

ISOTRON[®] Accelerometer

**ENDEVCO
MODEL
2258A-10
-100**

Model 2258A-10 and -100

- **Triaxial**
- **Light Weight (15 gm)**
- **Hermetically Sealed**
- **Milli-g's Resolution**
- **Robotics, Machine Tools, Aerospace Structures**



Actual size

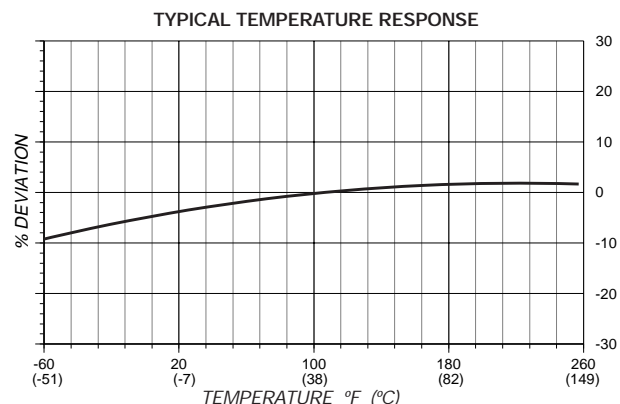
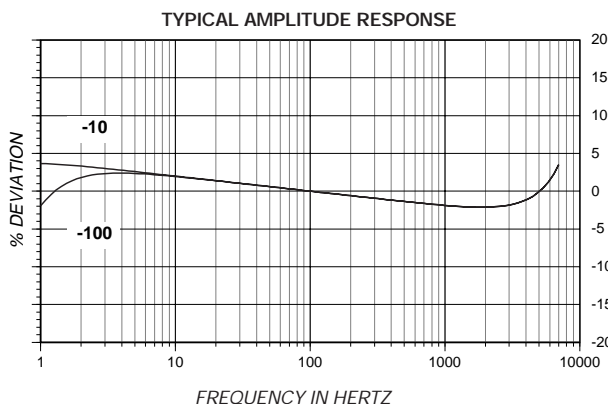
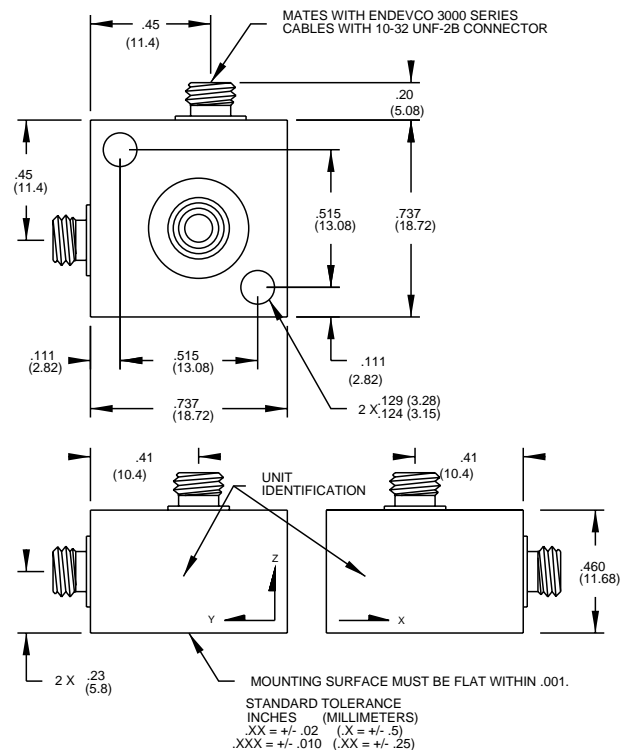


DESCRIPTION

The ENDEVCO[®] Model 2258A is a small triaxial piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration in three orthogonal axes on small structures. The transducer features three hermetically sealed 10-32 connectors for output connection, and can be screw or adhesive mounted. Its light weight (15 gm) effectively minimizes mass loading effects.

The Model 2258A features ENDEVCO's PIEZITE[®] Type P-8 crystal elements, operating in annular shear mode, which exhibit excellent output sensitivity stability over time. This accelerometer incorporates three stand-alone, low noise internal hybrid signal conditioners, each operating in a two-wire system. Its low impedance voltage outputs are connected to the same cables that supply the required constant current power. Signal grounds are isolated from each other and the mounting surface. A model number suffix indicates acceleration sensitivity in mV/g; i.e., 2258A-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.



CHRISTIAN
150 8001



APPLIES TO CALIFORNIA FACILITY



**ENDEVCO
MODEL
2258A-10
-100**

ISOTRON® Accelerometer

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	-10	-100
RANGE	g	±500	±50
VOLTAGE SENSITIVITY	mV/g	10	100
±10%			
FREQUENCY RESPONSE	See Typical Amplitude Response		
RESONANCE FREQUENCY	kHz	20	
AMPLITUDE RESPONSE			
±5% (x,y)	Hz	1 to 7000	
±5% (z)	Hz	1 to 8000	
±1dB (x,Y)	Hz	.5 to 8000	
±1dB (z)	Hz	.5 to 9000	
TEMPERATURE RESPONSE	See Typical Curve		
TRANSVERSE SENSITIVITY	%	≤ 5	
AMPLITUDE LINEARITY	%	≤1 to full scale	

OUTPUT CHARACTERISTICS

OUTPUT POLARITY	Acceleration applied in the direction of the arrow on the unit produces positive output		
DC OUTPUT BIAS VOLTAGE	Vdc	+11.5 to +12.7	
OUTPUT IMPEDANCE	Ω	≤ 200	
FULL SCALE OUTPUT VOLTAGE	V	±5	
RESOLUTION	equiv. g rms	0.001	0.0003
.5 Hz to 9 kHz, broadband			
GROUNDING	Each sensor is isolated from the other signal grounds and the triaxial housing		

POWER REQUIREMENT

SUPPLY VOLTAGE	Vdc	+18 to +24
SUPPLY CURRENT	mA	+2 to +10
WARM-UP TIME	sec	< 5
To within 10% of final bias		

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	-67°F to +257°F (-55°C to +125°C)		
HUMIDITY	Hermetically Sealed		
SINUSOIDAL VIBRATION LIMIT	g pk	1000	
SHOCK LIMIT [1]	g pk	2000	
BASE STRAIN SENSITIVITY			
X and Y Axis	equiv. g pk/μstrain	0.0004	
Z Axis	equiv. g pk/μstrain	0.004	
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (°C)	0.1 (0.18)	
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.0001	

PHYSICAL CHARACTERISTICS

DIMENSIONS	See Outline Drawing		
WEIGHT	gm (oz)	15 (0.53)	
CASE MATERIAL	Stainless steel case, anodized aluminum housing		
CONNECTOR	Coaxial, 10-32 thread, mates with Endevco 3000 Series Cable.		
MOUNTING TORQUE	lbf-in (Nm)	8 (1)	

CALIBRATION

SUPPLIED:			
SENSITIVITY	mV/g		
MAXIMUM TRANSVERSE SENSITIVITY	%		
FREQUENCY RESPONSE	%	20 Hz to 10 kHz	
	dB	10 kHz through resonance (Z Axis only)	

ACCESSORIES

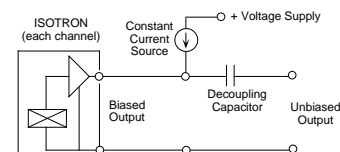
3060A-120 (10 ft)	CABLE ASSEMBLY, Three Each [2]
EH156	SCREW, MACH. #4-40 X 5/8, TWO EACH
EHW79	WASHER, FLAT, TWO EACH

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.
- 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 Endevco. To remove an epoxy-mounted accelerometer, first soften the epoxy with an appropriate solvent and then twist the unit off with the supplied

removal wrench. Damage to sensors caused by inappropriate removal procedures are not covered by Endevco's warranty.

- 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.

ENDEVCO CORPORATION, 30700 RANCHO VIEJO ROAD, SAN JUAN CAPISTRANO, CA 92675 USA (800) 982-6732 (949) 493-8181 fax (949) 661-7231
www.endevco.com Email:applications@endevco.com