



## Model 7264D Piezoresistive accelerometer

### Features

- 40 000 Hz resonant frequency
- Mechanical overtravel stops
- Small size, rugged
- Crash and shock testing
- 2000 g full scale range
- DC response - long duration transients



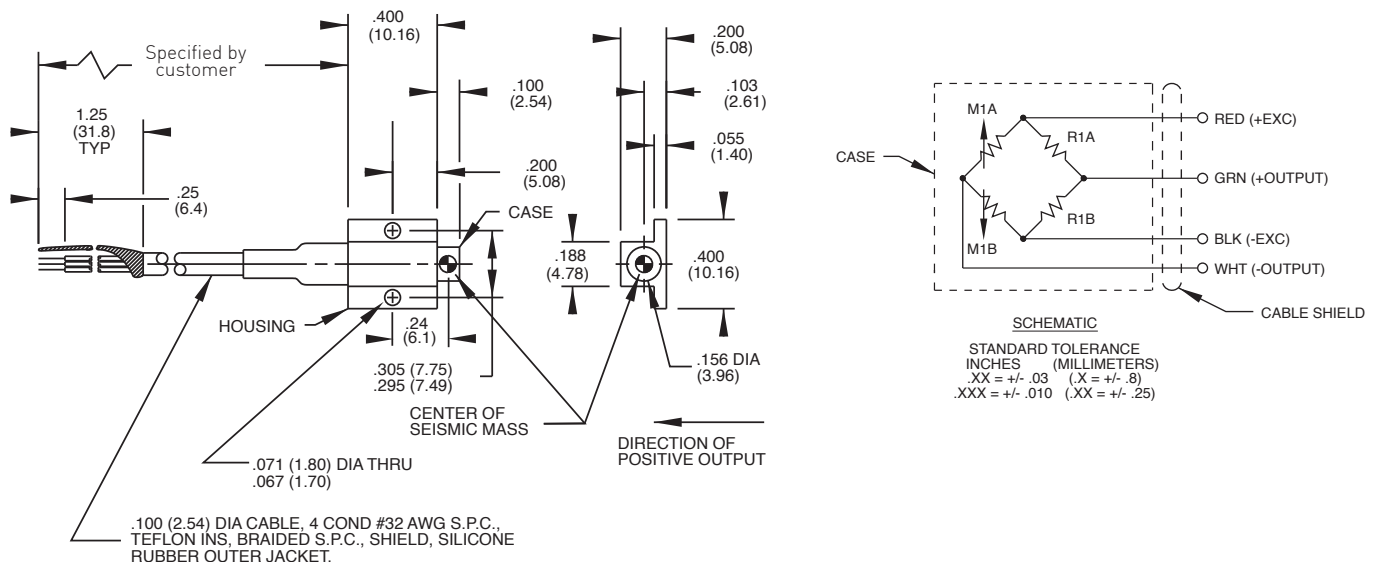
### Description

The Endevco® model 7264D 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. This accelerometer meets SAEJ211 specifications for instrumentation for impact testing and SAEJ2570 specification for anthropomorphic testing. It is a direct replacement for the Endevco model 7264-2000 and 7264C in that the location of the center of seismic mass is the same.

The model 7264D utilizes an advanced micromachined sensor which includes integral mechanical stops. This model has a greatly improved resonant frequency ( $>40\,000$  Hz) and frequency response which captures more data and avoids spurious noise. The model 7264D 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 transient shocks.

This accelerometer has a full bridge circuit with fixed resistors for shunt calibration. Full scale output is 400 mV with 10 Vdc excitation. Each unit performs with  $< 1\%$  transverse sensitivity and ZMO of  $\pm 25$  mV.

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 apply.



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### Specifications

#### Dynamic characteristics

	Units	7264D-2000
Range	g	± 2000
Sensitivity (at 100 Hz & 10 g)	mV/g typ (min)	0.20 (0.15)
Frequency response	Hz	
(± 2% max, ref. 100 Hz)		0 to 3000
(± 5% max, ref. 100 Hz)		0 to 6000
Mounted resonance frequency	Hz typ	> 40 000
Damping ratio	Max	0.005
Non-linearity		
(% of reading, to full range)	% max	± 1
Zero repeatability		
(after full scale shock)	Equiv. g	0.2
Transverse sensitivity	% max	1
Zero measurand output	mV max	± 25
Thermal zero shift	mV typ	± 10
From 0°F to +150°F (-18°C to +66°C), ref 75°F (24°C)	mV max	± 25
Thermal sensitivity shift	%/°F typ	-0.06
From 0°F to +150°F (-18°C to +66°C)	%/°C typ	-0.10
From 65°F to +85°F (+18°C to +29°C), ref 75°F (24°C)	± % typ	1.0
Warm-up time	ms max	1
Base strain sensitivity (per ISA 37.2 @ 250 µ strain)	Equiv. g's	< 0.1
Mechanical overtravel stops	g's	5000 g typical, 2500 g minimum

#### Electrical characteristics

Excitation [4]	2.0 to 10 Vdc
Input resistance [1]	600 ohms nominal
Output resistance [1]	600 ohms nominal
Insulation resistance	100 megohms minimum at 100 Vdc; leads to case, leads to shield, shield to case

#### Physical characteristics

Case material	Black anodized aluminum alloy
Electrical connections	Integral cable, four conductor No. 32 AWG Teflon® insulated leads, braided shield, silicone jacket (-1 red, -2 white, -3 blue - cable color)
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	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	0°F to +150°F (-18°C to +66°C)
Storage	-65°F to +250°F (-54°C to +121°C)

#### Calibration data supplied [3]

Sensitivity (at 100 Hz and 10 g pk)	mV/g @ 2 Vdc, 5 Vdc and 10 Vdc
Frequency response	20 Hz to 6000 Hz, % deviation reference 100 Hz; dB plot continued from 6000 Hz through resonance @ 10 Vdc
Zero measurand output	mV @ 2 Vdc, 5 Vdc, and 10 Vdc
Maximum transverse sensitivity	% of sensitivity @ 10 Vdc
Input and output resistance	Ohms

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### Accessories:

Product	Description	7264D
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
24323-3	4 conductor shielded cable	Optional
7953A	Triaxial mounting block	Optional

### Notes:

1. Measurand at approximately 1 Vdc.
2. The safety sleeve should be kept on unit when not in use to prevent possible handling damage.
3. Maintain high levels of precision and accuracy using Meggitt's factory calibration services. Call Meggitt'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.
4. The 7264D is supplied with calibration data at 2V, 5V, and 10V excitation voltage.