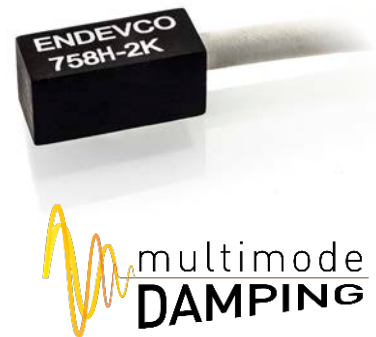
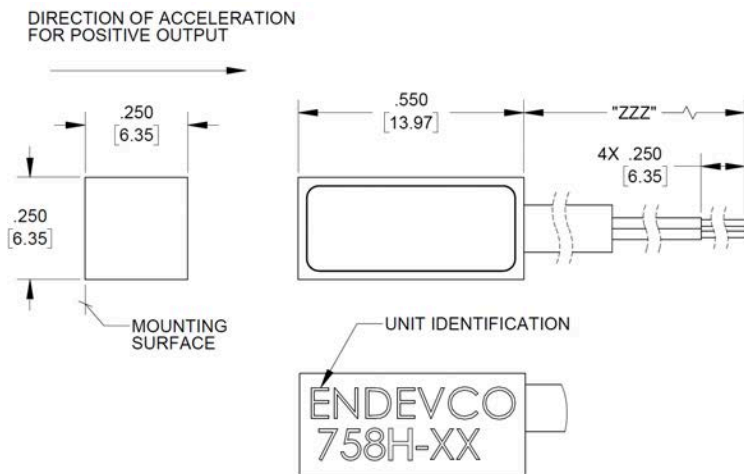


Piezoresistive accelerometer

Model 758H



STANDARD TOLERANCE	
INCHES	[MILLIMETERS]
.XX = ± .02	[.XX = ± .5]
.XXX = ± .010	[.XX = ± .25]

Key features

- 2,000 g range
- 600 mV full scale
- Adhesive mount
- Rugged to 10,000 g's
- ESD protection
- Multi-mode damping

Description

The ENDEVCO® Model 758H is a very low mass accelerometer designed for crash testing and similar applications that require minimal mass loading and broad frequency response.

The Endevco Model 758H utilizes a unique and advanced micro-machined piezoresistive sensor which includes multi-mode damping for exceptional bandwidth with no significant resonance response in the usable range. This monolithic sensor incorporates the latest MEMS technology for ruggedness, stability and reliability. Endevco's MEMS sensing elements combine high resonance with high output while maintaining exceptional linearity and hysteresis. The accelerometer has a four active arm, full bridge circuit. Endevco's auto safety accelerometers are designed with transient voltage suppression diodes that protect the sensing elements circuit against electrostatic discharge (ESD). Full-scale output is 600 mV nominal with 10 VDC excitation. With a frequency response extending down to VDC (steady state acceleration), this accelerometer is ideal for measuring long duration transient shocks.

The 758H comes standard with calibrations performed at 2V, 5V, and 10V excitation.

U.S. Patent 6,988,412 applies.

Piezoresistive accelerometer | Model 758H

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

Specifications		
Dynamic characteristics	Units	-2K
Range	g	2000
Sensitivity (Minimum/Nominal/Maximum)	mV/g	.15/.30/.60
	mv/V/g	.015/.030/.060
Frequency response (Ref. to 100 Hz, ± 5% maximum) [1]	Hz	0 to 4000
Zero measurand output	mV	±25mV
Non-linearity [2]	%	±1 max to 1000g
Thermal zero shift		
0° to 50°C	%FSO/°C	0.02
32° to 122°F	%FSO/°F	0.01
Thermal sensitivity shift		
0° to 50°C	%/°C	0.2
32° to 122°F	%/°F	0.1
Transverse sensitivity	%max	3
Electrical characteristics		
Warm-up time	min	2
Excitation	VDC	2.0, 5.0, 10.0
Max. Excitation voltage without damage	VDC	12
Resistance		
Input	Ω	6,500 ±2,000
Output	Ω	6,500 ±2,000
Isolation (leads to case or shield)	MΩ	100 min. at 50 VDC
Residual noise [3]	μV RMS	<10
Physical characteristics		
Case material	Hard anodized aluminum alloy housing with Stycast fill, color black	
Electrical connections	Integral 4 conductor, # 28 AWG ETFE insulated leads, shielded with white polyurethane jacket, 0.115 inch outer diameter	
Mounting	Adhesive	
Weight (excluding cable)	0.07 oz (2.0 gm); cable 0.2 oz/ft (19 gm/m), typical	
Environmental characteristics		
Acceleration limits (sensitive direction)		
Shock (half-sine pulse duration)	10,000 g, 80 usec or longer	
Temperature		
Operating	- 40°C to + 100°C (- 40°F to + 212°F)	
Note: Model 758H can operate during excursions	down to -55°C (-67°F) with limited lifetime.	
Storage	Room temperature	
Humidity	IP67	
Calibration		
Each sensor includes an ISO 17025 calibration with the below information:		
Sensitivity (10 g,100 Hz at 2V, 5V and 10V)		
ZMO (at 2V, 5V and 10V)		
Frequency Response (20 to 4,000 Hz, Ref 100 Hz)		
Input and Output Resistance		

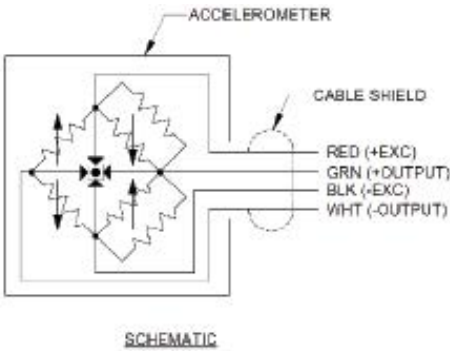
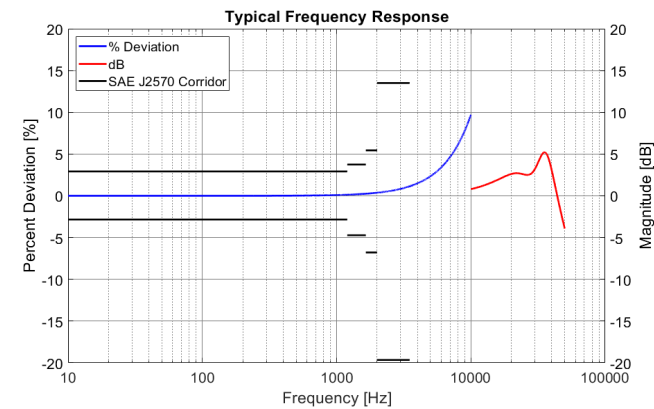
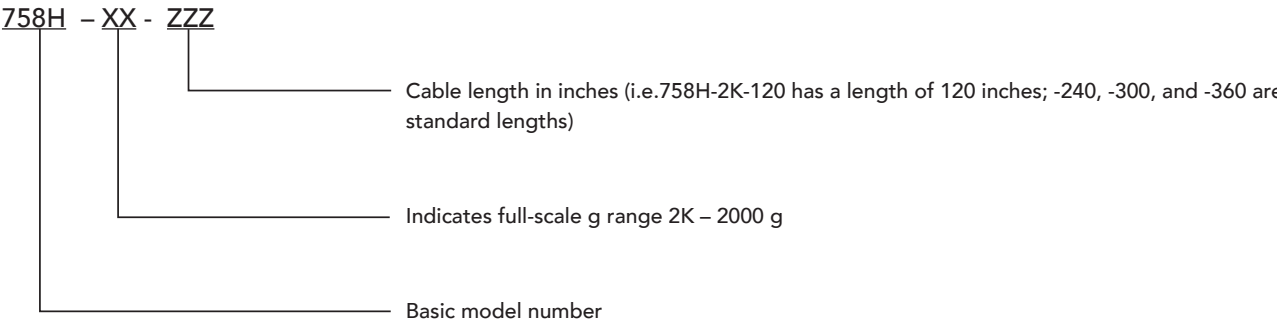
Piezoresistive accelerometer | Model 758H

Accessories		
Options	Description	758H
4418	Portable 1 Channel VDC Differential Voltage Signal Conditioner	Optional

Notes

1. The primary resonance (25kHz) and the secondary resonance (36kHz) are both heavily damped. Using our proprietary multi-mode damping technique, these resonance peaks are completely suppressed or minimized to a significant degree, leaving the sensor virtually resonance free in practice. See the chart below for typical frequency response.
2. Reported linearity was tested using pop shock calibration. Tested at low frequencies on a centrifuge, the sensor has 1% linearity to 2,000g. The sensitivity reported on the standard calibration certificate is performed at 10g's. If the application calls for a shock measurement between 1,000g and 2,000g an alternate amplitude linearity calibration is recommended (EACS-109). For more information on damped sensors and calibration method, please refer to TP343.
3. Theoretical noise floor measured using a low-noise Op-amp. In practice, noise performance is dominated by the characteristics of the interfacing bridge amplifier.
4. 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:



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