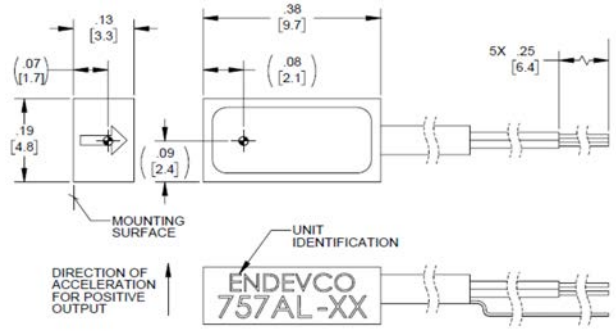
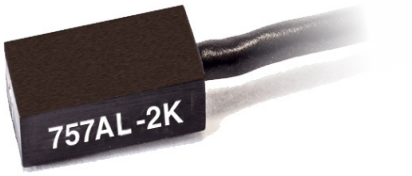
ENDEVCO
AN AMPHENOL COMPANY

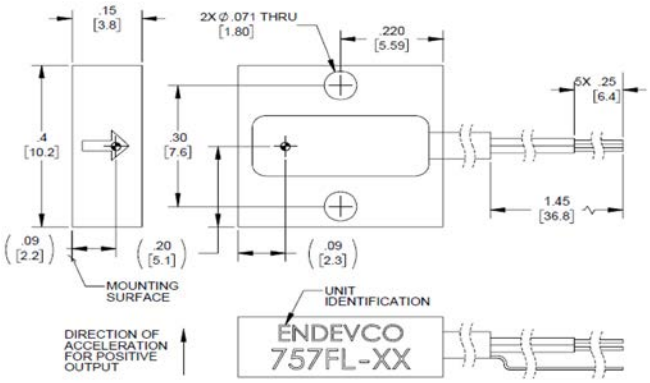
Piezoresistive accelerometer

Model 757AL - 757FL





757AL



757FL

Key features

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

Description

The Endevco® Model 757AL and 757FL are lower resistance versions to accommodate data acquisition systems with <5000 ohms requirement. These accelerometers are designed for crash testing and similar applications that require minimal mass loading and broad frequency response.

The Model 757AL and 757FL feature a unique micro-machined, piezoresistive sensor with gas damping. This monolithic sensor incorporates the latest MEMS technology for ruggedness, stability and reliability. The accelerometer has a four active arm, full bridge circuit. With a frequency response extending down to dc (steady state acceleration), this accelerometer is ideal for measuring long duration transient shocks.

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

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

Piezoresistive accelerometer | Model 757AL - 757FL

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	.0150 / .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	3,000 ±1,500
Output	ohms	3,000 ±1,500
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		
757AL		Adhesive
757FL		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		
757AL		1.5 gm (0.05 oz); excluding cable
757FL		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**	**757AL - 757FL**
EH861	Screw, socket head, 0 - 80 x ¼ alloy steel blk oxide (x2)	Included with 757FL
EHM35	Allen wrench, (x1)	Included with 757FL
7957	Triaxial mounting block for 757AL	Optional
7953A	Triaxial mounting block for 757FL	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.

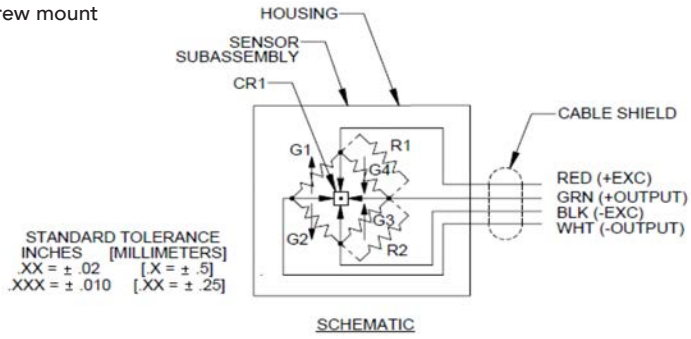
Model number definitions:

757AL - 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
- 757AL: Basic model number; A = adhesive mount

757FL - 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
- 757FL: Basic model number; F = screw mount



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