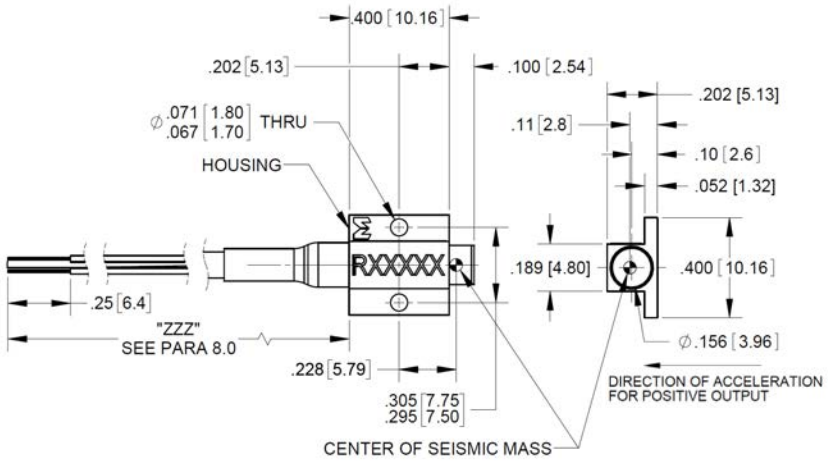
ENDEVCO
AN AMPHENOL COMPANY

Damped piezoresistive accelerometer

Model 7264H



Key features

- DC response and wide bandwidth
- ESD protection
- Multi-mode damping
- Mechanical stops
- Passenger safety testing
- SAE J211/J2570 compliant

Description

Model 7264H is a very low mass accelerometer weighing only 1.4 grams. This accelerometer is designed for crash testing and similar applications that require damping, broad frequency response, and minimum zero shift following the event. It is equivalent in form and fit to the Endevco model 7264C-2K in that the location of the center of seismic mass is the same.

The Endevco Model 7264H utilizes 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 over previous designs. Endevco's MEMS sensing elements combine high resonance with high output while maintaining exceptional linearity and hysteresis. Endevco's auto safety accelerometers are designed with transient voltage suppression diodes that protect the sensing elements circuit against electrostatic discharge (ESD). The accelerometer has a full bridge circuit with full scale output of 600mV 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.

7264H has a full scale range of 2000 g and gas damping. It is available with less than 1% transverse sensitivity and less than ± 25 mV Zero Measurand Output as the "TZ" option. 7264H comes standard with calibration data for 2V, 5V and 10V excitation.

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All specifications are referenced at +75˚F (+24˚C) and 10 Vdc, unless otherwise noted. Sensitivity and zero measureand offset are provided at 2V, 5V and 10V excitation. 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 6000
Undamped natural frequency	kHz	25
Non-linearity [1]	%	±1 max to 1000g
Zero measurand output	mV	±50 maximum, ±25 optional
Transverse sensitivity	% max	3 (1 optional)
Damping ratio [2]	of critical	0.60
Thermal zero shift		
0° to 50°C	%FSO/°C	0.04
32° to 122°F	%FSO/°F	0.02
Thermal sensitivity shift		
0° to 50°C	%/°C	0.2
32° to 122°C	%/°F	0.1
Mounting strain sensitivity (per ISA 37.2@ 250 µ strain)	Equiv. g's	0.01
Electrical characteristics		
Excitation	Vdc	2.0, 5.0, 10.0
Resistance		
Input	Ω	6500 ±2000
Output	Ω	6500 ±2000
Isolation resistance	MΩ	100 min @ 50 Vdc
Physical characteristics		
Case material		Hard anodized aluminum alloy, color red
Electrical connections		Integral 4 conductor, # 32 AWG ETFE insulated leads, braided shield with white Silicone jacket.
Mounting torque		2.6 in-lbf (0.29 N.m) recommended/3.0 in-lbf (0.34 N.m)
Weight		0.05 oz (1.4 gm); cable 0.1 oz/ft (9 gm/m), typical
Environmental characteristics		
Acceleration limits (any direction)		
Shock (half-sine pulse duration)		-10000 g, 200 µsec or longer
Temperature		
Operating		-40 °C to + 100 °C (-40 °F to + 212 °F)
Storage		-54 °C to + 121 °C (- 65 °F to + 250 °F)
Calibration data		
Sensitivity		10g, 100 Hz @ 2V, 5V and 10V
ZMO		@ 2V, 5V and 10V
Frequency Response		20 to 20000 Hz, ref 100 Hz
Input and Output Resistance		

Accessories		
Options	**Description**	**7264H**
EHM35	Allen wrench	Included
EHW196	Size-0 flat washers (x2)	Included
EH828	0-80 x 3/16 inch socket head cap screw (x2)	Included
7953A	Triaxial mounting block	Optional

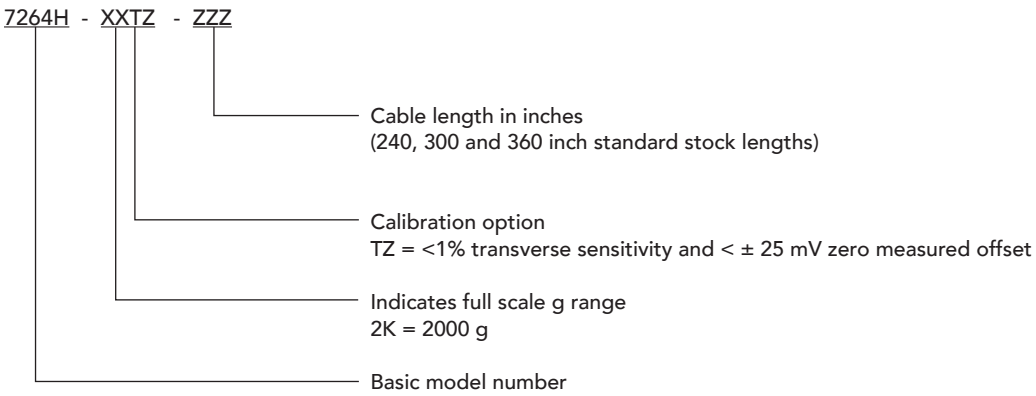
Notes

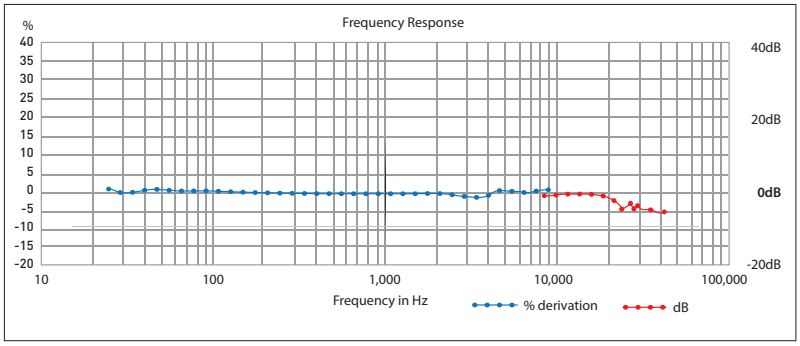
1. Reported linearity was tested using pop shock calibration. Tested at low frequencies on a centrifuge, the sensor has 1% linearity to 2,000g. The sensitivity reported on the standard calibration certificate is performed at 10g's. If the application calls for a shock measurement between 1,000g and 2,000g an alternate amplitude linearity calibration is recommended (EACS-109). For more information on damped sensors and calibration method, please refer to TP343.

2. Damping ratio is intended to provide the user an indication of effective damping ratio. Actual results of Endevco multi-mode damping provide far superior damping response which are evident in the provided frequency sweep to 40kHz.

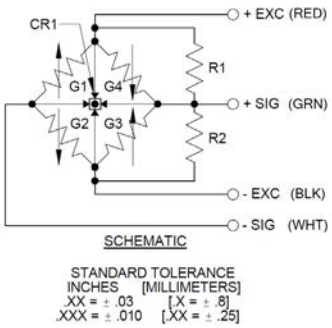
3. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Model number definition:





Actual frequency response calibration of 7264H-2000



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