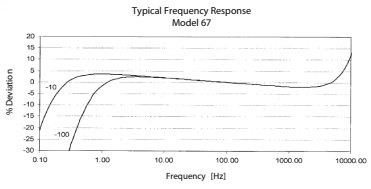
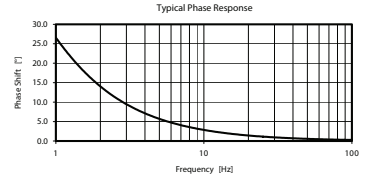
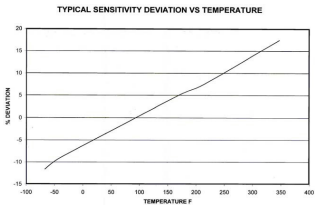
Endevco®

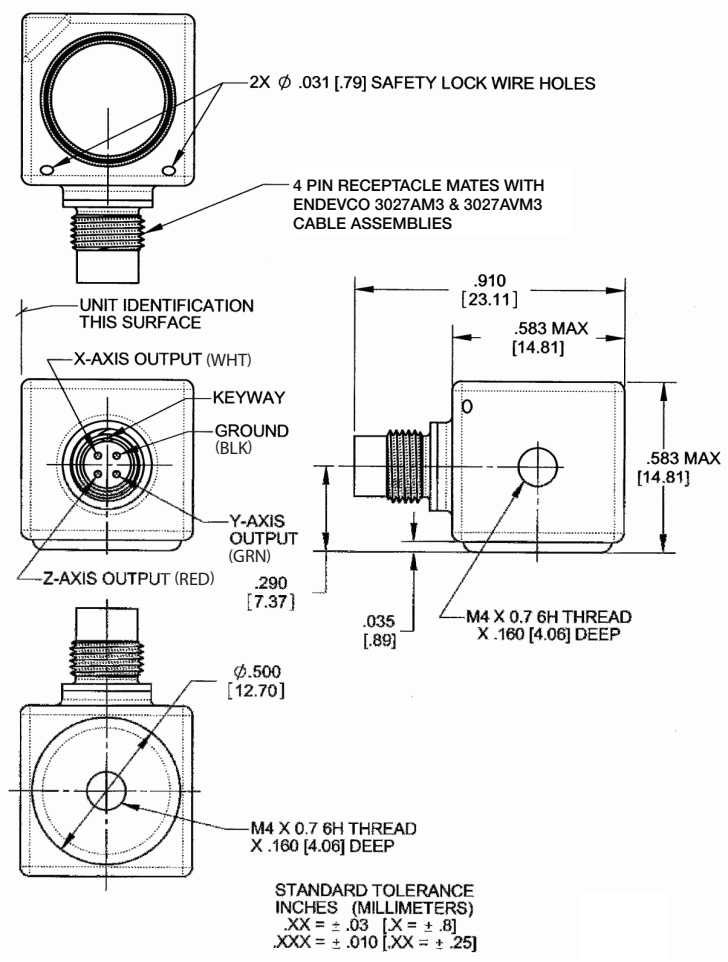
Isotron® accelerometer

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 mm^3) 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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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.

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

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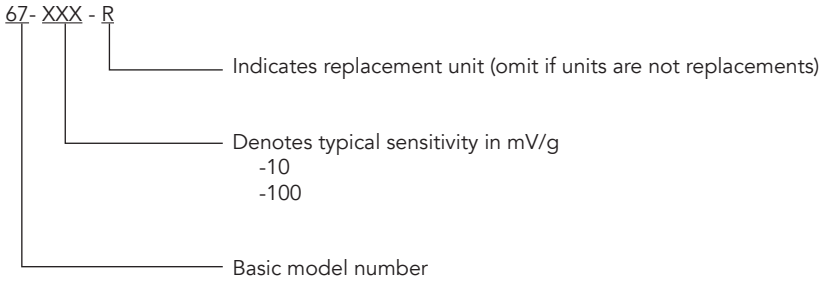
Accessories

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
133	Signal conditioner	Optional	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:



Ordering information

1. 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.