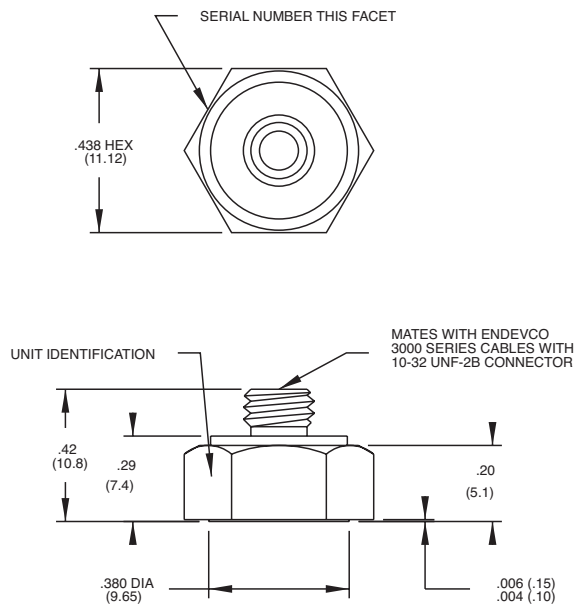




Model 2256A Isotron[®] accelerometer

Features

- Low impedance output
- Light weight (4.3 gm)
- Hermetically sealed
- Milli-g's resolution
- Adhesive mounting
- Ground isolated



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

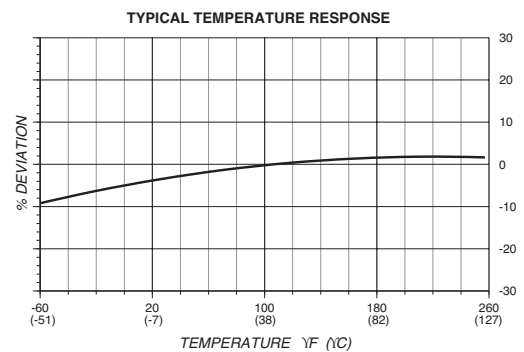
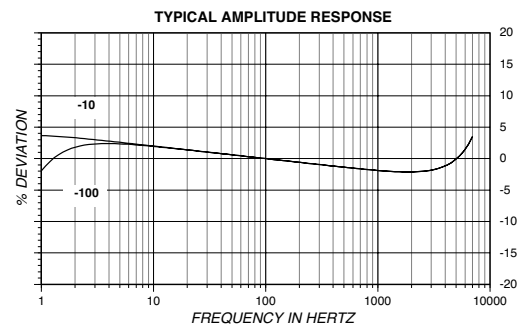
Description

The Endevco[®] model 2256A is a small, hermetically sealed piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration on small structures. The transducer features a hermetically sealed 10-32 top connector, and has a titanium hex base designed for adhesive mounting. Its light weight (4.3 gm) effectively minimizes mass loading effects.

The model 2256A features Endevco's Piezite[®] type P-8 or P-10 crystal element, operating in annular shear mode, which exhibits excellent output sensitivity stability over time.

This accelerometer incorporates an internal low noise hybrid signal conditioner, using a two-wire system, which transmits its low impedance voltage output through the same cable that supplies the required constant current power. Signal ground is isolated from the mounting surface of the unit. A model number suffix indicates acceleration sensitivity in mV/g; i.e., 2256A-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.



Model 2256A Isotron[®] accelerometer

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smart engineering for
extreme environments

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	-2.5	-10	-100
RANGE	g	±2000	±500	±50
VOLTAGE SENSITIVITY ±10%	mV/g	2.5	10	100
FREQUENCY RESPONSE		See Typical Amplitude Response		
RESONANCE FREQUENCY	kHz	25	20	20
AMPLITUDE RESPONSE ±10% ±1 dB	Hz	2 to 7000		1 to 9K
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	+8.5 to 12.7	+8.5 to 12.7	+12.3 to 13.5
OUTPUT IMPEDANCE	Ω	≤ 200		
FULL SCALE OUTPUT VOLTAGE	V	±5		
RESIDUAL NOISE .5 Hz to 10 kHz, broadband	equiv. g rms	0.001	0.001	0.0003
OVERLOAD RECOVERY	μ sec	≤ 10	≤45	≤45
GROUNDING		Signal ground connected to inner case but isolated from outer housing		

POWER REQUIREMENT

SUPPLY VOLTAGE	Vdc	+23 to +30		
SUPPLY CURRENT	mA	+2 to +20		
WARM-UP TIME	sec	≤5	8	8

To within 10% of final bias

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	-67°F to +257°F (-55°C to +125°C)			
HUMIDITY	Hermetic			
SINUSOIDAL VIBRATION LIMIT	g pk	1000	1000	1000
SHOCK LIMIT [1]	g pk	2000	2000	2000
BASE STRAIN SENSITIVITY	equiv. g pk/μstrain			0.0008
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (°C)	0.1	0.5	0.5
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss			0.0001

PHYSICAL CHARACTERISTICS

DIMENSIONS	See Outline Drawing			
WEIGHT	gm (oz)	4.3 (.15)		
CASE MATERIAL	Stainless steel case, titanium hex housing			
CONNECTOR	Coaxial, 10-32 thread, mates with Endeveco 3000 Series Cable			
MOUNTING [3]	Flat finish provided for adhesive mounting			

CALIBRATION

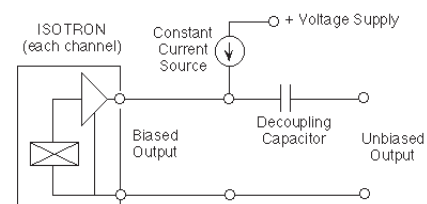
SUPPLIED:				
SENSITIVITY	mV/g			
MAXIMUM TRANSVERSE SENSITIVITY	%			
FREQUENCY RESPONSE	%	20 Hz to 5 kHz	20 Hz to 10 kHz	
	dB	5 Hz to 30 kHz	10 kHz to 50 kHz	

INCLUDED ACCESSORY

Model 3061A-120 (10 ft) CABLE ASSEMBLY [2]

NOTES

- 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.
- Flexible cable, such as the supplied 3060A, should be used to minimize cable-strain errors.
- 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 Endeveco.



Continued product improvement necessitates that Endeveco reserve the right to modify these specifications without notice. Endeveco 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 Endeveco synonymous with reliability.

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