Endevco®

Piezoresistive accelerometer

Model 2262A



Key features

- DC response
- 1000 g and 2000 g full range
- 500 mV full scale output
- Hermetically sealed

The Endevco® model 2262A accelerometers are rugged, fluid damped transducers of the piezoresistive type. Endevco's Piezite® type P-11 semiconductor strain gage elements are used in a bridge configuration, providing a low impedance output with 10 Vdc excitation. The output is high enough to drive most tape recorders, data aquisition systems, and low frequency galvanometers directly, without amplification. Viscous damping extends their useful frequency range and reduces the effect of spurious, high frequency vibrations.

Typical applications for these accelerometers include transportation environmental testing and transient accelerations on structural members.

Endevco model 126, 136 or 436 recommended as signal conditioner and power supply.

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Piezoelectric accelerometers | Piezoresistive accelerometers | IEPE accelerometers | Variable capacitance accelerometers | Piezoresistive pressure sensors | Piezoelectric pressure sensors | High intensity microphones | Inertial sensors | Signal conditioners and supportive instrumentation | Cable assemblies

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Specifications Performance characteristics: All values are typical at +75°F (+24°C), 100 Hz and 10 Vdc excitation unless otherwise stated. Calibration data, traceable to the National Institute of Standards and Technology (NIST), is supplied.

	11.5	4000	
P.	Units	-1000	-2000
	g pk	±1000	±2000
Sensitivity (at 100 Hz)	mV/g lyp	0.50	0.25
Amplitude response		4 . 4500	
±5%	Hz	1 to 1500	U to 3000
±1 dB	Hz	1 to 1800	0 to 3600
Maximum deviation (0 Hz to 2000 Hz) [1]	% Max	+5	+5
Mounted resonance frequency	Hz typ	8000	10 000
Damping ratio [2]	Тур	0.7	0.7
Non-linearity and hysteresis			
(% of reading, to full range)	% Max	±2	±2
Transverse sensitivity	% Max	3	3
Zero measurand output [3]	mV Max	±25	±25
Thermal zero shift	ref. 75°F(24°C)		
From 0°F to +200°F (-18°C to +93°C)	mV Max	±20	±20
Thermal sensitivity shift	ref. 75°F(24°C)		
From 0°F to +150°F (-18°C to +66°C)	% Тур	-5	-5
Warm up time	Minutes max	2	2
Electrical			
Excitation [4] [5]	10.0 Vdc maximum, 15 Vdc maximum		
Input resistance	600 ohms		
Output resistance [4] [6]	400 ohms		
Insulation resistance	100 megohms minimum at 100 Vdc; all leads to case		
Physical			
Case, material	Stainless steel (416 CRES)		
Electrical, connections	Endevco model 3022B-30 (supplied)		
Indentification	Manufacturer's logo, model number g, serial number and range		
Mounting/torque	Hole for 10-32 UNF x 1/8 inch mounting stud/18 lbf-in (2Nm)		
Weight	28 grams (cable weighs 18 grams/meter)		
Environmental			
Acceleration limits (in any direction)			
Static	g	1000	2000
Sinusoidal vibration	g pk	1000	2000
Shock limit (half-sine pulse)	g	2500	5000
Base strain sensitivity			
(at 250 microstrain)	equiv. g typ	0.05	0.05
Temperature			
Operating	0°F to +200°F (-18°C to 93°C)		
Storage	-20°F to +220°F (-29°C to +104°C)		
Humidity	Unaffected. Unit is hermetically sealed		
Altitude	Unaffected		
Calibration data supplied [7]			
Sensitivity (at 100 Hz and 10 g pk)	mV/g		
Frequency response	20 Hz to 5000 Hz; % deviation reference 100 Hz		
Zero measurand output	mV		
Maximum transverse sensitivity	% of sensitivity		
Input and output resistance	Ohms		

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Accessories

Product	Description	2262A-1000, -2000
2981-12	Mounting stud (10-32 UNF-2A)	Included
3022B-30	Cable assembly	Included
EHM464	Wrench, hex key	Included
2950	Triaxial mounting block	Optional
2981-4	Mounting stud (M5-0.8)	Optional
3022B-XX	Cable assembly (XX identifies cable length in inches)	Optional
2981-3	Mounting stud	Optional

Notes:

- 1. The sensitivity increase at the mounted resonant frequency is less than 10%, reference 100 Hz.
- 2. Damping ratio is 2.2/0.2, typical, at 0°F/200°F (-18°/+93°C).
- 3. Zero Measurand Output (ZMO) is the transducer output with 0 acceleration applied.
- 4. Rated excitation is 10.0 Vdc. The strain gage elements have a positive temperature coefficient of resistance of approximately 0.5% per °F. Power supply current capability (regulation) should be carefully considered when operating at low temperature extremes, especially when exciting more than one transducer from a single power supply.
- 5. Other excitation voltages may be used to 15.0 Vdc. Specify at time of order to obtain a more accurate calibration.
- 6. Measured at approximately 1 Vdc. Bridge resistance increases with applied voltage due to heat dissipation in the strain gage elements.
- 7. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco'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.

Contact

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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. 090419