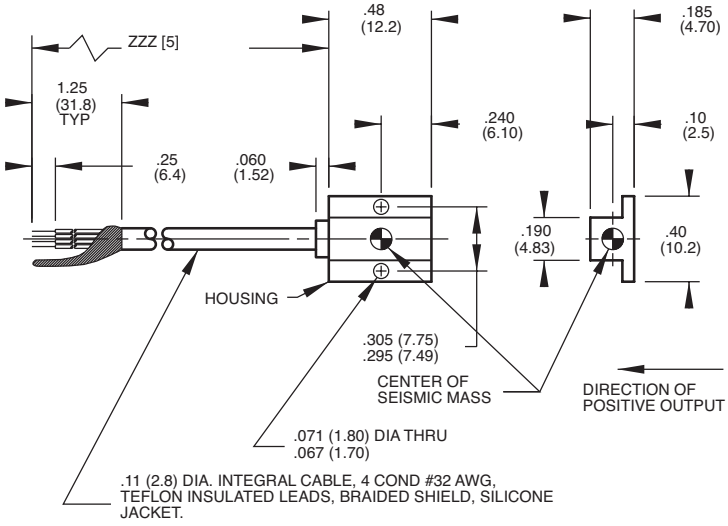
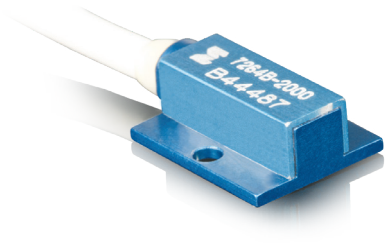
ENDEVCO
AN AMPHENOL COMPANY

Piezoresistive accelerometer

Model 7264B





STANDARD TOLERANCE
INCHES (MILLIMETERS)
.XX = +/- .02 (.X = +/- .5)
.XXX = +/- .010 (.XX = +/- .25)

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

Description

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 anthromorphic 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.

Piezoresistive accelerometer | Model 7264B

The following performance specifications are 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.

Specifications

Dynamic characteristics	Units	7264B-500	7264B-2000
Range	g	±500	±2000
Sensitivity (at 100 Hz)	mV/g Typ	0.80	0.20
	mV/g (min)	0.50	0.15
Frequency Response (+/-5%)	Hz	0 to 3000	0 to 5000
Mounted resonance frequency	Hz	17000	28000
Damping ratio	Typ	0.005	0.005
Non-linearity and hysteresis			
(% of reading, to full range)	%	±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	1
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	5000 g typical

Electrical characteristics	
Excitation Voltage	10.0 Vdc (5 Vdc and 2 Vdc optional)
Input resistance	300 to 900 ohms
Output resistance	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
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	10000 g
Shock (half-sine pulse duration)	5000 g, 300 µ sec or longer	10000 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 data	
Sensitivity (at 100 Hz and 10 g pk)	mV/g at 10V
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

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
7964B	Triaxial mounting block	Optional

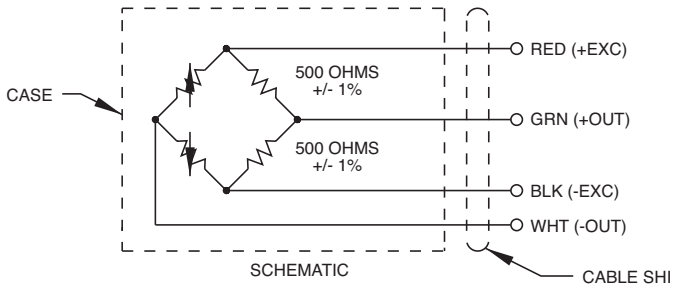
Notes

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. 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.
4. Model number definition:

7264B - XXXXT - ZZZ

- ZZZ: Cable length in inches (omit for 300" standard length)
  For lengths ≤10 ft specify 1 ft increments (12", 24"...120")
  For lengths ≥10 ft specify 5 ft increments (180", 240"...etc)
- T: T option
  T = <1% transverse sensitivity
- XXXX: Indicates full scale g range
  500 = 500 g
  2000 = 2000 g
- 7264B: Basic Model Number

Block Diagram



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