

# ISOTRON® Accelerometer

## Model 751-10, -100,

- Low Cost, High Performance
- Low Impedance Output
- Outstanding Dynamic Range
- Light Weight (7.8 gm)
- Wide Bandwidth, Annular Shear
- Hermetically Sealed, Rugged

### DESCRIPTION

The ENDEVCO® Model 751 is a low-cost, lightweight piezoelectric accelerometers with integral electronics, designed specifically for measuring vibration on small structures. This unit is hermetically sealed against environmental contamination. The 751 features a high output sensitivity, high signal-to-noise ratio, and a wide bandwidth. Model 751 is the best value in accelerometers on the market today.

The Model 751 features ENDEVCO's PIEZITE® Type P-8 crystal element, operating in annular shear mode, which exhibits low base strain sensitivity and excellent output stability over time. This accelerometer incorporates an internal hybrid signal conditioner in a two-wire system, which transmits its low impedance voltage output through the same cable that supplies the constant current power. Signal ground is connected to the outer case of the unit. When used with an isolated mounting stud, it can be electrically isolated from ground. A model number suffix indicates acceleration sensitivity in mV/g; i.e., 751-100 features output sensitivity of 100 mV/g.

ENDEVCO Signal Conditioner Models 133, 2792B, 2793, 2775B, or 4416B are recommended for use with these accelerometers.

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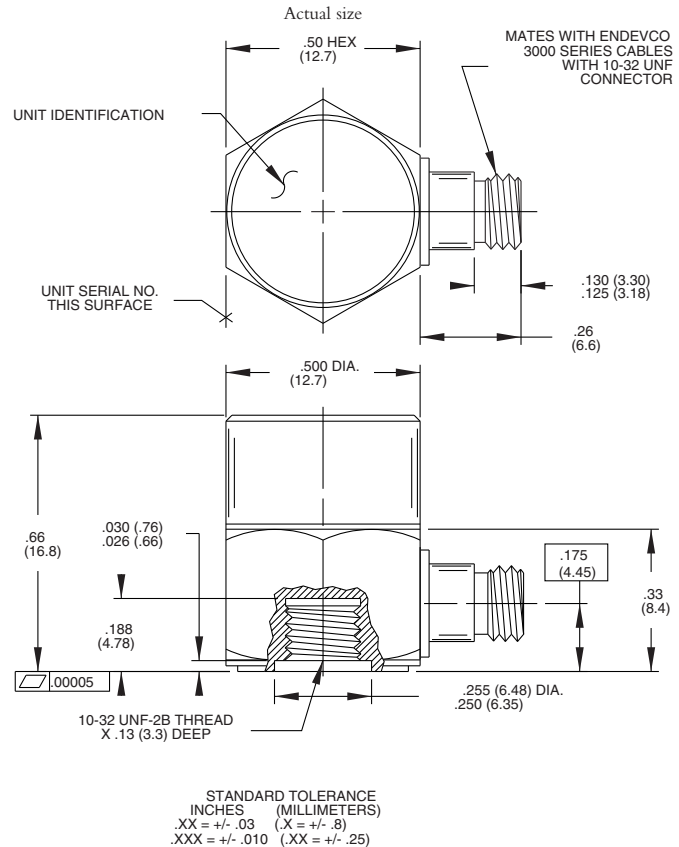
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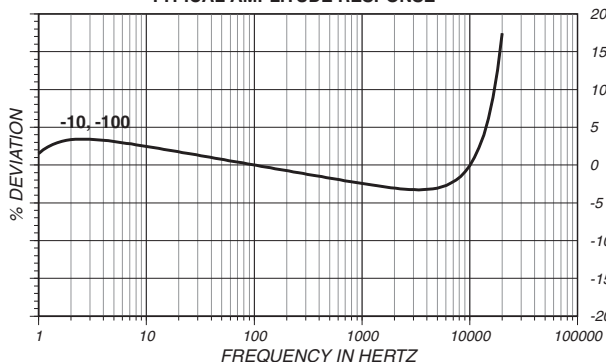
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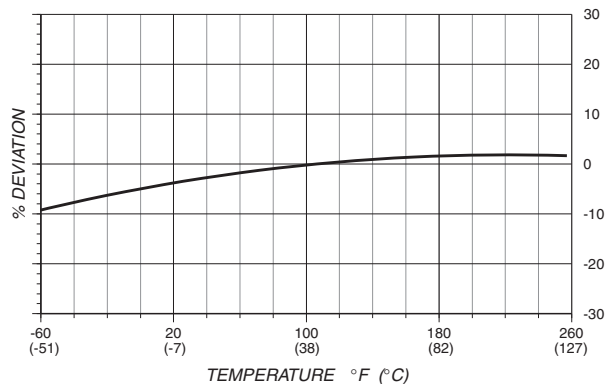
**ENDEVCO  
MODEL  
751-10  
-100**



TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE



# ENDEVCO MODEL 751-10 -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, ±10% [1]	mV/g	10	100
FREQUENCY RESPONSE			
Resonance Frequency	kHz	50	
Amplitude Response, ±1dB	Hz	1 to 15 000	
TRANSVERSE SENSITIVITY	%	≤ 5	
TEMPERATURE RESPONSE	See Typical Curve		
AMPLITUDE NONLINEARITY, to F.S. [2]	%	1	

### OUTPUT CHARACTERISTICS

OUTPUT POLARITY	Acceleration directed into base produces positive output		
DC OUTPUT BIAS VOLTAGE	Vdc	+8.5 to +11.5	
OUTPUT IMPEDANCE	Ω	≤ 120	
FULL SCALE OUTPUT VOLTAGE	V	±5	
RESIDUAL NOISE	equiv. g rms	0.0005	0.0003
OVERLOAD RECOVERY	μs	≤ 10	
GROUNDING	Signal ground connected to case		

### POWER REQUIREMENT

COMPLIANCE VOLTAGE	Vdc	+18 to +24
SUPPLY CURRENT	mA	+2 to +10
WARM-UP TIME	sec	< 2

### ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	-67°F to +257°F (-55°C to +125°C)	
HUMIDITY	Hermetically sealed	
SINUSOIDAL VIBRATION LIMIT	g pk	500
SHOCK LIMIT	g pk	5000
BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.0005
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (°C)	.01 (0.02)
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	.0002

### PHYSICAL CHARACTERISTICS

DIMENSIONS	See Outline Drawing	
WEIGHT	gm (oz)	7.8 (0.25)
CASE MATERIAL	Titanium alloy	
CONNECTOR	10-32 receptacle	
MOUNTING TORQUE	lbf-in (Nm)	18 (2)

### CALIBRATION

SUPPLIED:		
VOLTAGE SENSITIVITY	mV/g	
MAXIMUM TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE	%	20 Hz to 10 kHz

### ACCESSORIES

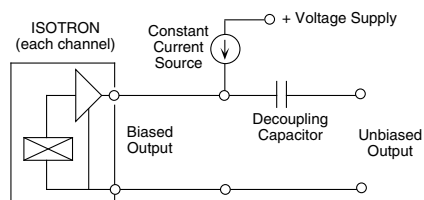
Model 2981-12 MOUNTING STUD, 10-32 to 10-32  
Model 3061A-120 (10 ft) CABLE ASSEMBLY

### OPTIONAL ACCESSORIES

Model 2980M4 INSULATED MOUNTING STUD, 10-32 to 10-32  
Model 2950 TRIAXIAL MOUNTING BLOCK

### NOTES

- ±5% sensitivity on special order.
- 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.
- 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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