

ISOTRON® Accelerometer

Model 7251HT

- Low Impedance Output
- 302°F (150°C) Operation
- Hermetically Sealed
- Wide Bandwidth
- New Low Profile
- 360° Cable Orientation
- Aerospace, General Purpose Applications

ENDEVCO
MODEL
7251HT -10
-100



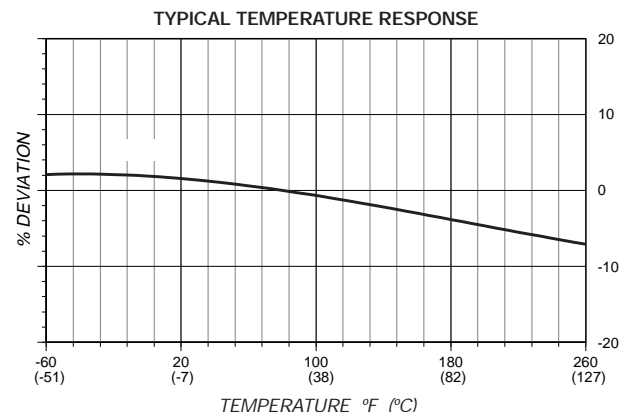
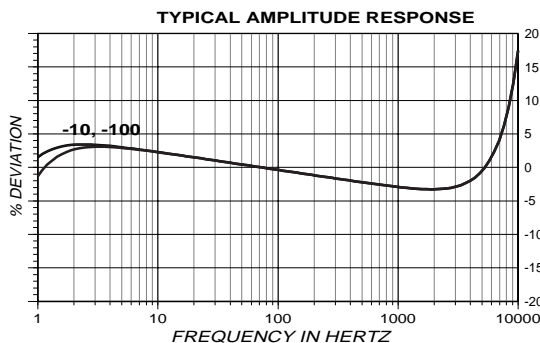
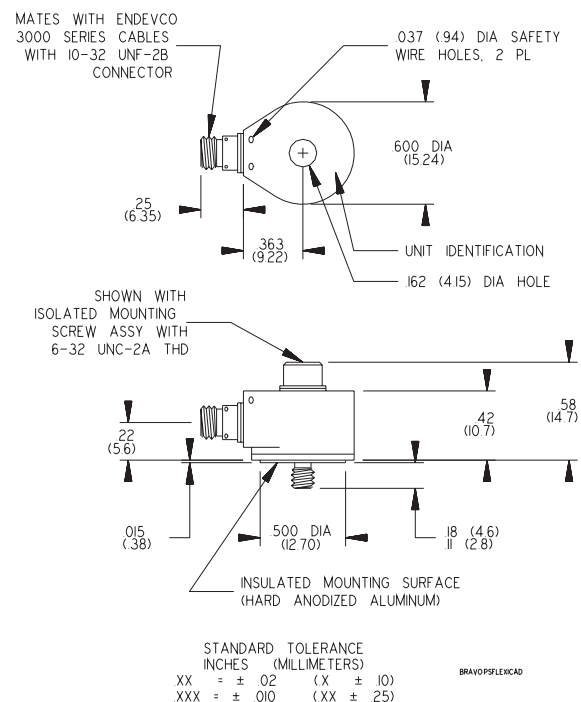
Actual size

DESCRIPTION

The ENDEVCO® Model 7251HT is a small piezoelectric accelerometer with integral electronics, designed specifically for measuring vibration on most structures, at moderate temperatures continuously up to +150°C. The unit is hermetically sealed against environmental contamination, offers high output sensitivity, and wide bandwidth. This new lightweight (14 gm) design effectively minimizes mass loading effects.

The Model 7251HT 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 and, when the unit is used with the supplied isolated mounting screw, it is electrically isolated from ground. The centrally located mounting bolt permits 360° cable orientation, a very desirable feature in many applications. A model number suffix indicates sensitivity in mV/g; i.e., 7251HT-100 features an output sensitivity of 100 mV/g.

ENDEVCO Signal Conditioner Models 133, 2792B, 4416B, 2793, 2775A or OASIS Computer-Controlled System are recommended for use with this accelerometer.



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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 the National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS		Units	
RANGE		g	±500
VOLTAGE SENSITIVITY, ±10% [1]		mV/g	10
FREQUENCY RESPONSE			
Resonance Frequency		kHz	30
Amplitude Response			
±5%		Hz	2 to 10 000
±1dB		Hz	.2 to 12 000
TRANSVERSE SENSITIVITY		%	≤ 5
TEMPERATURE RESPONSE			See Typical Curve
AMPLITUDE NONLINEARITY, to F.S.		%	≤1

OUTPUT CHARACTERISTICS		
OUTPUT POLARITY		Acceleration directed into base produces positive output
DC OUTPUT BIAS VOLTAGE	Vdc	+11.5 to +12.5
OUTPUT IMPEDANCE	Ω	≤ 200
FULL SCALE OUTPUT VOLTAGE	V	±5
RESIDUAL NOISE	equiv. g rms	0.0003
OVERLOAD RECOVERY	μs	≤ 10
GROUNDING		Signal ground connected to case and isolated from mounting surface

POWER REQUIREMENT		
COMPLIANCE VOLTAGE	Vdc	+23 to +30
SUPPLY CURRENT	mA	+2 to +10
WARM-UP TIME	sec	< 5

ENVIRONMENTAL CHARACTERISTICS		
TEMPERATURE RANGE		-55°F to +302°F (-48°C to +150°C)
HUMIDITY		Hermetically sealed
SINUSOIDAL VIBRATION LIMIT	g pk	500
SHOCK LIMIT	g pk	5000
BASE STRAIN SENSITIVITY	equiv. g pk/μ strain	0.02
THERMAL TRANSIENT SENSITIVITY	equiv. g pk/°F (°C)	0.18 (0.32)
ELECTROMAGNETIC SENSITIVITY	equiv. g rms/gauss	0.002

PHYSICAL CHARACTERISTICS		
DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	14 (0.49)
CASE MATERIAL		Stainless Steel
CONNECTOR		10-32 receptacle, side mounted, mates with Endevco 3000 series cable
MOUNTING TORQUE	lbf-in (Nm)	10 (1.1)

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

ACCESSORIES	
P/N 10207	ISOLATED MOUNTING SCREW ASSY, 6-32
P/N EHM49	ALLEN WRENCH, 7/64
Model 3061A-120	CABLE ASSEMBLY (10 ft.)

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.

OPTIONAL ACCESSORIES	
Model 2950M3	TRIAXIAL MOUNTING BLOCK

- 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