

Model 7264G Piezoresistive accelerometer

Features

- 2000 g full scale range
- DC response - long duration transients
- Damping attenuates resonance
- Mechanical overtravel stops
- Small size, rugged
- Crash and shock testing



Description

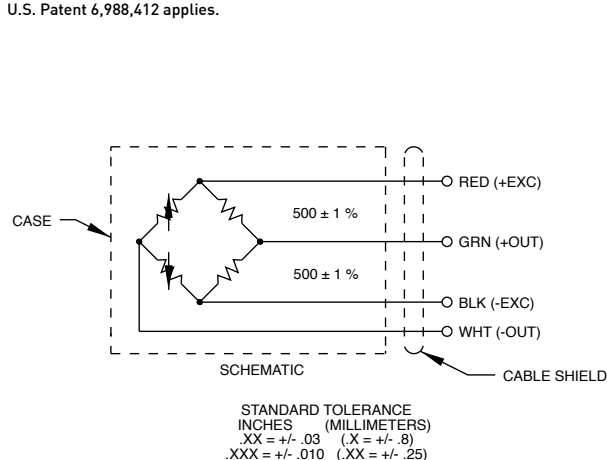
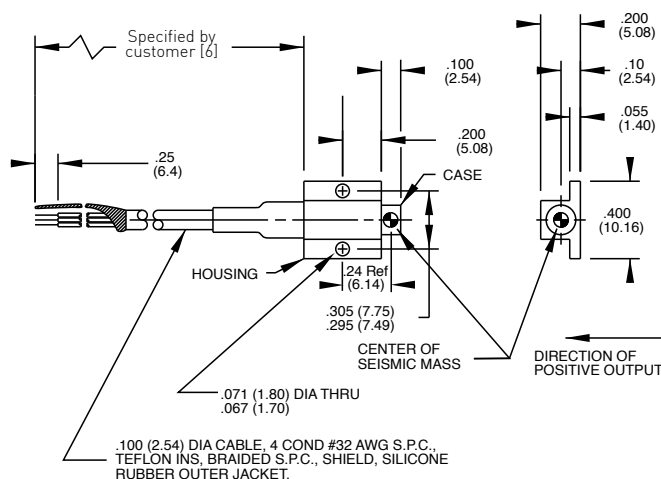
The Endevco® model 7264G is a very low mass piezoresistive accelerometer weighing only 1.4 gram. This accelerometer is designed for crash testing, rough road testing and similar applications that require minimal mass loading and a broad frequency response. This accelerometer meets SAEJ211 and SAEJ2570 specifications for instrumentation for impact testing. 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 model 7264G utilizes a unique and advanced micromachined sensor which includes integral mechanical stops and damping. This monolithic sensor offers improved ruggedness, stability and reliability over previous designs. The model 7264G has suitable damping to minimize phase shift over the useful frequency range and attenuate resonance. With a frequency response extending down to dc (steady state acceleration), this accelerometer is ideal for measuring long duration transient shocks.

This accelerometer has a two active arm full bridge circuit with two fixed resistors to facilitate shunt calibration. Full scale output is 400 mV with 10 Vdc excitation. It is also available with less than 1% transverse sensitivity ("T" option) and less than ± 25 mV zero measurand output ("Z" option).

Endevco model 136 or 436 DC differential voltage amplifier is recommended as signal conditioner and power supply.

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



Model 7264G

Piezoresistive accelerometer

Endevco

Specifications

Dynamic characteristics

	Units	7264G-2K
Range	g	±2000
Sensitivity (at 100 Hz & 10 g) (min/typ/max)	mV/g	0.15/0.20/0.30
Frequency response	Hz	
(± 2.5% max, ref. 100 Hz)		0 to 2000
(± 4.0% max, ref. 100 Hz)		0 to 4000
Mounted resonance frequency (min)	Hz	19 000
Damping ratio (over operating temp)	of critical	0.2 to 0.6
Non-linearity		
[% of reading, to full range]	% max	±1
Transverse sensitivity	% max	3 [1 optional]
Zero measurand output	mV max	±100 [±25 optional]
Thermal zero shift (nominal)		
From +10°C to +30°C	%FSO/°C	0.025
From +50°F to +86°F	%FSO/°F	0.014
Thermal sensitivity shift (max)		
From +10°C to +30°C	%/°C typ	±0.06
From +50°F to +86°F	%/°F typ	±0.1
Warm-up time (typ to 1% accuracy)	minutes	2
Base strain sensitivity (per ISA 37.2 @ 250 µ strain)	Equiv. g's	< 0.01
Mechanical overtravel stops	g's	5000 g typical, 2200 g minimum

Electrical characteristics

Excitation	10.0 Vdc (lower voltages optional)
Input resistance (min)	700 ohms
Output resistance (max)	3000 ohms
Fixed resistors	500 ohms ± 1%
Insulation resistance	100 megohms minimum at 50 Vdc; leads to case, leads to shield, shield to case

Physical characteristics

Case material	Anodized aluminum alloy
Electrical connections	Integral cable, four conductor No. 32 AWG polyethylene insulated leads, braided shield, PVC jacket
Mounting torque	Holes for two 0-80 mounting screws/3 lbf-in [0.3 Nm]
Weight	1.4 gram [cable weighs 9 grams/meter]

Environmental characteristics

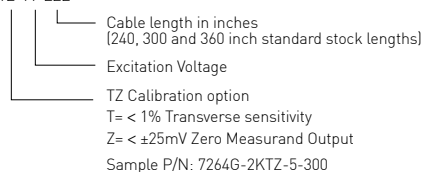
Acceleration limits (in any direction)	
Static	10 000 g
Sinusoidal vibration	1000 g pk below 5 kHz
Shock (half-sine pulse duration)	10 000 g, 200 µsec or longer
Temperature	
Operating	-18°C to +66°C [0°F to +150°F]
Storage	-54°C to +121°C [-65°F to +250°F]
Humidity	Unit is epoxy sealed
Altitude	Unaffected

Calibration data supplied

Sensitivity (at 100 Hz and 10 g pk)	mV/g
Frequency response	20 Hz to 4000 Hz, % deviation reference 100 Hz; dB plot continued to 30 000 Hz
Zero measurand output	mV
Maximum transverse sensitivity	% of sensitivity
Input and output resistance	Ohms
Damping	of critical
Natural frequency	kHz

Notes:

1. 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 turnaround time for these services as well as for quotations on our standard products.
2. The safety sleeve should be kept on unit when not in use to prevent possible handling damage.
3. Specify the model number as: 7264G-2KTZ-YY-ZZZ



Accessories

EHM35	Allen wrench
EHW196	Size-0 flat washers
EH492	0-80 x 3/16 inch socket head cap screws
16365-2	Safety sleeve

Optional accessories

7953A	Triaxial mounting block
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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.