental characteristics

Temperature range		• ————— -67°F to +257°F (-55°C to +125°C) ————— •		
Humidity		• ————— Hermetically sealed ————— •		
Sinusoidal vibration limit	g pk	2000	2000	2000
Shock limit	g pk	10 000	10 000	10 000
Base strain sensitivity				
Screw mounted	eq. g pk/μ strain	0.8	0.8	0.8
Adhesive mounted	eq. g pk/μ strain	0.0004	0.0004	0.0004
Thermal transient sensitivity	eq. g pk/°F (°C)	0.5 (0.9)	0.5 (0.9)	0.5 (0.9)
Electromagnetic sensitivity	eq. g rms/gauss	0.2	0.2	0.2
Acoustic sensitivity (at 155 dB SPL)	g	0.1	0.1	0.1
Sensitivity stability	% / yr	1	1	1

Physical characteristics

Dimensions		See outline drawing		
Weight				
Without mounting screw	gm (oz)	1.8 (0.06)	1.8 (0.06)	1.8 (0.06)
With mounting screw	gm (oz)	2.3 (0.08)	2.3 (0.08)	2.3 (0.08)
Case material		• ————— Nickel plated aluminum case. Invar 36 support ————— •		
Connector		• ————— Solder terminals ————— •		
Mounting torque	lbf-in (Nm)	5 (0.57)	5 (0.57)	5 (0.57)

Calibration

Supplied:				
Sensitivity	mV/g			
Maximum transverse sensitivity	%			
Frequency response	dB	20 Hz to 50 kHz	20 Hz to 50 kHz	20 Hz to 50 kHz

Isotron® accelerometer

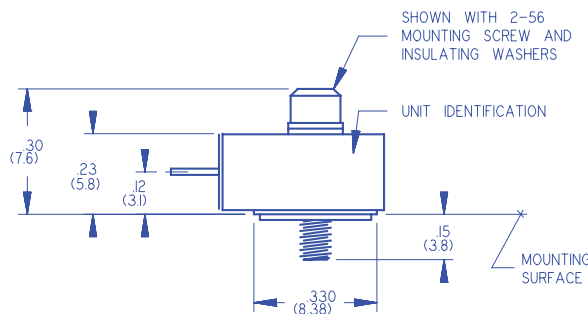
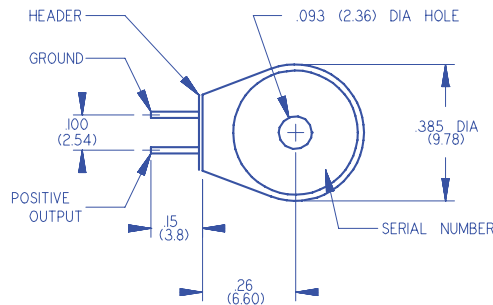
Model 7250AM1 / 2

Accessories

Product	Description	7250AM1/2
3024-120	Cable assembly	Included
EHM178	Wrench, hex	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, .140 O.D. x .098 I.D. x .005 thk	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 with cards 428 and/or 433	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.
2. Maintain high levels of precision and accuracy using Endevo's factory calibration services. Call Endevo's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.



STANDARD TOLERANCE	
INCHES	(MILLIMETERS)
.XX = +/- .02	(X = +/- .5)
.XXX = +/- .010	(.XX = +/- .25)

Contact

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