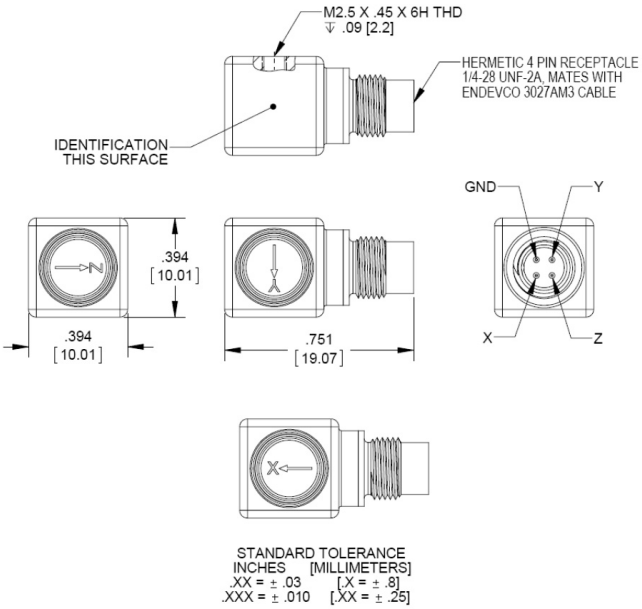
ENDEVCO
AN AMPHENOL COMPANY

Isotron® accelerometer

Model 65HT



Key features

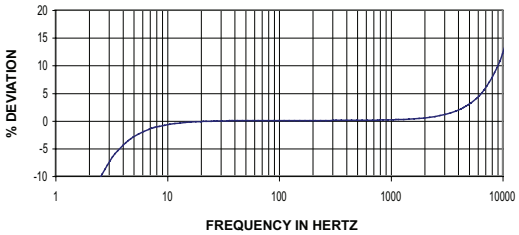
- 65HT-05-R, 65HT-1-R, and 65HT-10-R available as replacement sensors
- Triaxial, low-impedance output
- Small size (10-mm cube, 5 gram)
- Rated for continuous use up to 175ºC (347ºF)
- Ideal for automotive and aerospace testing

The extended temperature capability (+175°C) and high performance of Endevco® model 65HT triaxial accelerometer distinguishes it from competitor offerings. The Endevco® model 65HT is packaged in a 10-mm cube of welded titanium construction. Interface to the model 65HT is via a hermetically sealed 4-pin connector. Using the latest technology in high temperature components and processes, the micro-electronic circuits are designed and built specifically to continuously operate at +175°C. It is supplied with high temperature cable assemblies as a standard accessory.

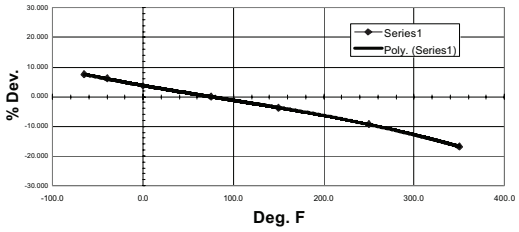
The model 65HT's excellent frequency responses, both amplitude and phase, provide the user with a triaxial accelerometer ideally suited for structural and component testing in automotive test cells, aircraft testing, environmental test chambers, ESS and general laboratory applications. The reduced size of this accelerometer enables the test engineer or technician to measure the accelerations of three orthogonal axes of vibration simultaneously on lightweight structures.

Endevco signal conditioner models 2793 or Oasis 2000 are recommended for use with this accelerometer.

TYPICAL FREQUENCY RESPONSE MODEL 65HT (AMPLITUDE)



Typical temperature response



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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	-05	-1	-10
Range	g (m/s^2)	±10 000 (98 000)	±5000 (49 000)	±500 (4900)
Voltage sensitivity, typical	mV/g (mV / m/s^2)	0.5 (0.051)	1 (0.102)	10 (1.02)
Frequency response			See typical amplitude response	
Amplitude response				
±5% (z-axis)	Hz			5 to 6000
±5% (x, y-axis)	Hz		5 to 5000	
±1 dB	Hz		3 to 8000	
Resonance frequency	Hz		40 000	
Transverse sensitivity	%		‹ 5	
Temperature response			See typical curve	
Amplitude non-linearity	%		‹ 1	
Output characteristics				
Output polarity			See arrows on outline drawing	
DC output bias voltage [1]				
at room temperature	Vdc		+9.5 to + 13.5	
over temperature range	Vdc		+8.0 to + 16.0	
Output impedance				
1 ma to 2 ma	Ω		‹ 300	
3 ma to 4 ma	Ω		‹ 100	
Full scale output voltage	Vpk		±5	
Noise floor				
Broadband (2Hz to 10kHz)	µg rms	≤8000	≤4000	≤1400
Spectral				
1Hz	µg/√Hz	≤4000	≤3500	≤1000
10Hz	µg/√Hz	≤600	≤350	≤170
100Hz	µg/√Hz	≤120	≤70	≤25
1kHz	µg/√Hz	≤80	≤40	≤12
Grounding [2]			Signal ground connected to case	
Power requirement				
Compliance voltage	Vdc		+23 to +30	
Supply current	mA		+1 to +4	
Warm-up time (to reach 90% of final bias)	sec		‹ 2	
Environmental characteristics				
Temperature range			-65°F to +347°F (-55°C to +175°C)	
Humidity			Hermetically sealed welded construction	
Sinusoidal vibration limit	g pk	±10 000	±5000	±5000
Shock limit [2]	g pk	15 000 max	10 000 max	10 000 max
Base strain sensitivity at 250 µstrain	eq. g/µstrain		‹ 0.001	
Thermal transient sensitivity	eq. g/°F		0.02	
Physical characteristics				
Dimensions			See outline drawing	
Weight	oz (gm)		0.17 (5)	
Case material			Titanium	
Connector [3]			4 pin side mounted	
Mounting [4]			Adhesive or M2.5 thread	
Mounting torque	lbf-in		8	
Calibration [4]				
Supplied, each axis:				
Voltage sensitivity	mV/g			
Maximum transverse sensitivity	%			
Frequency response	Hz		20 Hz to 6 kHz (z axis) 20 Hz to 5 kHz (x, y axis)	

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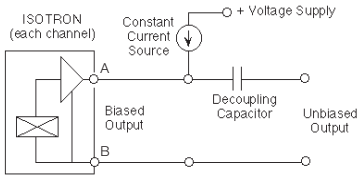
Accessories

Product	Description	65HT	65HT-R
3027AM3-36	Triaxial cable 85" C, 3 BNC's at instrumentation end [5]	Included	Optional
3027AVM13-84	Extension cable rated to +200°C (mates with 3027AM3) [5]	Included	Optional
3027AVM13-XXX	Extension cable rated to +200°C (mates with 3027AM3) [5]	Optional	Optional
32279	Mounting wax	Included	Optional
EH755	Screw cap M2.5 x .45 x 6 mm	Included	Included
EH761	Screw set M2.5 x .45 x 6 mm	Included	Included
40965	Mounting block, adhesive mount	Optional	Optional
EH769	Screw for 40965 mounting block	Optional	Optional
41013	Mounting clip	Optional	Optional
2981-14	Mounting stud, M2.5 to 6-32	Optional	Optional
2793	Isotron signal conditioner	Optional	Optional
4990A-1	OASIS 2000 computer controlled system	Optional	Optional
2981-14	Adapter stud m2.5 to 6-32	Optional	Optional

Notes

1. +22 Vdc minimum must be available to the accelerometer to ensure full-scale operation at the temperature extremes.
2. Shock pulses of short duration may excite sensor resonance.
3. Microtech DR-4S-4 receptacle mates with Endevco® model 3027AM3 and 3027AVM13 cables
4. Be careful not to apply excessive force when removing the accelerometer from structure.
5. The 3027AVM13-XXX cable assembly should be used where the accelerometer is used near its upper temperature extreme, 347°F (175°C). The supplied cable assembly 3027AM3-36 is rated for use up to only 185°F (85°C). Cable length, in inches, is specified by the model number suffix.
6. 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.



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