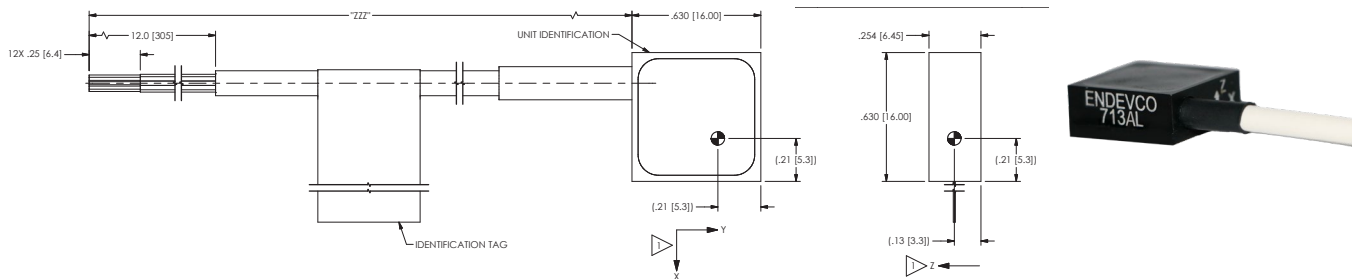


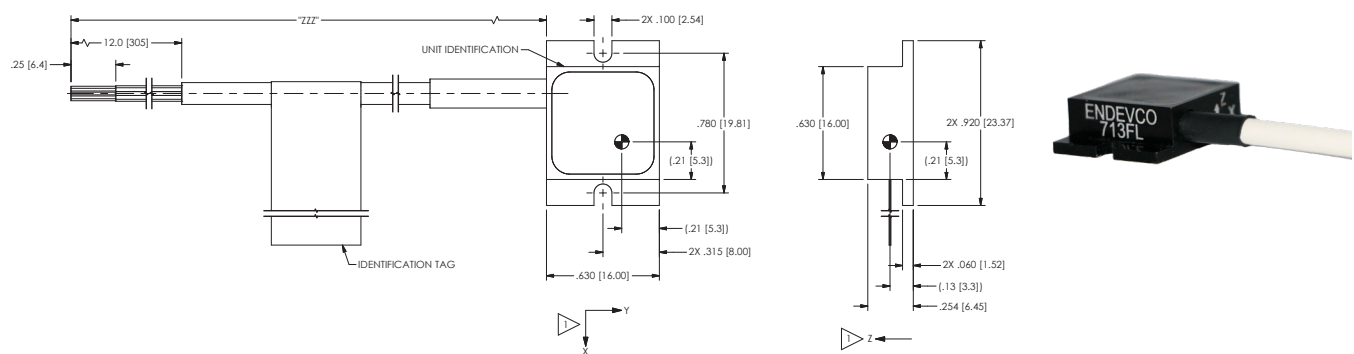
# Triaxial piezoresistive accelerometer

## Model 713AL - 713FL

713AL



713FL



### Key features

- 2000 g full scale range
- Multi-mode damping
- Meets SAEJ211/J2570 Frequency Response
- High output for excellent signal-to-noise ratio
- 713AL for adhesive mounting; 713FL for screw mounting

### Description

The Endevco model 713AL and 713FL are an extremely small piezoresistive triaxial accelerometers designed for crash testing and similar applications that require minimal mass loading and a broad frequency response.

The 713AL and 713FL utilize three advanced micro machined, full-bridge sensors with gas damping and integral mechanical stops to ensure ruggedness, high output, high accuracy and high resonant frequency. Each accelerometer has full scale output of approximately  $\pm 600$  mV typical with a full scale acceleration of  $\pm 2000g$ , using 10 Vdc excitation. These models include multi-mode damping, producing excellent response over a broad frequency range. With a frequency response extending down to dc (steady state) acceleration, this accelerometer is ideal for measuring long duration transient shocks.

## Triaxial piezoresistive accelerometer | Model 713AL - 713FL

All specifications assume +75°F (+24°C) and 10 Vdc excitation unless otherwise stated. Calibration data, traceable to the National Institute of Standards and Technology (NIST), is supplied.

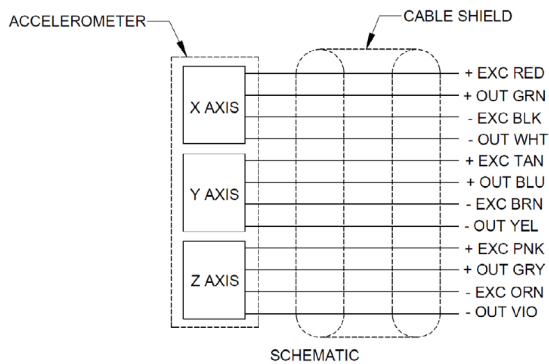
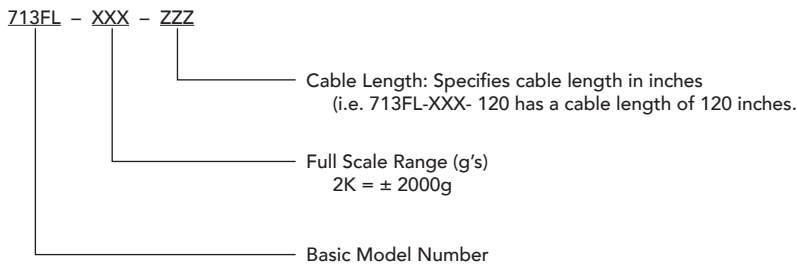
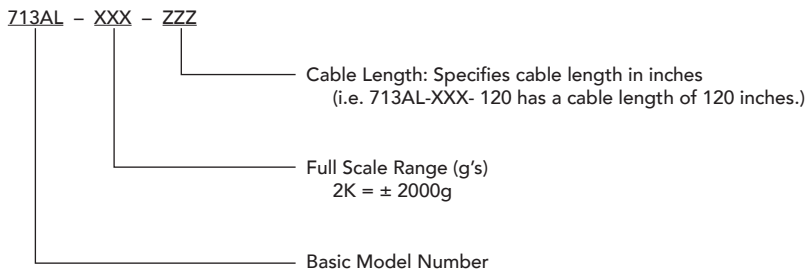
Specifications		
Dynamic characteristics	Units	±2000
Sensitivity (100 Hz & 10g) [1]		
Typical	mV/g	0.30
Minimum	mV/g	0.10
Frequency response, all 3 axes (Referenced to 100 Hz)		
+2.92%/-2.84%	Hz	0 to 1200
+3.75%/-4.72%		1200 to 1650
+5.44%/-6.78%		1650 to 3500
Zero measurand output	mV	±40 maximum
Non-linearity & hysteresis (% of reading, to full range)	%	±1
Thermal zero shift (Typical)		
-40°F to +212°F	%FSO/°F	± 0.04
(-40°C to +100°C)	%FSO/°C	± 0.02
Thermal sensitivity shift (Typical)		
-40°F to +212°F	%/°F	0.1
(-40°C to +100°C)	%/°C	0.2
Transverse sensitivity	%	3
Electrical		
Excitation voltage	Vdc	2.0 to 10.0
Max exc. Voltage without damage	Vdc	12.0
Resistance		
Input (each axis)	Ω	3000 ± 1500
Output (each axis)	Ω	3000 ±1500
Insulation Resistance	Ω	100M minimum @50Vdc
(Cable shield to housing)	Ω	
Physical		
Housing material	Hard anodized aluminum alloy housing with Stycast fill, color black	
Cable, integral	Integral 12 conductor No. 30 AWG, FEP insulated leads, braided shield, white polyurethane jacket, OD 0.122" (3mm)	
Weight (transducer, excluding cable)	713AL: 3.5 grams 713FL: 4 grams	
Weight of cable	18.9 grams/meter	
Mounting/torque	713AL: Adhesive 713FL: 2x #2-56 socket head cap screws 3.5 in-lbf (0.40 N-m) recommended / 4.0 in-lbf (0.45 N-m) maximum	
Environmental		
Temperature		
Operating	-40°F to +212°F (-40°C to +100°C)	
Storage	-40°F to +212°F (-40°C to +100°C)	
Acceleration limits (any direction)		
Shock	10000 g	
Sealing, humidity	Sealed by epoxy, IP65 compliant	
Altitude	Unaffected	
Calibration data		
Sensitivity	10g, 100Hz at 5V and 10V	
ZMO	at 5V and 10V	
Frequency Response	20 to 3500 Hz, Ref 100 Hz	
Input and Output Resistance		

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Accessories			
Options	Description	713AL	713-FL
EH136	Screw, socket head, 2-56 x 1/4 alloy steel blk oxide (x2)	N/A	Included
EHM178	Hex wrench 5/64	N/A	Included

## Notes

1. Positive acceleration along axes X, Y and Z in the directions marked on the housing will cause positive charge in the output voltage.
2. Model number definition:



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