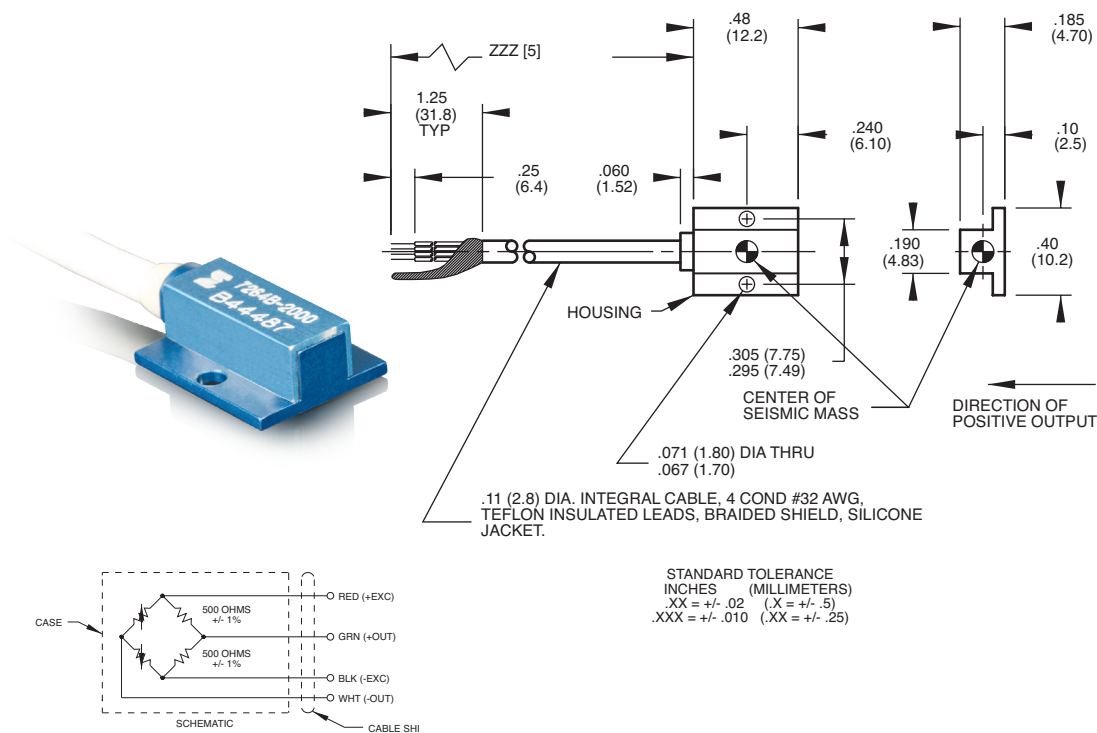


Piezoresistive accelerometer Model 7264B



Key features

- Mechanical overtravel stops
- Small size, rugged
- Crash and shock testing
- 500 g and 2000 g full scale ranges
- DC response - long duration transients

The Endevco® model 7264B is a very low mass piezoresistive accelerometer weighing only 1 gram. This accelerometer is designed for crash testing, rough road testing and similar applications that require minimal mass loading and a broad frequency response. Used for shock testing of lightweight systems or structures, the model 7264B accelerometer also meets SAEJ211 specifications for instrumentation for impact testing and SAEJ2570 specification for anthropomorphic test device transducers.

The model 7264B utilizes an advanced micromachined sensor which includes integral mechanical stops. This monolithic sensor offers improved ruggedness, stability and reliability over previous designs. The model 7264B has minimum damping, thereby producing no phase shift over the useful frequency range. With a frequency response extending down to dc (steady state acceleration), this accelerometer is ideal for measuring long duration transients as well as short duration shocks.

The model 7264B offers excellent linearity and a wide frequency response. Further, this accelerometer offers stable performance over the temperature range of -40°F to +200°F [-40°C to +93°C) and has a full bridge circuit with fixed resistors for shunt calibration. This accelerometer has a full scale output of 400 mV with 10 Vdc excitation. It is also available with less than 1% transverse sensitivity ("T" option). For calibration at 5 Vdc, request the M2 option.

Endevco model 126 and 136, bench-top 3 channel DC amplifiers, and model 436, a 3 channel DC amplifier modular card are recommended as signal conditioner and power supply. U.S. Patents 4,498,229 and 4,605,919

Piezoresistive accelerometer

Model 7264B

Specifications

Dynamic characteristics	Units	7264B-500	7264B-2000
Range	g	±500	±2000
Sensitivity (at 100 Hz)	mV/g Typ (Min)	0.80 (0.40)	0.20 (0.15)
Amplitude response			
±5%	Hz	0 to 3000	0 to 5000
Mounted resonance frequency	Hz	17 000	28 000
Damping ratio	Typ	0.005	0.005
Non-linearity and hysteresis			
(% of reading, to full range)	% Max	±1	±1
Transverse sensitivity [1]	% Max	3	3
Zero measurand output	mV Max	±25	±25
Thermal zero shift			
From 0°F to +150°F (-18°C to +66°C), ref. 75°F (24°C)	mV Max	±25	±25
Thermal sensitivity shift	% / °F Typ	-0.06	-0.06
From 0°F to +150°F (-18°C to +66°C), ref. 75°F (24°C)	% / °C Typ	-0.10	-0.10
Warm-up time	ms Max	1, 15 µ sec typical	1, 15 µ sec typical
Base strain sensitivity			
(Per ISA 37.2 @ 250 µ strain)	Equiv. g's	≤ 0.1	≤ 0.1
Mechanical overtravel stops	g's	1500 g typical, 750 g minimum	5000 g typical, 2500 g minimum
Electrical characteristics			
Excitation [2]		10.0 Vdc (5 Vdc and 2 Vdc optional)	
Input resistance [3]		300 to 900 ohms	
Output resistance [3]		400 to 1600 ohms	
Fixed resistors		500 ohms ±1%	
Insulation resistance		100 megohms minimum at 100 Vdc; leads to case, leads to shield, shield to case	
Physical characteristics			
Case material		Blue anodized aluminum alloy	
Electrical connections		Integral cable, four conductor No. 32 AWG Teflon® insulated leads, braided shield, silicone jacket. Cable length specified at time of order [5]	
Mounting torque		Holes for two 0-80 mounting screws/3 lbf-in (0.3 Nm)	
Weight		1 gram (cable weighs 9 grams/meter)	
Environmental characteristics			
Acceleration limits (in any direction)			
Static		5000 g	10 000 g
Sinusoidal vibration		1000 g pk below 3kHz	1000 g pk below 5kHz
Shock (half-sine pulse duration)		5000 g, 300 µ sec or longer	10 000 g, 200 µ sec or longer
Temperature			
Operating		-40°F to +200°F (-40°C to +93°C)	
Storage		-65°F to +250°F (-54°C to +121°C)	
Calibration [6]			
Sensitivity (at 100 Hz and 10 g pk)	mV/g		
Frequency response		20 Hz to 3000 Hz, % deviation reference 100 Hz; dB plot continued from 3000 to 30 000 Hz for 7264B-500; 20 Hz to 5000 Hz, % deviation reference 100 Hz; dB plot continued from 5000 to 30 000 Hz for 7264B -2000	
Zero measurand output	mV		
Maximum transverse sensitivity	% of sensitivity		
Input and output resistance	Ohms		

Piezoresistive accelerometer

Model 7264B

Accessories:

Product	Description	7264B
EHM35	(1) Allen wrench	Included
EHW196	(2) Size-0 flat washers	Included
EH828	(2) 0-80 x3/16 inch socket head cap screw	Included
16365-2	Safety sleeve	Included
24328-3	4 conductor shielded cable	Optional
7964B	Triaxial mounting block	Optional

Notes:

1. 1% transverse sensitivity available as "T" option.
2. Lower excitation voltages may be used but should be specified at time of order to obtain best calibration. 5 Vdc option = M2
3. Measured at approximately 1 Vdc. Bridge resistance increases with applied voltage due to heat dissipation in the strain gage elements.
4. The safety sleeve should be kept on unit when not in use to prevent possible handling damage.
5. Order options are as follows: 7264B-XXXXT-ZZZ. "7264B" is the base model number. "-XXXX" is the full acceleration range. "T" is a suffix added to the range number. "-ZZZ" is the cable length in inches. If no cable length is specified, 300 inches is the standard.
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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