ENDEVCO
AN AMPHENOL COMPANY

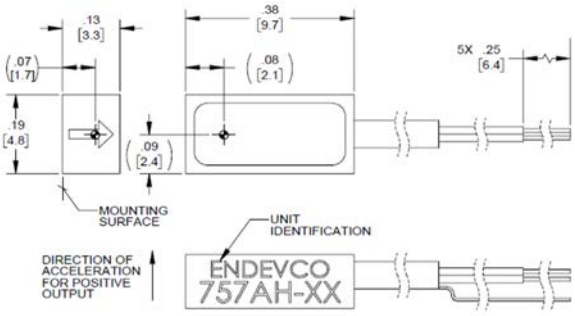
Piezoresistive accelerometer

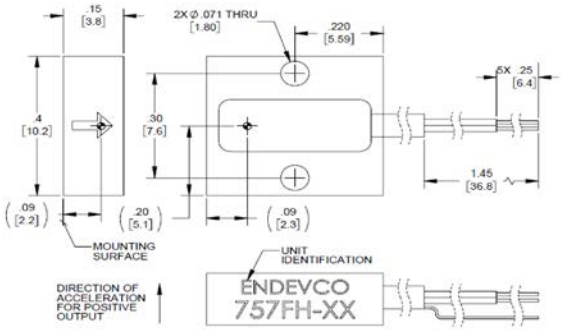
Model 757AH - 757FH

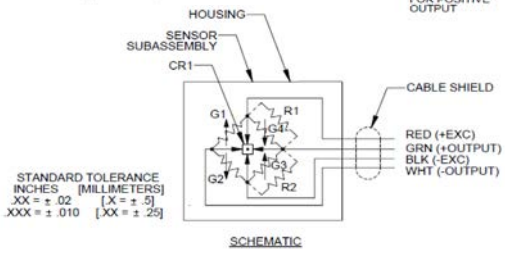
multimode DAMPING

757AH

757FH







SCHEMATIC

Key features

- High sensitivity, 0.3 mV/g
- Miniature for tight spaces
- DC response
- Survives up to 10,000 g's shock
- ESD protection
- Multi-mode damping

Description

The Endevco® Model 757AH and 757FH are very low mass accelerometers weighing less than 2 grams. These accelerometers are designed for crash testing and similar applications that require minimal mass loading and broad frequency response.

The Endevco Model 757AH and 757FH utilize 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 dc (steady state acceleration), this accelerometer is ideal for measuring long duration transient shocks.

The Model 757AH is designed for adhesive mounting for ultimate flexibility when mounting. The Model 757FH is designed for screw mounting with the provided screws.

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

Piezoresistive accelerometer | Model 757AH - 757FH

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
Range	g	± 2,000
Sensitivity (at 100Hz and 10g)		
Minimum/Nominal/Maximum	mV/V/g	.015 / .030 / .060
Frequency response (Referenced to 100 Hz)		
± 5% maximum	Hz	0 to 3,000
Non-linearity [1]	%	±1 max to 1000g
Zero measurand output (max)	mV	±50
Transverse sensitivity	%	3
Thermal zero shift (typ)		
0° to 50°C	%FSO/°C	0.02
32° to 122°F	%FSO/°F	0.01
Thermal sensitivity shift (typ)		
0° to 50°C	%/°C	0.2
32° to 122°F	%/°F	0.1
Electrical characteristics		
Excitation	Vdc	2.0, 5.0, 10.0
Resistance		
Input	ohms	6,500 ±2,000
Output	ohms	6,500 ±2,000
Insulation resistance	Mohms	100 min at 50 Vdc
Physical characteristics		
Case material		Anodized aluminum with stycast fill, black
Electrical connections		Integral 4 conductor, # 32 AWG, PVC insulated leads shielded with black PVC jacket
Mounting		
757AH		Adhesive
757FH		0 - 80 socket head cap screws 2.6 in-lbf (0.29 N.m) recommended/3.0 in-lbf (0.34 N.m) maximum
Weight		
757AH		1.5 gm (0.05 oz); excluding cable
757FH		2.0 gm (0.07 oz); excluding cable
Environmental characteristics		
Acceleration limits		
Shock (half-sine pulse duration)		10,000 g, 80 µsec or longer
Temperature		
Operating		- 40°C to + 100°C (-40°F to + 212°F)
Storage		Room temperature
Humidity		IP67
Calibration data		
Frequency response		10 g, 20 to 3,000, ref 100 Hz
Sensitivity		10 g, 100 Hz at 2, 5 and 10 V
ZMO		At 2, 5 and 10 V
Input and output resistance		

Accessories		
Product	**Description**	**757AH - 757FH**
EH861	Screw, socket head, 0 - 80 x ¼ alloy steel blk oxide (x2)	Included with 757FH
EHM35	Allen wrench, (x1)	Included with 757FH
7957	Triaxial mounting block for 757A	Optional
7953A	Triaxial mounting block for 757F	Optional

Notes

1. 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.

2. 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 definitions:

757AH - XX - ZZZ

- ZZZ: Cable length in inches (300" is standard)
  For lengths ≤ 10ft, specify in 1 ft increments (12", 24"...120")
  For lengths ≥ 10ft, specify in 5 ft increments (180", 240"...etc.)
- XX: Indicates full-scale g range
  2K – 2000 g
- 757AH: Basic model number; A = adhesive mount

757FH - XX - ZZZ

- ZZZ: Cable length in inches (300" is standard)
  For lengths ≤ 10ft, specify in 1 ft increments (12", 24"...120")
  For lengths ≥ 10ft, specify in 5 ft increments (180", 240"...etc.)
- XX: Indicates full-scale g range
  2K – 2000 g
- 757FH: Basic model number; F = screw mount

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