

# Model 810M1 Accelerometer



Piezoelectric Linear Accelerometer  
 $\pm 25g$  &  $\pm 100g$  Dynamic Ranges  
 Wide Bandwidth to 6000Hz  
 Circuit Board Mountable



The **Model 810M1** is a low cost, board mountable accelerometer designed for general purpose vibration measurements. The accelerometer is available in  $\pm 25g$  or  $\pm 100g$  range and provides a flat frequency response up to  $>6kHz$ . Featuring stable piezo-ceramic crystals in shear mode, the accelerometer incorporates an amplified  $\pm 1.25V$  output and is offered in two measurement direction options (X or Z axis).

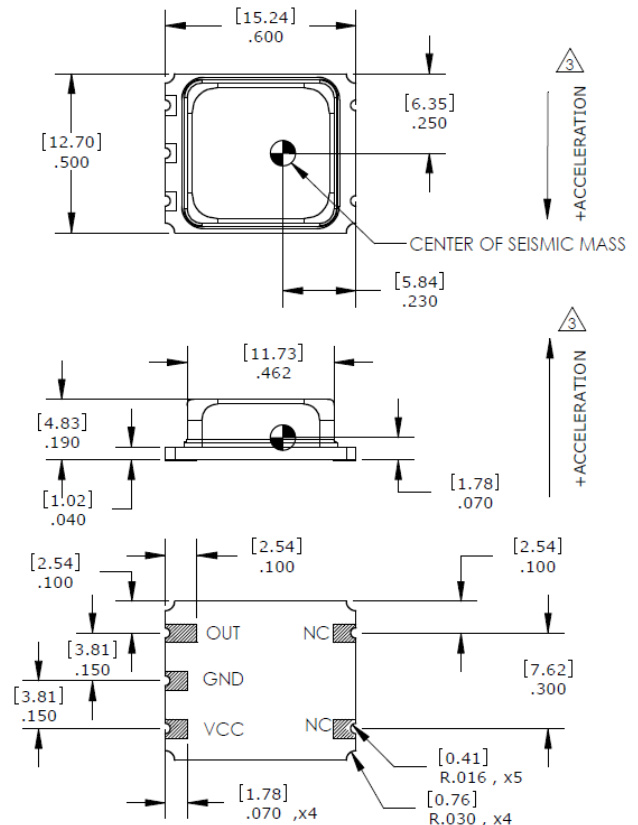
## FEATURES

- Two Measurement Directions
- 3.3 to 5.5Vdc Excitation Voltage
- Hermetically Sealed
- Piezo-Ceramic Shear Design
- $-40^{\circ}$  to  $+125^{\circ}C$  Operating Range

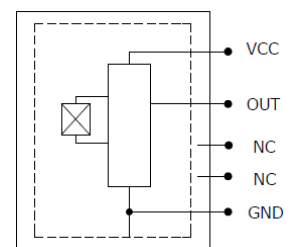
## APPLICATIONS

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

## dimensions



Direction of measurement must be specified at time of order. See Ordering Info on page 3.



# Model 810M1 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

#### DYNAMIC

			Notes
Range (g)	±25	±100	
Sensitivity (mV/g)	50.0	12.5	±30%
Frequency Response (Hz)	2-6000	2-6000	±1dB
Resonant Frequency (Hz)	>30000	>30000	
Non-Linearity (%FSO)	±2	±2	
Transverse Sensitivity (%)	<8	<8	
Shock Limit (g)	2000	2000	
Residual Noise (g RMS)	0.0026	0.0032	2Hz to 10kHz
Spectral Noise, 10Hz (µg√Hz)	160	160	
Spectral Noise, 100Hz (µg√Hz)	40	40	
Spectral Noise, 1kHz (µg√Hz)	16	16	

#### ELECTRICAL

Bias Voltage (Vdc)	Excitation Voltage / 2		
Full Scale Output Voltage (V)	±1.25		
Total Supply Current (µA)	22		
Excitation Voltage (Vdc)	3.3 to 5.5		
Output Impedance (Ω)	<100		
Insulation Resistance (MΩ)	>100		@100Vdc
Shielding	100%		
Warm-up Time (msec)	30		

#### ENVIRONMENTAL

Temperature Response (%)	-20/+30 from -40°C to +125°C
Operating Temperature (°C)	-40 to +125
Storage Temperature (°C)	-40 to +125
Humidity	Hermetically Sealed

#### PHYSICAL

Sensing Element	Ceramic (shear mode)
Case Material	Ceramic Base, Nickel Silver Cover
Weight (grams)	3.0
Mounting	Solder

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

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## ordering info

**PART NUMBERING** Model Number+Range+Measurement Direction

810M1-GGGGX

I I \_\_\_\_\_ Measurement Direction (X is X-axis, Z is Z-axis)  
I \_\_\_\_\_ Range (0025 is 25g)

Example: 810M1-0025X

Model 810M1, X-axis Measurement, 25g