

# ISOTRON<sup>®</sup> Accelerometer

**ENDEVCO  
MODEL  
63B-10  
-100**

## MODAL 63B-10, -100

- Shock-Proof, Overload Protected
- Small Size (<15 mm<sup>3</sup>, <9 gram)
- Single Connector, Flexible Cable
- $\Sigma$ Z-mount Compatible, Reduces Installation Time
- Ideal for Modal Analysis



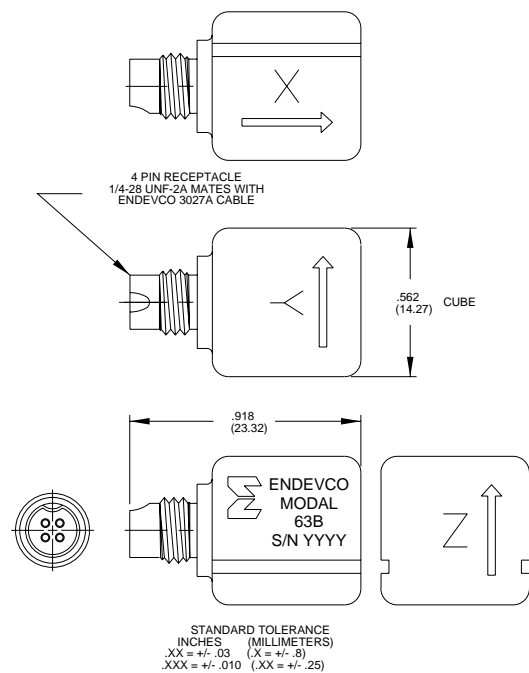
Actual size

### DESCRIPTION

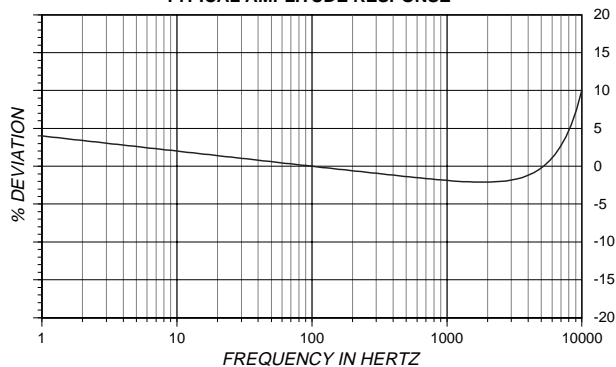
The ENDEVCO<sup>®</sup> MODAL 63B is a lightweight triaxial piezoelectric accelerometer with integral electronics, designed specifically to measure modal responses in three orthogonal axes. This accelerometer offers exemplary dynamic range and frequency response in a very small package. MODAL 63B is designed to withstand typical handling in the laboratory environment without sustaining internal damage. The triaxial accelerometer also takes advantage of ENDEVCO's unique  $\Sigma$ Z-mount quick release mounting system which reduces set-up time and improves mounting accuracy.

The MODAL 63B features ENDEVCO's PIEZITE<sup>®</sup> Type P-8 crystal elements operating in annular shear mode, which offers very high transduction efficiency without sacrificing ruggedness. This accelerometer incorporates three independent internal hybrid signal conditioners operating in constant current mode. Its low impedance voltage outputs are connected to the same 4-wire cable that supplies the required constant current power. Signal ground is isolated from the mounting surface. The model number suffix indicates acceleration sensitivity in mV/g; i.e., 63B-100 features output sensitivity of 100 mV/g.

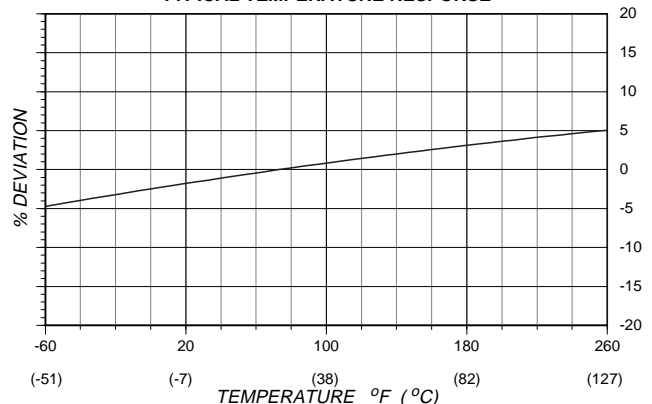
ENDEVCO Signal Conditioner Models 133, 2792B, 2793, 4416B or OASIS 482A, 433, 428 are recommended for use with this accelerometer.



TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE



**ENDEVCO  
MODEL  
63B-10  
-100**

# ISOTRON® Accelerometer

## SPECIFICATIONS (EACH AXIS)

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, Typical	mV/g	10	100
FREQUENCY RESPONSE [1]		See Typical Curves	
Amplitude Response			
± 5%	Hz	1 to 3000	
±1dB, typical	Hz	.5 to 10 000	
Resonance Frequency	Hz	25 000	
TRANSVERSE SENSITIVITY	%	≤ 5	
TEMPERATURE RESPONSE		See Typical Curve	
AMPLITUDE NONLINEARITY	%	≤ 1	

### OUTPUT CHARACTERISTICS

OUTPUT POLARITY	See arrows on outline drawing		
DC OUTPUT BIAS VOLTAGE	Vdc	+9.5 to +10.5	
OUTPUT IMPEDANCE	Ω	≤ 100	
FULL SCALE OUTPUT VOLTAGE		± 5	
RESOLUTION (0.5 Hz to 10 kHz bandwidth)	eq. g rms	0.001	0.0005
GROUNDING	Signal ground is connected to the case and isolated from the mounting surface		

### POWER REQUIREMENT

COMPLIANCE VOLTAGE	Vdc	+ 21 to + 24
SUPPLY CURRENT	mA	+ 2 to + 10
WARM-UP TIME (to reach 90% of final bias)	sec	< 5

### ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	- 67°F to + 257°F (- 55°C to + 125°C)		
HUMIDITY	Epoxy sealed		
SINUSOIDAL VIBRATION LIMIT	g	± 500	± 200
SHOCK LIMIT	g pk	8000	
BASE STRAIN SENSITIVITY	eq. g/μstrain	0.001	
At 250 μstrain			
THERMAL TRANSIENT SENSITIVITY	eq. g /°F (°C)	0.01 (0.02)	

### PHYSICAL CHARACTERISTICS

DIMENSIONS	See Outline Drawing		
WEIGHT	gm (oz)	9 (0.32)	
CASE MATERIAL	Aluminum Alloy, Anodized		
CONNECTOR	Microtech DR-4S-4H receptacle mates with Endevco Model 3027A/AM3/AM4 cable		
MOUNTING [2]	Adhesive, stud, or ΣZ-mount		

### CALIBRATION

SUPPLIED:			
VOLTAGE SENSITIVITY	mV/g		
MAXIMUM TRANSVERSE SENSITIVITY	%		
FREQUENCY RESPONSE	%	20 Hz to 4 kHz	

### ACCESSORY

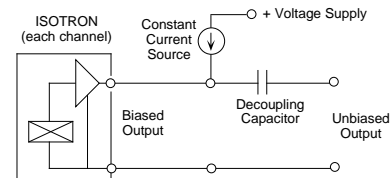
Model 3027AM3 (10 ft) TRIAXIAL CABLE, 85°C [3]  
(3X BNC's at instrument ends)  
P/N 30908 ΣZ-mount, X3

### OPTIONAL ACCESSORIES

Model 3027A-120 (10 ft) TRIAXIAL CABLE, 125°C  
(Pigtails at instrument ends)  
Model 3027AM4-120 (10 ft) TRIAXIAL CABLE, 125°C  
2981-12 (Transducer extension cable,  
mates with Model 3027AM3)

### NOTES

- Frequency response of the unit will be limited to 1kHz when the ΣZ-mount is used.
- Stud mounting of triaxial accelerometer is generally not recommended due to the difficulty in X-Y alignment. Various adhesives, such as hot-melt glue, cyanoacrylate, and petro wax, can be used effectively for mounting within their strength and temperature limitations.



- Model 3027AM3 cable should only be used for applications under +85°C. For +125°C environment, use 3027AM4 together with 3027AM3 cable.
- 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