

# Piezoelectric Accelerometer

**ENDEVCO  
MODEL  
6233C-10  
-50  
-100**

## Model 6233C-10,-50 and -100

- High Temperature Operation (+482°C)
- Balanced Differential Output
- Ground Isolated
- Requires No External Power
- Gas Turbine Testing

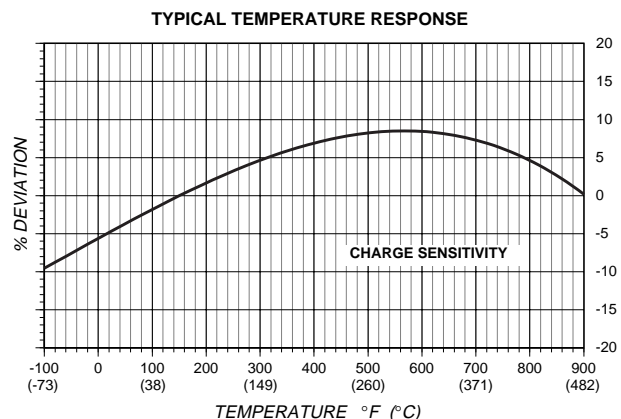
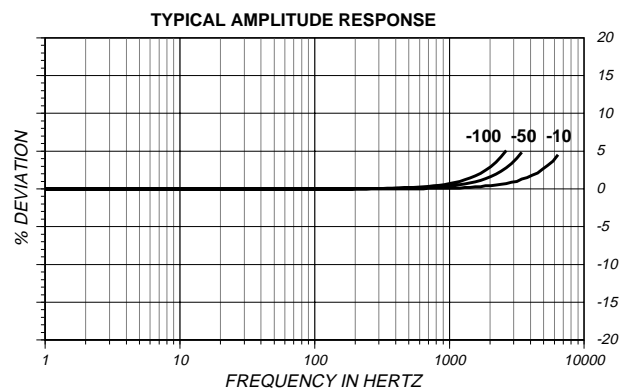
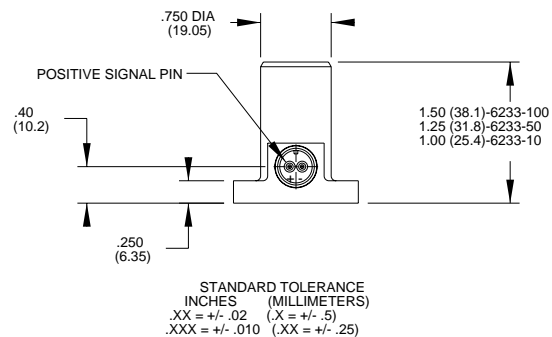
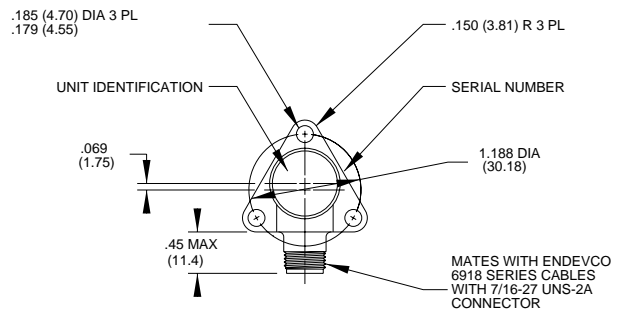


Actual size

### DESCRIPTION

The ENDEVCO® Model 6233C series piezoelectric accelerometers are designed for high temperature vibration measurement of gas turbine engines. The unit features high sensitivity, ruggedized connector and 3 point mounting. The 6233C is designed for continuous operation to +900°F with long Mean Time Between Failure (MTBF). The accelerometer is a self generating device that requires no external power source for operation.

The 6233C incorporates ENDEVCO's PIEZITE® Type P-14 sensing element to provide high output, excellent temperature stability, and wide operational bandwidth. With such high temperatures involved, this accelerometer requires the use of a charge amplifier or remote charge convertor which is designed to accept a 100 kΩ source resistance. The 6233C provides a balanced differential output isolated from case ground. The 6233C is available in standard ranges of 10, 50 and 100 pC/g. The 6233C is designed for use with ENDEVCO's Model 6918M30 shielded hardline cable or, when temperature permits, with our 6917B softline cable assembly. ENDEVCO Signal Conditioner Models 2787, 68221 or 68222 are recommended for use with this high impedance accelerometer.



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

DYNAMIC CHARACTERISTICS	Units	-10	-50	-100
CHARGE SENSITIVITY, ± 5%	pC/g	10	50	100
FREQUENCY RESPONSE		See Typical Amplitude Response		
RESONANCE FREQUENCY	kHz	31	16	12
AMPLITUDE RESPONSE [1]				
± 5%	Hz	10 to 5000	10 to 2500	10 to 2000
± 1dB	Hz	5 to 8000	5 to 5000	5 to 3000
TEMPERATURE RESPONSE		See Typical Curve		
TRANSVERSE SENSITIVITY	%	≤ 5		
AMPLITUDE LINEARITY	%	1/500 g	1/500 g	1/250 g
Up to vibration limit				

## ELECTRICAL CHARACTERISTICS

OUTPUT POLARITY	Acceleration directed into base of unit produces positive output at left receptacle pin (looking into receptacle)			
RESISTANCE (Between pins)	GΩ	≥ 1		
At +900°F (+482°C)	KΩ	≥ 100		
ISOLATION (Pin to case)	MΩ	≥ 100		
At +900°F (+482°C)	MΩ	≥ 10		
CAPACITANCE	pF	725	1350	2300
GROUNDING	Signal return isolated from case			

## ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE RANGE	-67°F to +900°F (-55°C to +482°C)			
HUMIDITY	Hermetically sealed			
SINUSOIDAL VIBRATION LIMIT	g	1000	1000	500
SHOCK LIMIT	g	2000	2000	1000
BASE STRAIN SENSITIVITY	equiv. g pk/μstrain	0.002	0.0024	0.002
THERMAL TRANSIENT SENSITIVITY [2]	equiv. g pk/°F (°C)	0.10( )	0.05 (0.09)	0.03 (0.054)

## PHYSICAL CHARACTERISTICS

DIMENSIONS	See Outline Drawing			
WEIGHT	gm (oz)	≤ 75 (2.6)	≤ 110 (3.8)	≤ 110 (3.8)
CASE MATERIAL	Inconel			
CONNECTOR	Two pin receptacle designed to mate with Endevco 6918M30 or 6917B Series Cable Assembly or equivalent			
MOUNTING TORQUE	lbf-in (Nm)	14 (1.6)		

## CALIBRATION

SUPPLIED:				
CHARGE FREQUENCY RESPONSE				
6233C-50	%	50 to 4000 Hz		
	dB	4000 Hz through resonance		
6233C-100	%	50 to 2500 Hz		
	dB	2500 Hz through resonance		
CHARGE SENSITIVITY	pC/g			
MAXIMUM TRANSVERSE SENSITIVITY	%			
CAPACITANCE	pF			

## ACCESSORY

P/N EH534

MOUNTING SCREW

8-32 UNC x 0.5 inch socket head cap, 3x

- 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.

## NOTES

- Low-end response of the transducer is a function of its associated electronics.
- With 1 Hz High Pass Filter.



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.

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