

Piezoelectric Accelerometer

**ENDEVCO
MODEL
6240C-10**

Model 6240C-10

- **Balanced Differential Output**
- **Ground Isolated**
- **3 Hole Mounting Flange**
- **Requires No External Power**
- **Jet Engine Maintenance**

DESCRIPTION

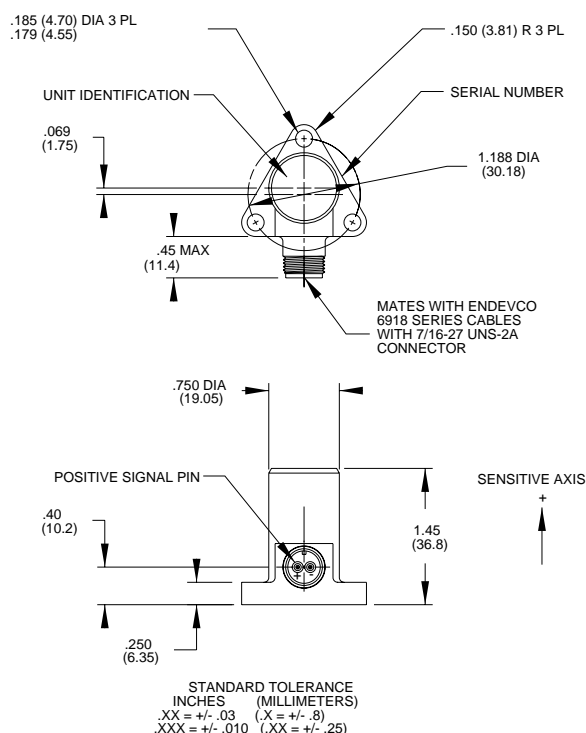
The ENDEVCO® Model 6240C-10 is a self-generating piezoelectric transducer that requires no external power for operation. The accelerometer has been ruggedized with a three-hole mounting flange and rugged 2-pin connector to withstand the normal environment of jet engine installation maintenance.

The 6240C-10 utilizes tourmaline crystal material designated as PIEZITE® Type P-21 sensing crystal to provide good temperature response and stability at temperatures as high as +1200°F (+649°C). The sensitivity of each Model 6240C-10 accelerometer is permanently adjusted to 10 pC/g $\pm 5\%$ to allow interchange of transducers without adjustment of the connected signal conditioner. The differential output signal eliminates the need for special coaxial cable and, instead, permits the use of twisted-pair shielded cable. This special feature reduces noise pickup due to electrical ground potentials.

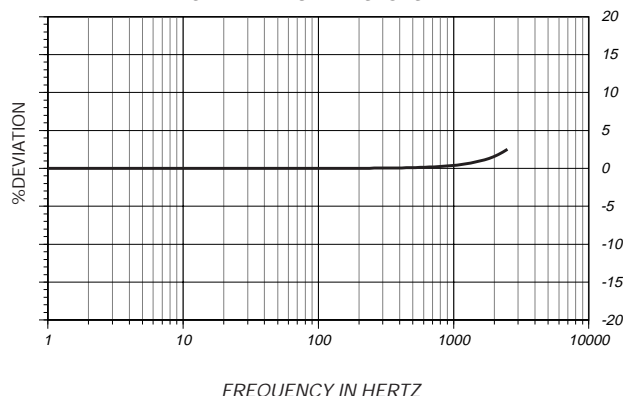
ENDEVCO Signal Conditioner Models 2777, 6634B or 68221/2 are recommended for use with this high impedance accelerometer.



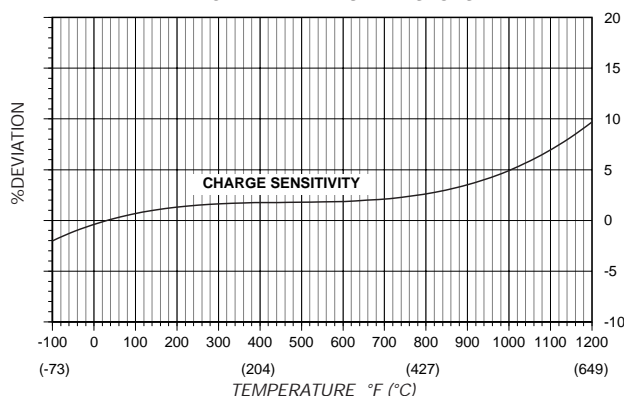
Actual size



TYPICAL AMPLITUDE RESPONSE



TYPICAL TEMPERATURE RESPONSE



Piezoelectric Accelerometer

SPECIFICATIONS

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted. Calibration data, traceable to the National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS	Units	
CHARGE SENSITIVITY		
Typical	pC/g	10
Minimum	pC/g	9.5
Maximum	pC/g	10.5
FREQUENCY RESPONSE		See Typical Amplitude Response
RESONANCE FREQUENCY		
Typical	kHz	16
Minimum	kHz	13
AMPLITUDE RESPONSE		
±5%	Hz	5 to 2500
±1dB	Hz	2 to 4000
TEMPERATURE RESPONSE	%	±10 at -58°F to +1200°F (-50°C to +649°C)
TRANSVERSE SENSITIVITY	%	≤ 5
AMPLITUDE LINEARITY	%	±1 per 250g, 0 to 2000g

ELECTRICAL CHARACTERISTICS		
OUTPUT POLARITY		Acceleration directed into base of unit produces positive output at left receptacle pin (looking into receptacle)
RESISTANCE (At room temperature)	GΩ	≥ 1 [2]
At +1200°F (+649°C)	kΩ	≥ 10
ISOLATION	GΩ	≥ 1 [2]
At +1200°F (+649°C)	kΩ	≥ 10
CAPACITANCE	pF	150
Either Signal Pin to Case	pF	≤10 2pF max unbalance between pins
GROUNDING		Signal return isolated from case

ENVIRONMENTAL CHARACTERISTICS		
TEMPERATURE RANGE		-58°F to +1200°F (-50°to +649°C)
HUMIDITY		Hermetically Sealed
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT	g pk	2000
BASE STRAIN SENSITIVITY	equiv. g pk/μstrain	0.002
TRANSIENT TEMPERATURE [1]	equiv. g pk/°F(°C)	0.04 (0.07)
ACOUSTIC SENSITIVITY	g at 154 dB	.001
MAGNETIC SENSITIVITY	g rms/kGauss rms	0.5

PHYSICAL CHARACTERISTICS		
DIMENSIONS		See Outline Drawing
WEIGHT	gm (oz)	200 (7) maximum
CASE MATERIAL		Inconel
CONNECTOR		Two pin receptacle designed to mate with ENDEVCO 6918 Series Cable Assembly (900°F maximum) or equivalent [3]
MOUNTING TORQUE	lbf-in (N•m)	14 (1.6)

SUPPLIED CALIBRATION		
CHARGE FREQUENCY RESPONSE	%	50 to 2500 Hz
CHARGE SENSITIVITY	pC/g	
TRANSVERSE SENSITIVITY	%	
MAXIMUM CAPACITANCE	pF	

ACCESSORY
P/N EH534 (3) 8-32 UNC x 0.5 inch MOUNTING SCREW
socket head cap

- NOTES**
1. With 1 Hz high pass filter.
 2. Prolonged exposure at elevated temperatures may decrease the return to room temperature resistance to less than as 1MΩ, but will not degrade the overall performance of the unit. All units are processed to initially meet 1GΩ at room temperature and will not be less than 10KΩ under all conditions.
 3. Temperature at connector mated to 6918 Cable Series is limited to +900°F (+482°C).

4. 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.



Model 2777

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.