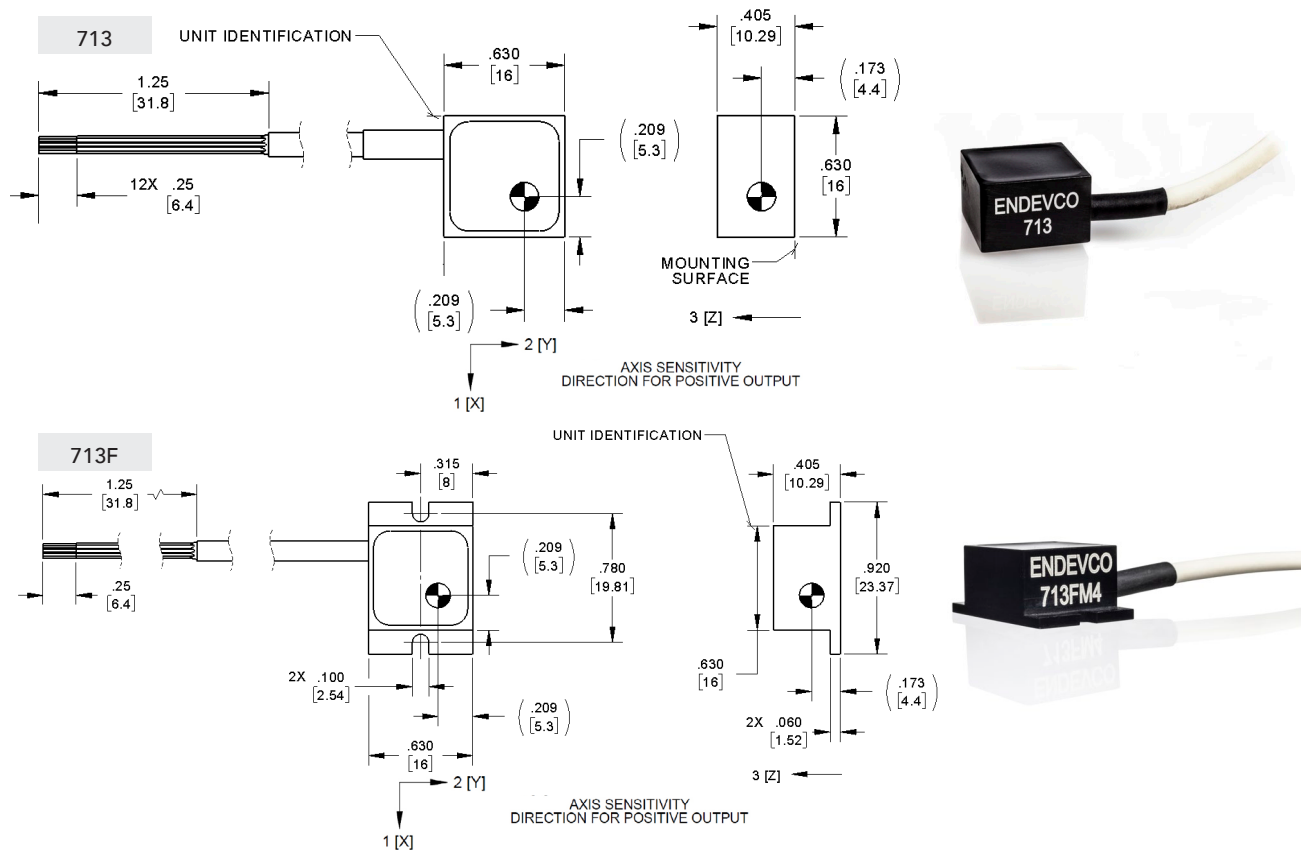


# Triaxial piezoresistive accelerometer

## Model 713 - 713F



### Key features

- 2000 g full scale range
- Multi-mode damping
- High output for excellent signal-to-noise ratio
- 713 for adhesive mounting
- 713F for screw mounting

### Description

The Endevco model 713 and 713F 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 713 and 713F 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.

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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..

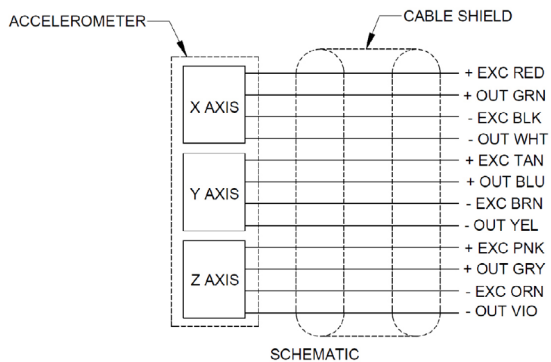
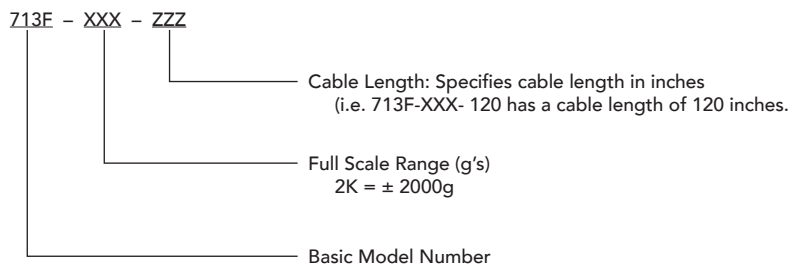
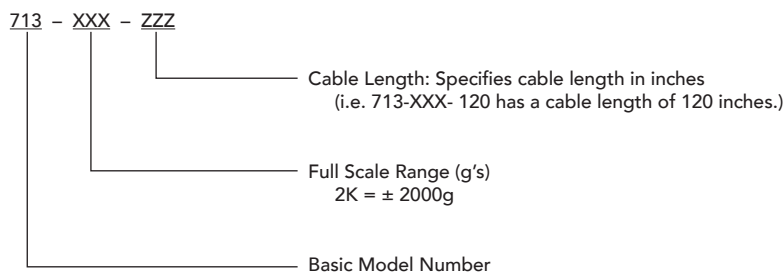
Specifications		
Dynamic characteristics	Units	±2000
Sensitivity (100 Hz & 10g) [1]		
Typical	mV/g	0.30
Minimum	mV/g	0.12
Frequency response, all 3 axes (Referenced to 100 Hz)		
±5% maximum	Hz	0 to 1500
Frequency response plots for each axis are supplied with each unit, with linear (percent) scale from 20 Hz to 1500 Hz.		
Zero measurand output	mV	±50 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		
Max exc. Voltage without damage	Vdc	2.0 to 10.0
Resistance		
Input, minimum (each axis)	Ω	4500
Output, maximum (each axis)	Ω	8500
Isolation (leads to substrate)	Ω	100M minimum
Insulation Resistance		
(Cable shield to housing)	Ω	100M minimum @50Vdc
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.
Weight (transducer, excluding cable)		
		7.5 grams
Weight of cable		
		18.9 grams/meter
Mounting/torque		
		713: Adhesive
		713F: 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)		
Static	10000 g	
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 1500 Hz, Ref 100 Hz
Input and Output Resistance		

# Triaxial piezoresistive accelerometer | Model 713 - 713F

Accessories			
Options	Description	713	713-F
EH136	Screw, socket head, 2-56 x ¼ alloy steel blk oxide (x2)	N/A	Included
EHM178	Hex wrench 5/64	N/A	Included
136	DC Differential Voltage Amplifier	Optional	Optional

## Notes

1. Positive acceleration along axes 1 (x), 2 (y), 3 (z) in the directions marked on the housing will cause positive charge in the output voltage.
2. Model number definition:



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