

Model 751 Isotron[®] accelerometer

Features

- **NEW!** 751-10-R and 751-100-R available as replacement sensors
- High frequency measurement
- Wide bandwidth
- Light weight
- Outstanding signal-to-noise
- Hermetically sealed

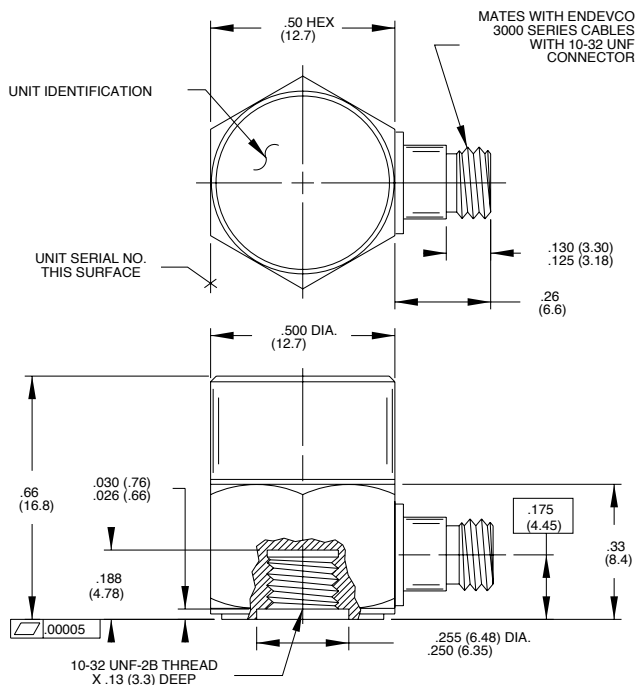


Description

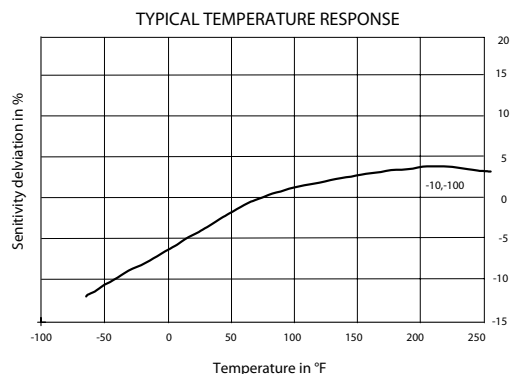
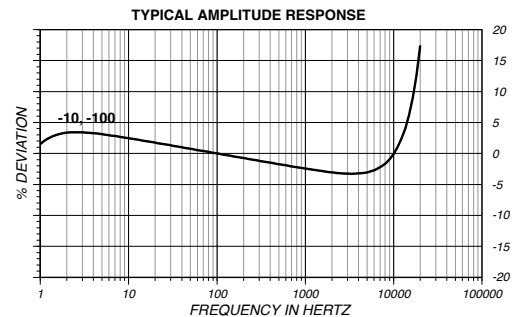
The Endevco[®] model 751 is a low-cost, lightweight piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration on small structures. This unit is hermetically sealed against environmental contamination. The 751 features a high output sensitivity, high signal-to-noise 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, 2793, 2775B, or 4416B are recommended for use with these accelerometers.



STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .03 (X = +/- .8)
.XXX = +/- .010 (XX = +/- .25)



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Endevco

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 Typ	10	100
Tolerance		±10%	±10%
Frequency response		See typical amplitude response	
Resonance frequency	kHz	50	50
Amplitude response ±1 dB	Hz	0.3 to 15K	0.3 to 15K
Transverse sensitivity	%	≤5	≤5
Temperature response		See typical curve	
Amplitude nonlinearity, to F.S.	%	-0.5	-0.5

Output characteristics

Output polarity		Acceleration directed into base produces positive output	
DC output bias voltage	Vdc	+8.5 to +11.5	+8.5 to +11.5
Output impedance	Ω	≤120	≤120
Full scale output voltage	V	±5	±5
Residual noise	equiv. g rms	0.0005	0.0003
Grounding		Signal ground connected to case	

Power requirement

Compliance voltage	Vdc	+18 to +24	+18 to +24
Supply current	mA	+2 to +20	+2 to +20
Warm-up	sec	<2	<2

Environmental characteristics

Temperature range		-67°F to +257°F [-55°C to +125°C]	
Humidity		Hermetically sealed	
Sinusoidal vibration limit	g pk	500	500
Shock limit	g pk	5000	5000
Base strain sensitivity	equiv. g pk / μ strain	0.0005	0.0005
Thermal transient sensitivity	equiv. g pk / °F	<0.01	<0.07
Electromagnetic sensitivity	equiv. g rms/gauss	0.0002	0.0002

Physical characteristics

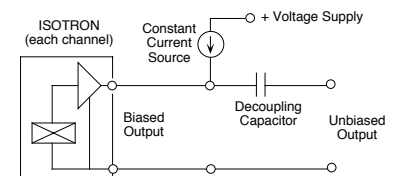
Dimensions		See outline drawing	
Weight	gm (oz)	7.8 (0.25)	7.8 (0.25)
Case material		Titanium alloy	
Connector		10-32 Microdot, side connector	
Mounting torque	lbf-in (Nm)	18 (2)	18 (2)

Calibration

Supplied:			
Voltage sensitivity	mV/g	at 100 Hz	at 100 Hz
Maximum transverse sensitivity	%	12 Hz and 7 G	12 Hz and 7 G
Frequency response	%	20 Hz to 10 000 Hz	20 Hz to 10 000 Hz

Accessories

Product	Description	751-10, -100	751-10-R, -100-R
2981-12	Mounting stud, 10-32 to 10-32	Included	Included
3061A-120	Cable assembly, 10 ft	Included	Optional
2986B	Insulated mounting stud, 10-32 to 10-32	Optional	Optional
2950	Triaxial mounting block	Optional	Optional
EHM464	Wrench	Included	Optional
2981-4	Mounting stud, 10-32 to M5	Optional	Optional
15071	Adapter stud, 1/4-28 to 10-32	Optional	Optional
133	PE and IEPE signal conditioner	Optional	Optional
2775B	Signal conditioner	Optional	Optional
2793	Isotron signal conditioner	Optional	Optional
4416B	Battery powered Isotron conditioner	Optional	Optional



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.
- 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.