



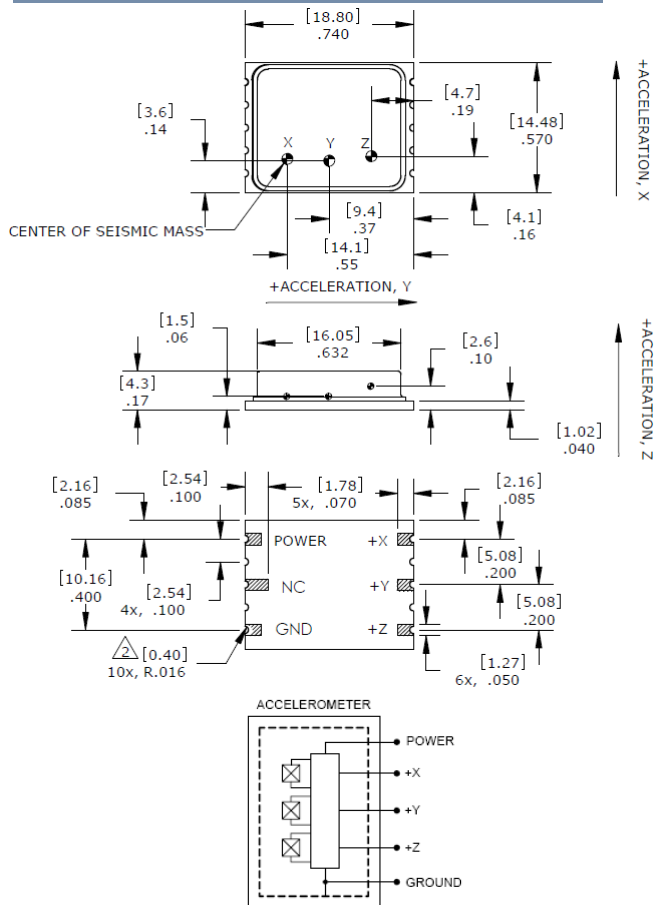
# MODEL 832 ACCELEROMETER

## SPECIFICATIONS

- Triaxial Piezoelectric Accelerometer
- <math><4\mu\text{A}</math> Current Consumption
- Full Signal and Power Conditioning
- Circuit Board Mountable

The Model 832 is a low cost, board mountable triaxial accelerometer. Featuring stable piezo-ceramic crystals, the accelerometer incorporates full power and signal conditioning with a maximum current consumption of 4 micro-amps. The model 832 is available in  $\pm 25\text{g}$  to  $\pm 500\text{g}$  ranges and provides a flat frequency response up to 2kHz. The model 832M1 provides an extended frequency range to 6kHz.

## DIMENSIONS



## FEATURES

- $\pm 25\text{g}$  to  $\pm 500\text{g}$  Dynamic Range
- Low Cost Triaxial
- Hermetically Sealed
- Piezo-ceramic Crystals
- $-20^\circ$  to  $+80^\circ\text{C}$  Operating Range
- $-40^\circ$  to  $+125^\circ\text{C}$  Available on 832M1
- Single Axis Configurations Available

## APPLICATIONS

- Asset Monitoring
- Data Loggers
- Impact Monitoring
- Machine Health Monitoring
- System Wake-Up Switch
- Embedded Applications

**PERFORMANCE SPECIFICATIONS**

All values are typical at +24°C, 80Hz and 3.3Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

**Parameters**

**DYNAMIC**

	±25	±50	±100	±200	±500	<b>Notes</b>
Range (g)	±25	±50	±100	±200	±500	
Sensitivity (mV/g)	50.0	25.0	12.5	6.25	2.5	±30%
Frequency Response (Hz) <sup>1</sup>	2-2000	2-2000	2-2000	2-2000	2-2000	±2dB
Natural Frequency (Hz)	>10000	>10000	>10000	>10000	>10000	
Non-Linearity (%FSO)	±2	±2	±2	±2	±2	
Transverse Sensitivity (%)	<10	<10	<10	<10	<10	
Shock Limit (g)	5000	5000	5000	5000	5000	

**ELECTRICAL**

	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	
Bias Voltage (Vdc)	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	
Total Supply Current (µA)	<4	<4	<4	<4	<4	
Excitation Voltage (Vdc) <sup>3</sup>	3.3 to 5.5	3.3 to 5.5	3.3 to 5.5	3.3 to 5.5	3.3 to 5.5	
Output Impedance (Ω)	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	@100Vdc
Broadband Noise (µV)	300	210	160	150	160	2Hz-10kHz
Spectral Noise (µg/√Hz)	120	120	120	120	400	@ 10Hz
Spectral Noise (µg/√Hz)	80	80	80	80	320	@ 100Hz
Spectral Noise (µg/√Hz)	40	40	40	40	160	@ 1000Hz
Warm-Up Time (msec)	30					
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)	3.6

<sup>1</sup> A wider frequency response of 2-6000Hz is available on model 832M1

<sup>2</sup> The model 832 is not to be reflow soldered at high temperature, manual soldering is recommended. See application note.

<sup>3</sup> The model 832 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 80Hz

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**ORDERING INFORMATION**

PART NUMBERING    Model Number+Range

832-GGGG  
|  
| \_\_\_\_\_ Range (0200 is 200g)

Example: 832-0200  
          Model 832, 200g

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