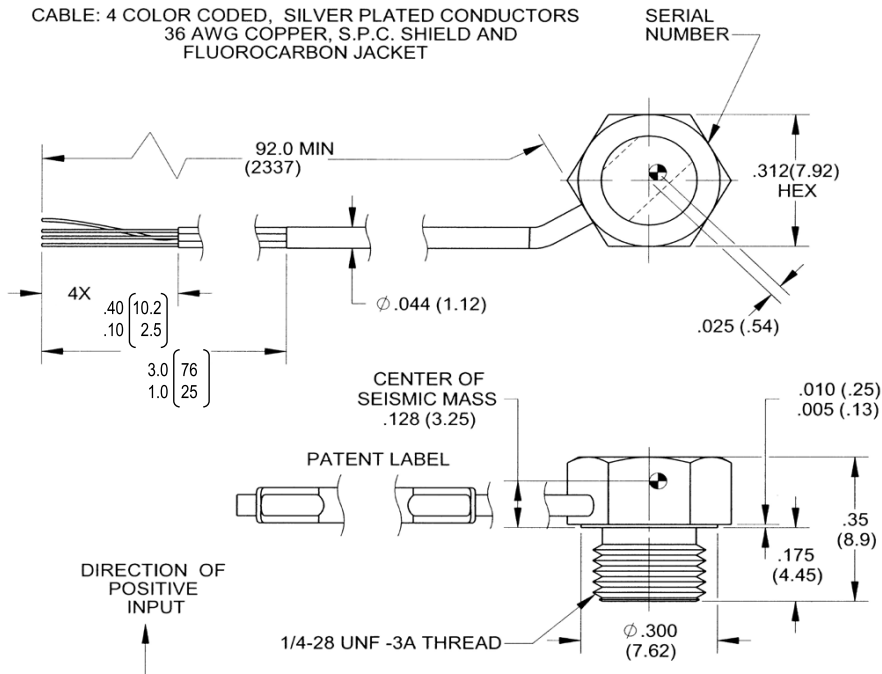


# Piezoresistive accelerometer

## Model 7270AM4



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

### Key features

- 2K, 6K, 20K, 60K and 200K full scale ranges
- High resonance frequency
- Broad frequency response
- Minimal zero shift after shock

### Description

The Endevco model 7270AM4 is a family of rugged undamped piezoresistive accelerometers designed for shock applications. The 7270AM4 features minimal mass loading, broad frequency response, and minimum zero shift during a shock event.

The 7270AM4 uses a unique micro-machined, piezoresistive sensor with gages arranged in a full wheatstone bridge circuit. The extremely small size and efficient construction allow for exceptionally high resonant frequency. The M4 modification indicates a 1/4-28 stud mount package for increased housing stiffness with the same performance as 7270A flatpack.

200,000g range is subject to International Traffic in Arms Regulations (ITAR), and as such a license is required for shipments outside the U.S. and other restrictions may apply.

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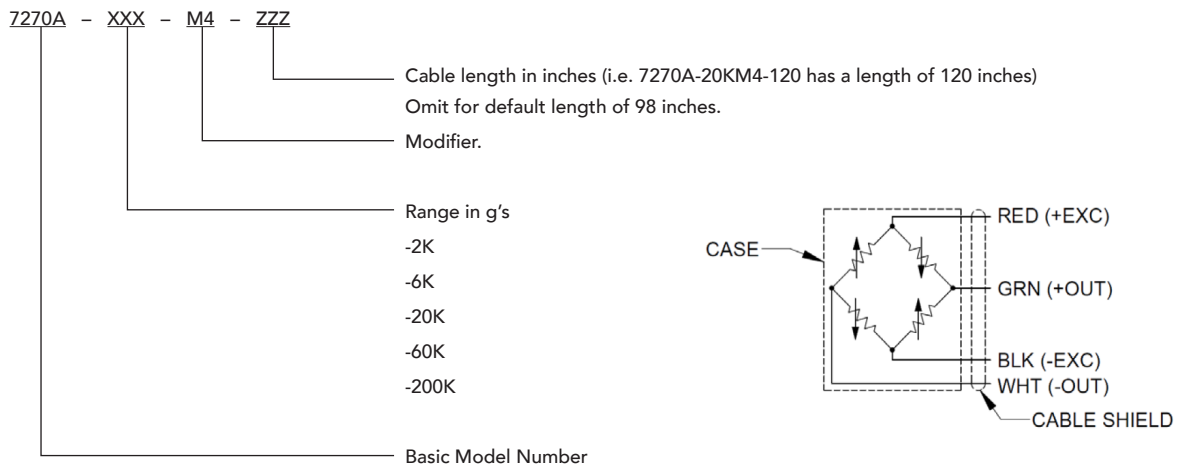
All specifications are referenced at +75°F (+24°C) and 10 Vdc, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Specifications						
Dynamic characteristics	Units	2K	6K	20K	60K	200K
Linear range	g	2,000	6,000	20,000	60,000	200,000
Sensitivity min/typ [1]	μV/g	50/100	15/30	5/10	1.5/3	.5/1
Frequency response +/-5%	Hz	0 to 10,000	0 to 20,000	0 to 50,000	0 to 100,000	0 to 150,000
Natural frequency (typ)	kHz	90	180	350	700	1200
Shock limit [max]	g	10,000	18,000	60,000	180,000	200,000
Zero measure and output (max at 10V)	mV	+/-100	+/-100	+/-100	+/-100	+/-100
Transverse sensitivity (max)	%	5	5	5	5	5
Thermal zero shift (typ) -30°F to +150°F (-34°C to +66°C)	mV	+/-10	+/-10	+/-10	+/-10	+/-10
Thermal sensitivity shift	%/C	-0.12	-0.12	-0.12	-0.12	-0.12
Electrical characteristics						
Excitation	Vdc	2 to 12 (10 standard)				
Resistance						
input	Ω	650 ± 300				
output	Ω	650 ± 300				
Isolation resistance		100 MΩ min at 100 VDC between leads (shorted together) and cable shield or case				
Physical characteristics						
Case material		17-4 CRES				
Weight (excluding cable)	grams	1.5				
Cable		(4) 36 AWG SPC, shield, FEP jacket cable weight 0.10 oz/ft (2.83 g/ft)				
Mounting [2]		Integral 1/4-28 thread .175 inch long mounting stud Recommended mounting torque, 30 ± 2 lbf-in (3.5 N-m)				
Environmental						
Temperature						
Operating [3]	°C (F°)	- 55 to + 66 (- 67 to + 150)				
Storage	°C (F°)	- 55 to + 121 (- 67 to + 250)				
Calibration data						
Data for sensitivity, ZMO, input and output resistance are supplied on the calibration [4]						

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## Notes

1. Sensitivity measured at 5,000g, except for 2,000g model measured at 2,000g
2. Use  $30 \pm 2$  lbf-in mounting torque, acoustic couplant to (1) insure intimate contact between accelerometer and mounting surface and (2) to prevent yielding of the screw and loss of preload force due to shocks, particularly those above 20,000 g. Loss of meaningful data and possible damage to the accelerometer due to rattling on its mounting surface can result from using either too high or too low a value of mounting torque. The use of low strength mounting material (such as aluminum) is not recommended. However, if such is the case, epoxy should be used between the transducer and mounting surface to supplement the strength of the threads.
3. 150°F is the maximum recommended operating temperature with 10 Vdc excitation. In applications requiring higher operating temperatures, lower excitation voltage is recommended.
4. Prior to final calibration, each accelerometer is given a shock in its sensitive axis approximately equal to its rated range, or equal to 100,000g, whichever is lower.
5. 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.
6. Model number definition:



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