

Model 832M1 Accelerometer

Triaxial Piezoelectric Accelerometer
 <22 μ A Current Consumption
 Wide Bandwidth to 6kHz
 Circuit Board Mountable



The Model 832M1 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 22 micro-amps. The model 832M1 is available in $\pm 25g$ to $\pm 500g$ ranges and provides a flat frequency response up to greater than 6kHz. The standard model 832 offers the same envelope with a lower maximum current consumption of 4 micro-amps.

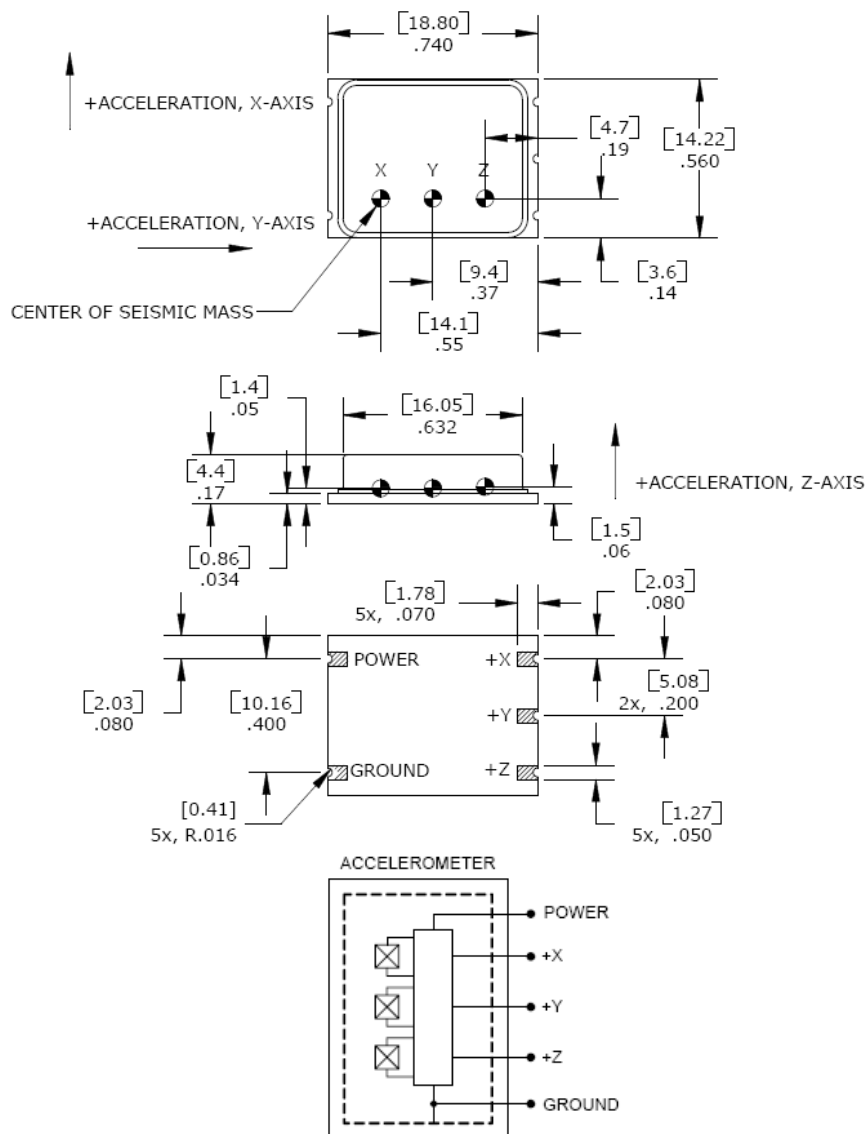
FEATURES

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

APPLICATIONS

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

dimensions



Model 832M1 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. Standard product parameters are described in PSC-1001 for Embedded AC Accelerometers.

Parameters						Notes
DYNAMIC						
Range (g)	±25	±50	±100	±200	±500	
Sensitivity (mV/g)	50.0	25.0	12.5	6.25	2.5	±30%
Frequency Response (Hz)	2-6000	2-6000	2-6000	2-6000	2-6000	±2dB
Natural Frequency (Hz)	>10000	>10000	>10000	>10000	>10000	
Non-Linearity (%FSO)	±2	±2	±2	±2	±2	
Transverse Sensitivity (%)	<8	<8	<8	<8	<8	
Shock Limit (g)	5000	5000	5000	5000	5000	
ELECTRICAL						
Bias Voltage (Vdc)	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	Exc Voltage / 2	
Total Supply Current (µA) ¹	<22	<22	<22	<22	<22	
Excitation Voltage (Vdc) ³	3.0 to 5.5	3.0 to 5.5	3.0 to 5.5	3.0 to 5.5	3.0 to 5.5	
Output Impedance (Ω)	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	@100Vdc
Broadband Noise (µV)	320	160	80	40	30	2Hz-10kHz
Spectral Noise (µg/√Hz)	240	240	240	240	600	@ 10Hz
Spectral Noise (µg/√Hz)	64	64	64	64	160	@ 100Hz
Spectral Noise (µg/√Hz)	24	24	24	24	60	@ 1000Hz
Shielding	100%					
Ground Isolation	Isolated from Mounting Surface					
ENVIRONMENTAL						
Temperature Response (%)	-20/+30 from -40°C to +125°C					
Operating Temperature (°C)	-40 to +125					
Storage Temperature (°C)	-40 to +125					
PHYSICAL						
Sensing Element	Ceramic (shear mode)					
Case Material	Ceramic Base, Nickel Silver Cover					
Weight (grams)	3.0					

¹ A lower current consumption of 4 micro-amps is available on model 832.

² The model 832M1 is not to be reflow soldered at high temperature, manual soldering is recommended. See application note.

³ The model 832M1 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

832M1-GGGG

|
| _____ Range (0200 is 200g)

Example: 832M1-0200
Model 832M1, 200g