

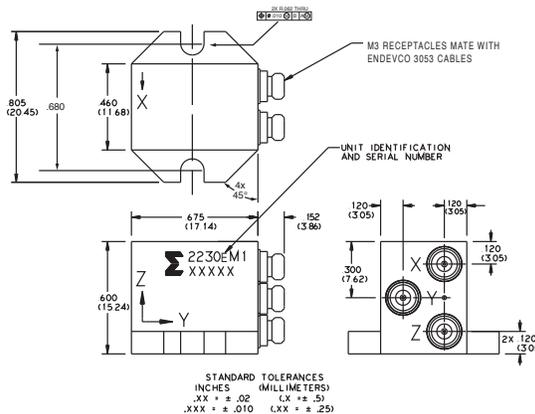
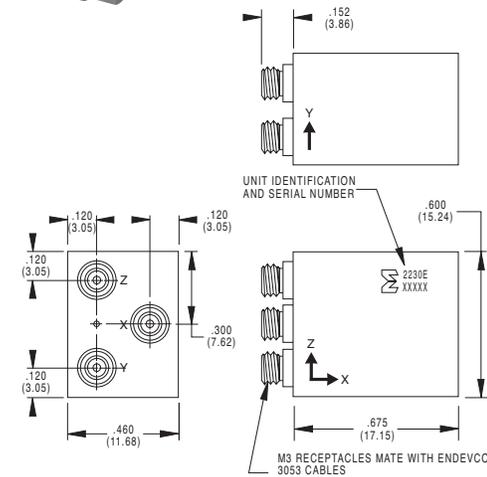
Piezoelectric accelerometer Model 2230E / 2230EM1



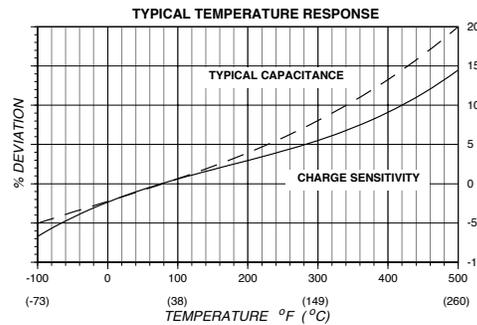
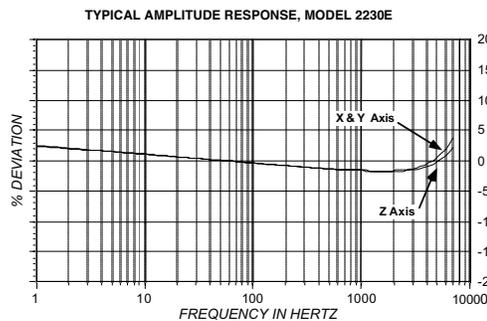
2230E



2230EM1



STANDARD TOLERANCE	
INCHES	(MILLIMETERS)
.XX ± .03	(.X ± .8)
.XXX ± .010	(.XX ± .25)



The Endevco® model 2230E/2230EM1 is a miniature triaxial piezoelectric accelerometer designed specifically for vibration measurement in three orthogonal axes on small structures and objects. The transducer features three M3 receptacles for output connection. The 2230E is designed to be mounted with adhesive. The 2230EM1 is mounted with two supplied cap screws. Its light weight effectively minimizes mass-loading effects. The accelerometer is a self-generating device that requires no external power source for operation.

The model 2230E/2230EM1 features Endevco's Piezite® Type P-8 crystal elements, operating in annular shear mode, which exhibit excellent output sensitivity stability over time. Signal ground is connected to case and mounting surface of the unit. Low-noise, flexible coaxial cables are supplied for error-free operation.

Endevco signal conditioner models 133 and 2771C are recommended for use with this high impedance accelerometer.

Key features

- Miniature high temperature triaxial, +500°F (+260°C)
- Light weight (17 gm / 22.5 gm)
- Case grounded
- High temperature aerospace, industrial and automotive applications

Piezoelectric accelerometer

Model 2230E / 2230EM1

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	2230E	2230EM1
Charge sensitivity			
Typical	pC/g	3.0	3.0
Minimum	pC/g	2.0	2.0
Frequency response		See typical amplitude response	
Resonance frequency, typical	kHz	21	21
Amplitude response [1]			
±5%	Hz	1 to 7000	1 to 5000
±1 dB	Hz	1 to 10 000	1 to 10 000
Temperature response		See typical curve	
Transverse sensitivity	%	≤5	≤5
Amplitude linearity	%	1 per 500 g, 0 to 2000g	
Electrical characteristics			
Output polarity		Acceleration in the direction of axis arrow produces positive output.	
Resistance	GΩ	≥10	≥10
Resistance at +500°F (+260°C)	MΩ	≥25	≥25
Capacitance	pF	770	770
Grounding		Signal return is 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	1000
Shock limit [2]	g pk	2000	2000
Electromagnetic sensitivity	equiv. g rms/gauss	0.01	0.01
Physical characteristics			
Dimensions		See outline drawing	
Weight	gm (oz)	17 (0.6)	22.5 (0.79)
Case material		304L stainless steel	
Connector		M3 x 0.5 6H thread, mates with Endevco 3053 cables	
Mounting torque	lbf-in (Nm)	NA	13.5 (1.25)
Calibration			
Supplied:			
Charge sensitivity	pC/g		
Capacitance	pF		
Maximum transverse sensitivity	%		
Charge frequency response		20 Hz to 10 000 Hz	

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Accessories

Product	Description	2230E	2230E-R	2230EM1	2230EM1-R
3053V-120	Versaflex cable assembly, 10 ft (3x)	Included	Optional	Included	Optional
EH409	4-40 x .375 screws (2x)	N/A	N/A	Included	Included
2771C	In-line charge convertor	Optional	Optional	Optional	Optional
133	Signal conditioner	Optional	Optional	Optional	Optional

Notes

1. Low-end response of the transducer is a function of its associated electronics.
2. 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.
3. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

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