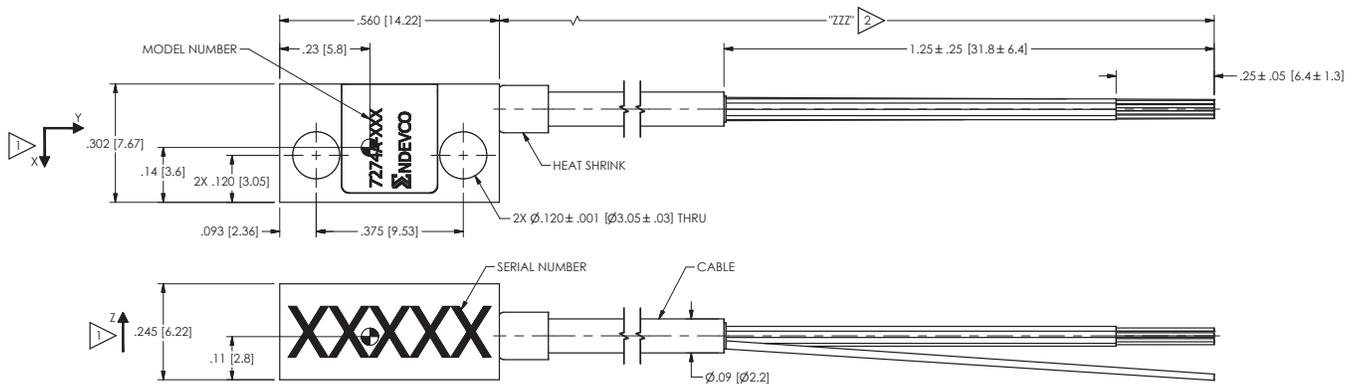


# Triaxial piezoresistive accelerometer

## Model 7274A



### Key features

- 2K, 6K, 20K and 60K g full scale ranges
- High resonance frequency
- Rugged to 3X full scale range
- No damping for fast response time
- Improved cable to minimize shock induced noise

### Description

The Endevco® Model 7274A series is a family of rugged, undamped, piezoresistive triaxial accelerometers designed for high-acceleration shock measurements in three mutually perpendicular axes. This family uses three sensors that are packaged in a mutually orthogonal arrangement in a two bolt-mount housing which shares the same footprint and bolt pattern as Endevco Model 7270A. The housing boasts a robust low noise eight conductor cable that can repeatedly withstand the high-acceleration shock environment.

The Model 7274A utilizes the same highly efficient sensing system as the Model 7270A. For each axis, the sensor is sculptured from a single chip of silicon, which includes the inertial mass and strain gages arranged in a four-active-arm Wheatstone bridge circuit. The Model 7274A is available in ranges from 2,000 g to 60,000 g, with all three axes having the same range. Calibration at 5V is standard for this model.

## Triaxial piezoresistive accelerometer | Model 7274A

All specifications are referenced at +75°F (+24°C) and 5 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
Linear range	g	2,000	6,000	20,000	60,000
Sensitivity min/typ	μV/g	25/50	7.5/15	2.5/5	.75/1.5
Frequency Response ±1dB (typ)	kHz	0-18	0-36	0-70	0-140
Natural frequency (typ)	kHz	90	180	350	700
Shock limit	g	10,000	18,000	60,000	180,000
Zero measurand output (max)	mV/V	±10	±10	±10	±10
Transverse sensitivity	%	3	3	3	3
Thermal zero shift [1] 0°F to +150 °F (-18 °C to +66 °C)	mV/V	<1	<1	<1	<1
Thermal sensitivity shift	%/°C	-0.12	-0.12	-0.12	-0.12
Electrical characteristics					
Excitation	Vdc	5 to 12 (5 standard)			
Resistance					
Input		217 ± 100			
Output	Ω	650 ± 300			
Isolation resistance	Ω	100 MΩ min at 50 VDC between cable leads and cable shield or case			
Physical characteristics					
Case, material		17-4 PH CRES			
Weight (excluding cable)		2.9 grams			
Cable weight		10.2 grams/meter [0.11 ounces/foot]			
Cable		(8) 34 AWG SPC alloy conductors, with SPC braided shield and FEP jacket			
Mounting		4-40 high strength screws (x2)			
Recommended mounting torque		8 ± 2 lbf-in (0.9 N-m)			
Environmental characteristics					
Temperature					
Operating [2][3]	°C (F°)	- 55 to + 121 (- 67 to + 250)			
Storage	°C (F°)	- 55 to + 121 (- 67 to + 250)			
Calibration data					
Data for sensitivity, (measured at 2,000g for -2K; 5,000g for -6K, -20K and -60K) ZMO, input and output resistance are supplied on the calibration certificate. Unless specified by the customer at time of order, the default calibration will be performed at 5 Vdc excitation.					

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Accessories		
Options	Description	7274A
EH815	[2] 4-40 high strength screws	Included
EHW265	[2] No. 4 washers	Included

## Notes

- Operating temperatures above 93 °C (200 °F) result in unpredictable thermal zero shift. TZS should be monitored and/or managed by auto-zeroing to insure no loss in data due to signal saturation.
- 150 °F is the maximum recommended operating temperature with 10 Vdc excitation. In applications requiring higher operating temperatures, lower excitation voltage is recommended.
- For the 7274A-60K, the over range limit is reduced to 120,00 g when operating at temperatures above 60 °C (150 °F) and to 60,000 g when operating at temperature above 93 °C (200 °F).
- Due to the very low resistance of the Endevco Model 7274A, PCB bridge signal conditioners 482C27 and 483C28 do not have enough power to drive these sensors. The Endevco Model 136 can drive enough power, but only with special wiring instructions. See the article "Tech Tip How to Wire a 7274A for Use with Model 136" in the "Ask the Experts" section on Endevco.com.
- 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.

Model number definition:

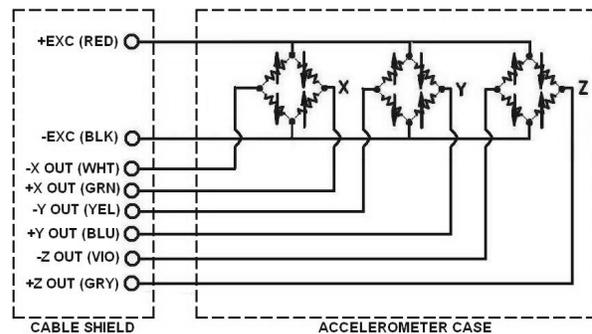
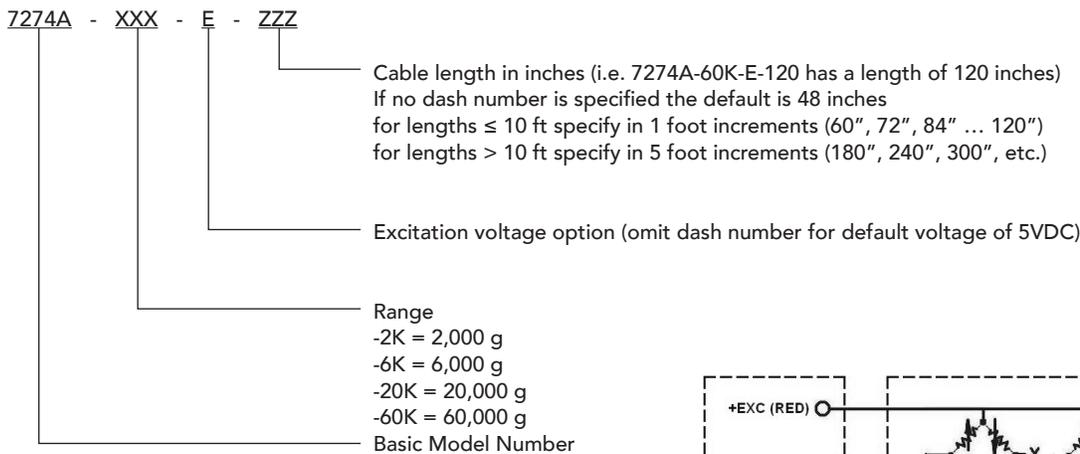


FIGURE 1. Schematic



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