

# Model 834 Accelerometer

Triaxial Piezoelectric  
Accelerometer

<4 $\mu$ A Current Consumption

Full Signal and Power Conditioning  
Circuit Board Mountable



**The Model 834** is a low cost, board mountable triaxial accelerometer designed for high amplitude embedded shock applications. The accelerometer features a maximum current consumption of 4 micro-amps and incorporates full power and signal conditioning. The model 834 is available in  $\pm 2000g$  to  $\pm 6000g$  ranges and provides a flat frequency response up to 2kHz. The model 834M1 provides an extended frequency range to 6kHz.

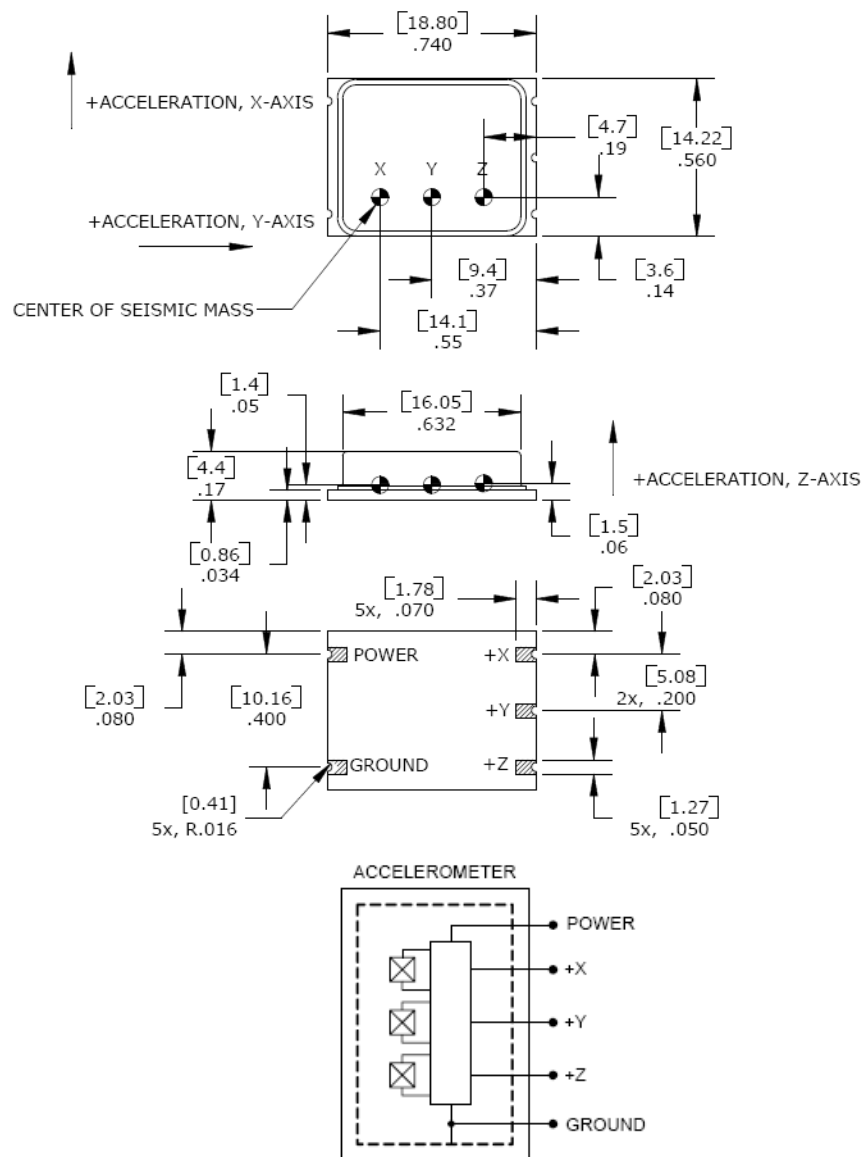
## FEATURES

- $\pm 2000g$  to  $\pm 6000g$  Dynamic Range
- Low Cost Triaxial
- Hermetically Sealed
- Piezo-ceramic Crystals
- $-20^{\circ}$  to  $+80^{\circ}C$  Operating Range
- $-40^{\circ}$  to  $+125^{\circ}C$  Available on 834M1
- Single Axis Configurations Available

## APPLICATIONS

- Asset Monitoring
- Impact Testing
- System Wake-Up Switch
- Embedded Applications
- Instrumentation

## dimensions



# Model 834 Accelerometer

## performance specifications

All values are typical at +24°C, 100Hz and 3.3Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

### Parameters

			Notes
<b>DYNAMIC</b>			
Range (g)	±2000	±6000	
Sensitivity (mV/g)	0.62	0.20	±30%
Frequency Response (Hz) <sup>1</sup>	2-2000	2-2000	±2dB
Natural Frequency (Hz)	>30000	>30000	
Non-Linearity (%FSO)	±2	±2	
Transverse Sensitivity (%)	<8	<8	
Shock Limit (g)	10000	10000	
<b>ELECTRICAL</b>			
Bias Voltage (Vdc)	Exc Voltage / 2	Exc Voltage / 2	
Total Supply Current (µA)	<4	<4	
Excitation Voltage (Vdc) <sup>3</sup>	3.0 to 5.5	3.0 to 5.5	
Output Impedance (Ω)	<100	<100	
Insulation Resistance (MΩ)	>100	>100	@100Vdc
Broadband Noise (µV)	110	52	2Hz-10kHz
Spectral Noise (mg/√Hz)	6.5	7.5	@ 10Hz
Spectral Noise (mg/√Hz)	1.3	2.5	@ 100Hz
Spectral Noise (mg/√Hz)	0.8	2.0	@ 1000Hz
Shielding	100%		
Ground Isolation	Isolated from Mounting Surface		
<b>ENVIRONMENTAL</b>			
Temperature Response (%)	-10/+20 from -20°C to +80°C		
Operating Temperature (°C)	-20 to +80		
Storage Temperature (°C)	-20 to +80		

### PHYSICAL

Sensing Element	Ceramic (shear mode)
Case Material	Ceramic Base, Nickel Silver Cover
Weight (grams)	2.6

<sup>1</sup> A wider frequency response of 2-6000Hz is available on model 834M1

<sup>2</sup> The model 834 is not to be reflow soldered, manual soldering is recommended. See application note.

<sup>3</sup> The model 834 can be operated with 2.8V excitation but the full-scale range will be limited.

**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 100Hz

**Wiring color code:** See schematic

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## ordering info

PART NUMBERING Model Number+Range

834-GGGG  
|  
| \_\_\_\_ Range (2000 is 2000g)

Example: 834-2000  
Model 834, 2000g