

Piezoresistive Accelerometer

**ENDEVCO
MODEL
2262A**

Model 2262A

- Rugged, Fluid Damped
- DC Response
- 1000 g and 2000 g Full Scale
- 500 mV Full Scale Output
- Hermetically Sealed



Actual size

DESCRIPTION

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 acquisition systems, and low frequency galvanometers directly, without amplification.

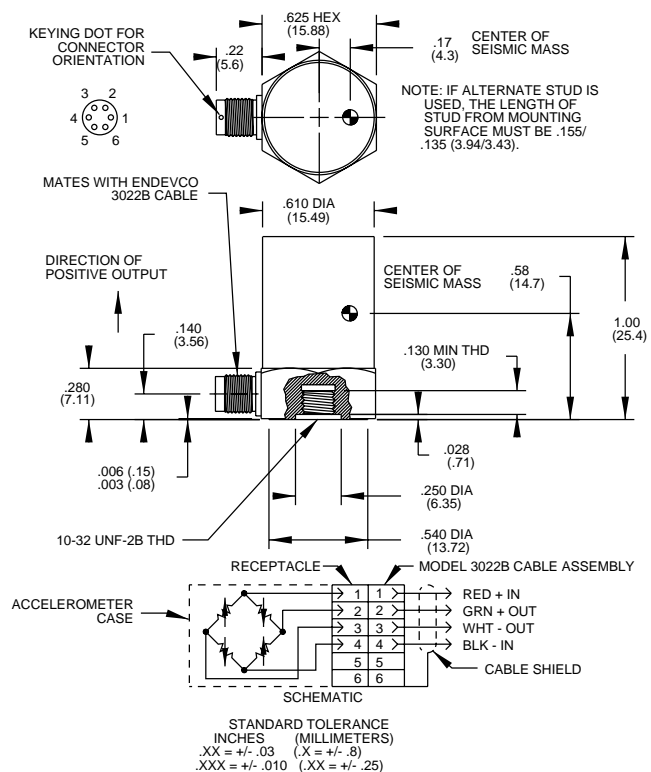
Viscous damping extends their useful frequency range and reduces the effect of spurious, high frequency vibrations.

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

ENDEVCO Model 136 Three-Channel System, Model 4430A or OASIS 2000 Computer-Controlled System are recommended as signal conditioner and power supply.

中国

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SPECIFICATIONS

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

	Units	-1000	-2000
RANGE	g pk	±1000	±2000
SENSITIVITY (at 100 Hz)	mV/g Typ (Min)	0.50 (0.38)	0.25 (0.18)
AMPLITUDE RESPONSE			
±5%	Hz	0 to 1500	0 to 3000
±1dB	Hz	0 to 1800	0 to 3600
Maximum Deviation (0 Hz to 2000 Hz) [1]	% Max % (Min)	+5 (-8)	+5 (-7)
MOUNTED RESONANCE FREQUENCY	Hz Typ (Min)	8000 (6400)	10 000 (8000)
DAMPING RATIO [2]		0.707	0.707
NON-LINEARITY AND HYSTERESIS			
(% of reading, to full range)	% Max	±2	±2

Piezoresistive Accelerometer

SPECIFICATIONS—continued

PERFORMANCE CHARACTERISTICS

	Units	-1000	-2000
TRANSVERSE SENSITIVITY	% Max	3	3
ZERO MEASURAND OUTPUT [3]	mV Max	±25	±25
THERMAL ZERO SHIFT From 0°F to 200°F (-18°C to +93°C)	mV Max	±20	±20
THERMAL SENSITIVITY SHIFT At 0°F and 150°F (-18°C and +66°C)	% Typ	-5	-5
WARM-UP TIME	Minutes Max	2	2

ELECTRICAL

EXCITATION [4] [5]	10.0 Vdc, 15 Vdc maximum
INPUT RESISTANCE [4] [6]	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)
IDENTIFICATION	Manufacturer's logo, model number and serial number
MOUNTING/TORQUE	Hole for 10-32 UNF x 1/8 inch mounting stud/18 lbf-in (2 Nm)
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 (half-sine pulse)	g	2500	5000
BASE STRAIN SENSITIVITY (at 250 microstrain)	Equiv. g	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

SENSITIVITY (at 100 Hz and 10 g pk)	mV/g
FREQUENCY RESPONSE	To 5000 Hz; % deviation reference 100 Hz
ZERO MEASURAND OUTPUT	mV
MAXIMUM TRANSVERSE SENSITIVITY	% of sensitivity
MOUNTED RESONANCE FREQUENCY	Hz
INPUT AND OUTPUT RESISTANCE	Ohms

ACCESSORIES

2981-3	MOUNTING STUD (10-32 UNF-2A)
3022B-30	CABLE ASSEMBLY

OPTIONAL ACCESSORIES

2950	TRIAXIAL MOUNTING BLOCK
2981-4	MOUNTING STUD (M5-0.8)
3022B-XX	CABLE ASSEMBLY (XX IDENTIFIES CABLE LENGTH IN INCHES)

NOTES

- The sensitivity increase at the mounted resonant frequency is less than 10%, reference 100 Hz.
- Damping ratio is 2.2/0.2, typical, at 0°F/200°F (-18°/+93°C).
- Zero Measurand Output (ZMO) is the transducer output with 0 acceleration applied.
- 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.

- Other excitation voltages may be used to 15.0 Vdc. Specify at time of order to obtain a more accurate calibration.
- Measured at approximately 1 Vdc. Bridge resistance increases with applied voltage due to heat dissipation in the strain gage elements.
- 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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