

# Model 4000 Accelerometer

Piezoresistive MEMS Accelerometer

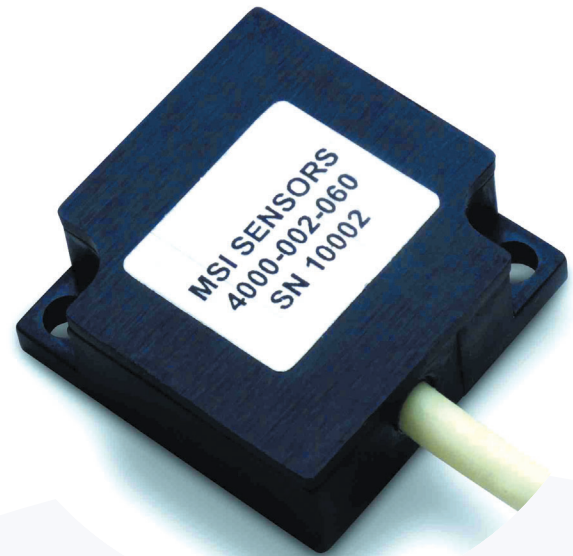
Signal Conditioned Output

Temperature Calibrated

Low Cost, Light Weight

## DESCRIPTION

The **Model 4000** is an economical signal conditioned accelerometer with integral temperature compensation. The accelerometer incorporates a 2nd generation piezoresistive MEMS sensor providing outstanding performance. The accelerometer is packaged in a light weight thermoplastic housing ideal for transportation and instrumentation testing. The signal conditioned output incorporates a 2.5V reference that offers the user a differential or single-ended output.



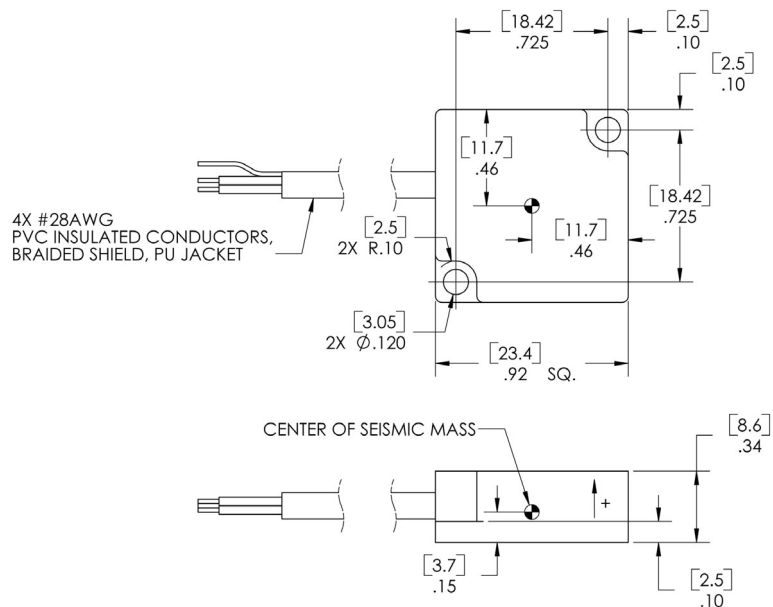
## FEATURES

- ◆  $\pm 2g$  to  $\pm 200g$  Dynamic Range
- ◆ High Over-Range Protection
- ◆ Signal Conditioned Output
- ◆ Low Power Consumption
- ◆ Light Weight Plastic Housing
- ◆ Gas Damping
- ◆ Integral Cable – Connector Options

## APPLICATIONS

- ◆ Low Frequency Monitoring
- ◆ Transportation
- ◆ Vibration Sensing
- ◆ Test & Instrumentation

## dimensions



MSI Sensors  
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Hampton, VA 23666 USA  
[www.msisensors.com](http://www.msisensors.com)

Customer Service:  
Tel: 1-757-766-1500 (Toll Free:  
1-800-745-8008)  
Fax: 1-757-766-4297

Vibration Sensors Technical  
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RevA 10/6/05

measurement  
SPECIALTIES

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## performance specifications

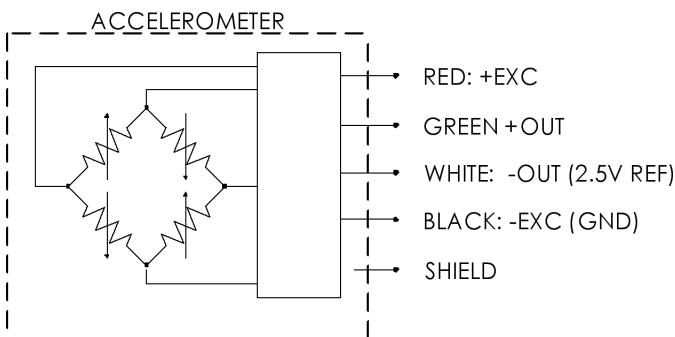
All values are typical at 25°C, 100Hz and 12Vdc excitation unless otherwise stated. MSI Sensors reserves the right to update and change these specifications without notice.

### Parameters

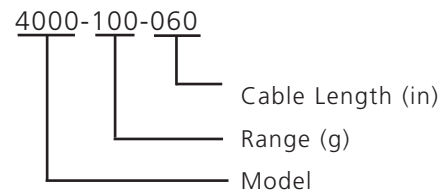
DYNAMIC						
Range	±2	±5	±10	±20	Units	Notes
Sensitivity	1000	400	200	100	mV/g	
Frequency Response	0-250	0-400	0-500	0-800	Hz	±5%
Range	±50	±100	±200		Units	Notes
Sensitivity	40	20	10		mV/g	
Frequency Response	0-1000	0-1500	0-1500		Hz	±5%
Non-Linearity			±1		% FSO	Maximum
Transverse Sensitivity (Max)			±3		%	±1% Typical
Zero Acceleration Output			2.50±.05		V	
Thermal Zero Shift (-20 to +85°C)			±.028		% FSO/°C	Maximum
Thermal Sensitivity Shift (-20 to +85°C)			±.028		%/°C	Maximum
ELECTRICAL						
Excitation Voltage			10 to 24		Vdc	
Excitation Current			5.0		mA	Typical
Reference Voltage			2.5		Vdc	
Output Impedance			100		Ω	Maximum
Insulation Resistance (@ 50Vdc)			100		MΩ	Minimum
Ground Isolation			Isolated			
PHYSICAL						
Housing			High Performance Thermoplastic			
Weight (cable not included)			8		grams	Maximum
Mounting			2x #4 or M3 Screws			
ENVIRONMENTAL						
Shock Limit			5,000		g's	
Operating Temperature			-40 to +115		°C	
Humidity			Epoxy Sealed			

Contact factory for custom temperature compensation options.

## electrical schematic



## ordering information



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