

# 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.

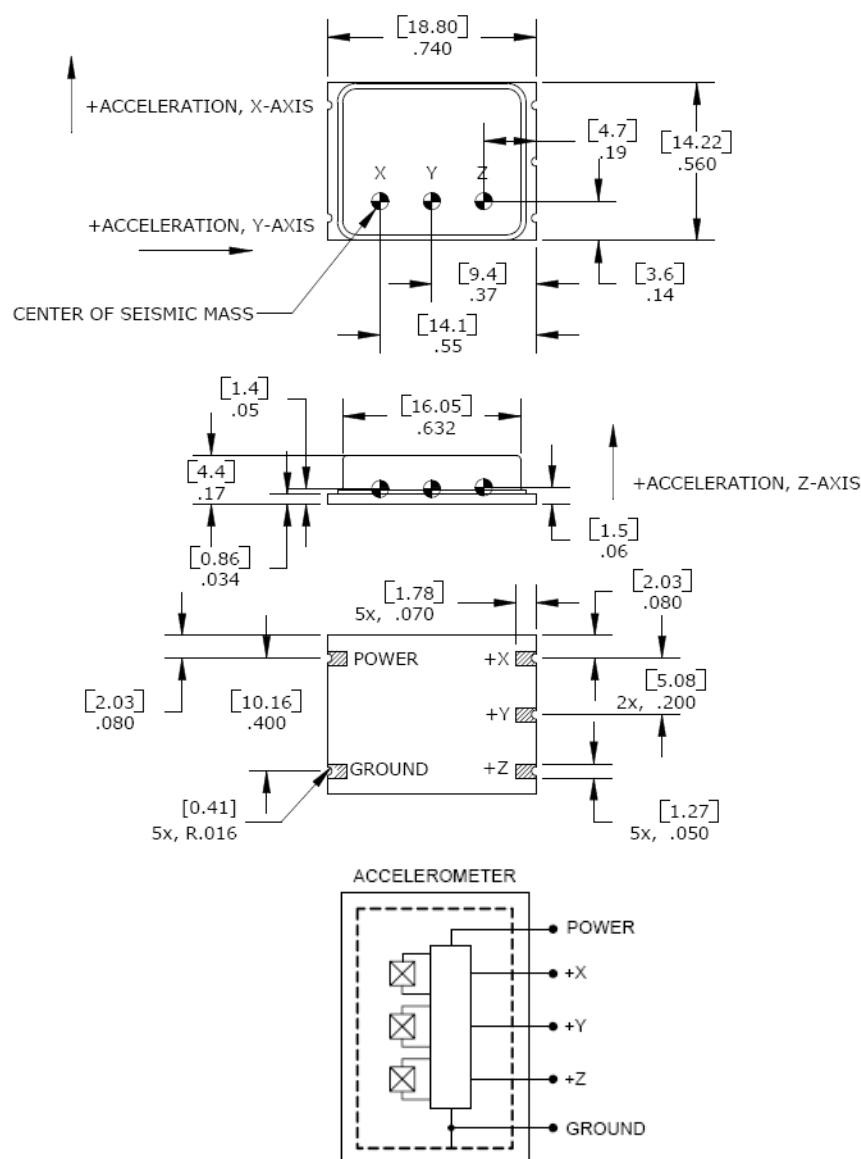
## FEATURES

- $\pm 2000g$  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

#### DYNAMIC

			Notes
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	

#### ELECTRICAL

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		

#### ENVIRONMENTAL

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

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

## ordering info

PART NUMBERING Model Number+Range

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

Example: 834-2000  
Model 834, 2000g