

Model 7240C Piezoelectric accelerometer

Features

- Light weight (4.8 gm)
- Hermetically sealed
- High frequency measurement
- High temperature operation (+260°C)
- Wide bandwidth (Flat to 30 kHz)

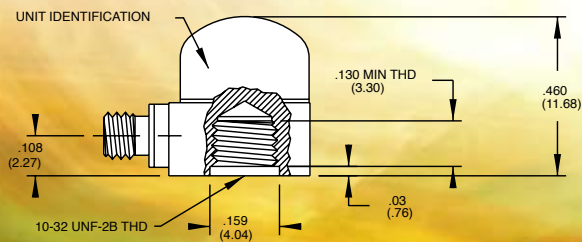
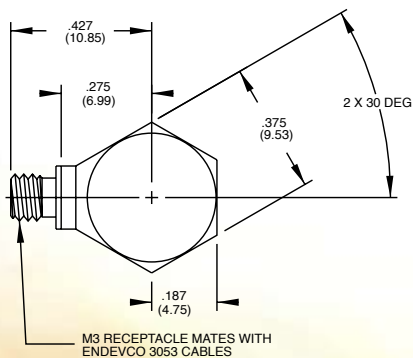


Description

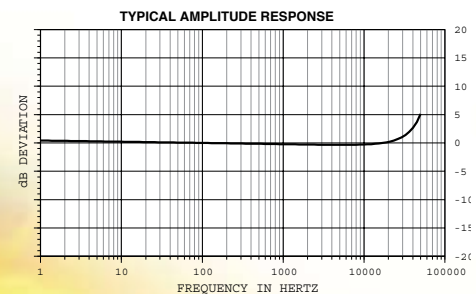
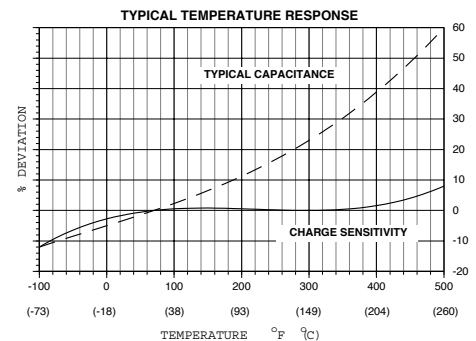
The Endevco® Model 7240C is a miniature, light-weight piezoelectric accelerometer designed specifically for high frequency vibration measurement. Its unique sensor design allows high seismic resonance and ruggedness in the same package. The unit is hermetically sealed against environmental contamination and its light weight (4.8 gm) effectively eliminates mass loading. The accelerometer is a self-generating device that requires no external power source for operation.

The Model 7240C features Endevco's Piezite® Type P-8 crystal element, operating in annular-shear mode. This device exhibits low base-strain sensitivity, wide bandwidth, and excellent output stability over time. Signal ground is connected to the case of the unit. When used with one of the supplied isolated mounting studs, the accelerometer is electrically isolated from ground. A specially designed low-noise coaxial cable is supplied for error-free operation.

Endevco signal conditioner Models 133, 2775B, 2771B, or Oasis 2000 computer-controlled system are recommended for use with this high-impedance



STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .02 (X = +/- .5)
.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) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

DYNAMIC CHARACTERISTICS	Units	
CHARGE SENSITIVITY TYPICAL	pC/g	3.0
	pC/g	2.3
FREQUENCY RESPONSE	See Typical Amplitude Response	
RESONANCE FREQUENCY	kHz	90
AMPLITUDE RESPONSE [1]		
±1 dB	Hz	1 to 20 000
TEMPERATURE RESPONSE	See Typical Curve	
TRANSVERSE SENSITIVITY	%	≤ 5
AMPLITUDE LINEARITY [2]	%	1
Per 500 g, 0 to 5000 g		

ELECTRICAL CHARACTERISTICS		
OUTPUT POLARITY	Acceleration directed into base of accelerometer produces positive output	
RESISTANCE	GΩ	≥ 10
CAPACITANCE	pF	770
GROUNDING	Signal ground connected to case	

ENVIRONMENTAL CHARACTERISTICS		
TEMPERATURE RANGE	-67°F to +500°F (-55°C to +260°C)	
HUMIDITY	Hermetically sealed	
SINUSOIDAL VIBRATION LIMIT	g pk	1000
SHOCK LIMIT	g pk	5000
BASE STRAIN SENSITIVITY		
WITH 2980M12 & 2980M13	equiv. g pk/μ strain	0.0005
WITH 2981-11	equiv. g pk/μ strain	0.005

PHYSICAL CHARACTERISTICS		
DIMENSIONS	See Outline Drawing	
WEIGHT	gm (oz)	4.8 (0.17)
CASE MATERIAL	Stainless Steel	
CONNECTOR	Coaxial, M3 x 0.5 6H thread, mates with Endevco 3053 cables	
MOUNTING TORQUE	lbf-in (Nm)	18 (2)
With 2981-11		

CALIBRATION		
SUPPLIED:		
CHARGE SENSITIVITY	pC/g	
CAPACITANCE	pF	
TRANSVERSE SENSITIVITY	%	
FREQUENCY RESPONSE	dB	50 Hz to 50 kHz

INCLUDED ACCESSORIES

2980M12	10-32 TO 10-32 ISOLATED-MOUNTING STUD
2981-11	10-32 TO 10-32 MOUNTING STUD
3053V-120 (10 ft)	VersaFLEX CABLE ASSEMBLY
2980M13	ISOLATED ADHESIVE MOUNTING ADAPTER

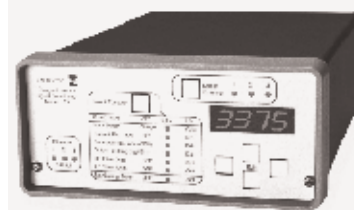
- Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors. Send for TP290 for more details.
- Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

OPTIONAL ACCESSORIES

2771BM1-1	IN-LINE CHARGE CONVERTOR FOR USE WITH CONSTANT CURRENT SOURCE
3053H-XXX	HyperFLEX CABLE ASSEMBLY

NOTES

- Low-end response of the transducer is a function of its associated electronics.



Model 133 Signal Conditioner

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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