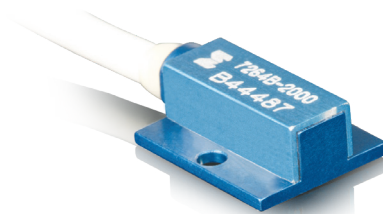
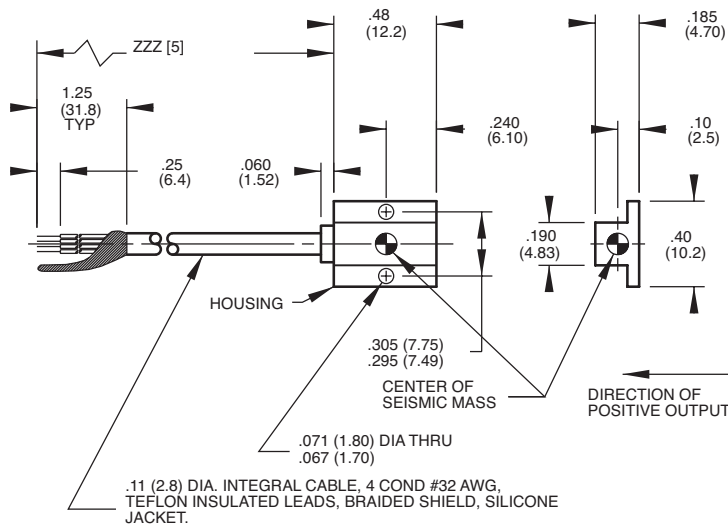


Piezoresistive accelerometer

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 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.

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.

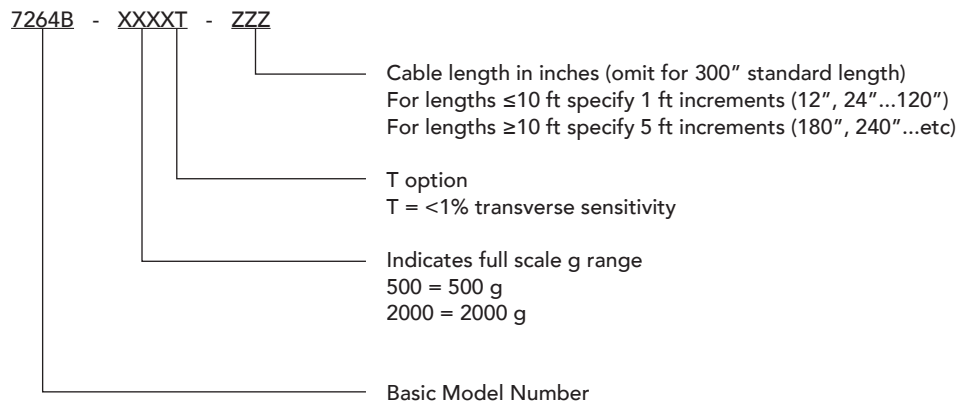
| Specifications | | | |
|---|---|-----------------------------------|------------------------------|
| Dynamic characteristics | Units | 7264B-500 | 7264B-2000 |
| Range | g | ±500 | ±2000 |
| Sensitivity (at 100 Hz) | mV/g Typ | 0.80 | 0.20 |
| | mV/g (min) | 0.50 | 0.15 |
| Frequency Response (+/-5%) | 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 | | |

Piezoresistive accelerometer | Model 7264B

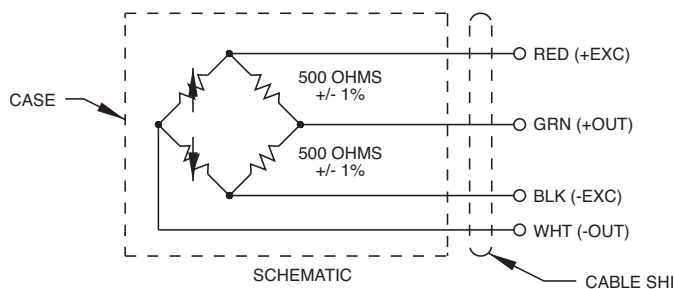
| Accessories | | |
|-------------|---|----------|
| Product | Description | 7264B |
| EHM35 | (1) Allen wrench | Included |
| EHW196 | (2) Size-0 flat washers | Included |
| EH828 | (2) 0-80 x3/16 inch socket head cap screw | Included |
| 7964B | Triaxial mounting block | Optional |

Notes

- 1% transverse sensitivity available as "T" option.
- Lower excitation voltages may be used but should be specified at time of order to obtain best calibration. 5 Vdc option = M2
- 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.
- Model number definition:



Block Diagram



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Endevco
AN MTS COMPANY

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MTS
SENSORS

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