

Isotron[®] accelerometer Model 67



Key features

- 67-10-R and 67-100-R available as replacement sensors
- Triaxial, low-impedance output
- High temperature to 347°F (175°C)
- High output (100 mV/g)
- Ideal for structural analysis, ESS and NVH
- Overload protected for high shock resistance
- Single connector

Description

Endevco model 67 is a miniature high temperature triaxial accelerometer designed for laboratory, ESS, NVH and other non temperature test environments. The unit features welded titanium construction for low weight and a complete seal against the environment. It provides a high output sensitivity, even up to its maximum operating temperature of 347°F (175°C). With its small size (14.8 mm³) and light weight of less than 14 grams, the model 67 effectively minimizes mass loading effects.

Model 67 features Endevco's Piezite type P-8 crystal element operating in the annular shear mode to achieve low base strain sensitivity and excellent output stabillity over time. This accelerometer incorporates internal hybrid signal conditioners to achieve a low noise floor. Power to model 67, in the form of a constant current, travels through the same pins as the low impedance output signals. Model 67 was designed for either adhesive mounting or screw mounting using a M4 screw. The model number suffix denotes acceleration sensitivity in mV/g; i.e. 67-100 features sensitivity of 100 mV/g.

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Piezoelectric accelerometers | Piezoresistive accelerometers | IEPE accelerometers | Variable capacitance accelerometers | Piezoresistive pressure sensors | Piezoelectric pressure sensors | High intensity microphones | Inertial sensors | Signal conditioners and supportive instrumentation | Cable assemblies



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Specifications

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

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Dynamic characteristics Range	Units g (m/s ²)	-10 ±500 (4900)		-100 ±50 (490)		
Voltage sensitivity, typical Frequency response	mV/g (mV / m/s²)	10 (1.0)	See typical amplitude response	100 (10.2)		
Amplitude response		0.0. (000	51 1 1	0.7. (000		
±5% ±1dB typical	Hz Hz	0.2 to 6000 0.15 to 8000		0.7 to 6000 0.5 to 8000		
Phase response						
< 5° < 10°	Hz Hz		5–5000 2–7000			
Resonance frequency	Hz		35 000			
Transverse sensitivity	%		< 5			
Temperature response At -67°F (-55°C) max/min	%		See typical curve 0/-20			
At +347°F (+175°C) max/min	%		0/+30			
Amplitude linearity	%		≤ 1			
Output characteristics Output polarity	Accceleration directed into base produces positive output					
DC output bias voltage		/ lecceleration		output		
Room temperature, 75°F (23°C) -67°F to 347°F (-55°C to +175°C)	Vdc Vdc		+11.0 to +13.5 +6.0 to +16.0			
Output impedance 4–10 mA	Ω		< 100			
Full scale output voltage Residual noise	V		±5			
Broadband						
1Hz – 10kHz	µg rms	1400		450		
Spectral 1 Hz	µg∕√Hz	350		100		
10 Hz	µg/√Hz	100		30		
100 Hz 1000 Hz	µg/√Hz µg/√Hz	40 15		14 4		
Grounding	P3/11/2		onnected to case and not isolated from	n mounting surface		
Power requirement						
Supply voltage Supply current	Vdc mA		+24 to +30 +2 to +8			
Warm-up time (to reach 90% of final bias)	sec		< 10			
Environmental characteristics						
Temperature range Humidity			-67°F to 347°F (-55°C to +175°C)			
Sinusoidal vibration limit	g pk		Hermetically sealed 1000			
Shock limit [1]	g pk	0.01	5000	0.001		
Base strain sensitivity at 250 µstrain Thermal transient sensitivity	eq. g/µstrain eq. g/°F	0.01 0.07		0.001 0.007		
Electromagnetic noise, at 100 Gauss	eq. g/Gauss	0.001		0.0002		
Physical characteristics						
Dimensions Weight	oz (gm)		See outline drawing 0.5 (14)			
Case material	0- (5)		Titanium			
Connector Mounting [2]			4 pin side mounted Adhesive or M4 thread			
Mounting torque	lbf-in (Nm)		10 (1.13)			
Calibration						
Supplied, each axis:	m\//a					
Voltage sensitivity Maximum transverse sensitivity	mV/g %					
Frequency response (Y and Z axis)	%		20 Hz to 8000 Hz			
Frequency response (X axis) Bias	% Vdc		20 Hz to 6000 Hz			

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Accessories

Product	Description	67-10 / 67-100	67-10-R / 67-100-R
EH783	Socket Head Cap screw, M4 X 5mm	Included	Included
EHM1641	Wrench, hex key, metric	Included	Optional
3027AVM13- 84	Extension cable, 200°C, mates with 3027AM3, 7 feet	Included	Optional
3027AM3-36	Triaxial cable, 85°C, 3BNCs at instrumentation end, 3 feet	Included	Optional

Notes

- 1. Shock pulses of short duration may excite sensor resonance.
- 2. Be careful not to apply abusive forces when removing the accelerometer from structure.
- 3. Model number definition:

67- XXX - R Indicates replacement unit (omit if units are not replacements) Denotes typical sensitivity in mV/g -10 -100 Basic model number

Ordering information

 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.



Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability. 083019