

# Model 4002 Accelerometer

Signal Conditioned, Amplified Output  
Optimum Signal to Noise Ratio  
Temperature Compensated  
Micro-g Resolution

## Description

The model 4002 is a low frequency DC response accelerometer with exceptional resolution. The accelerometer is designed for optimum signal-to-noise ratio and offers an amplified signal conditioned output. Offered in ranges from  $\pm 2$  to  $\pm 200g$  the accelerometer is ideal for low frequency measurements in temperature ranges of  $-20^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . The MEMS sensing element is gas damped with a broad and stable frequency response.



## FEATURES

- $\pm 2g$  to  $\pm 200g$  Dynamic Range
- Amplified, Filtered Output
- 8 to 36Vdc Excitation
- Gas Damped MEMS Element
- Micro-g Resolution
- DC, Low Frequency Response

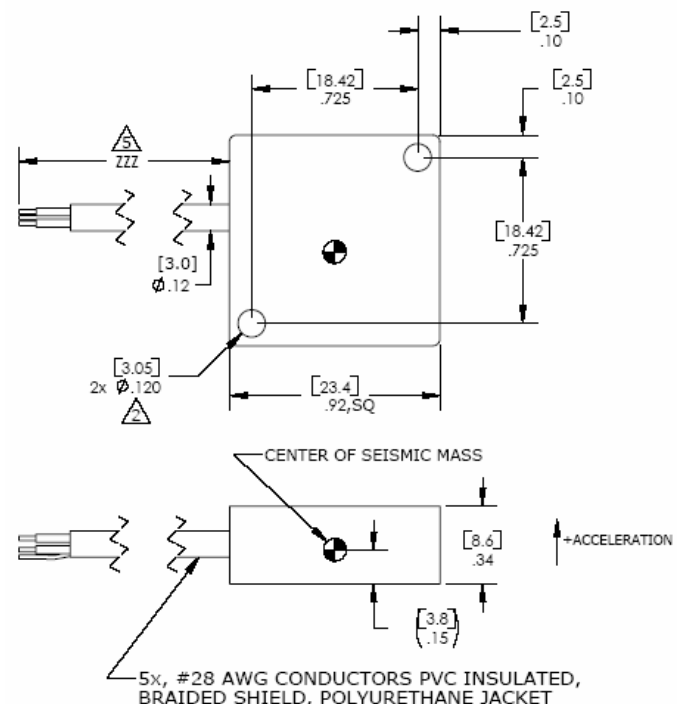
## APPLICATIONS

Low Frequency Testing  
Motion Control  
Tilt Measurements  
Test & Instrumentation  
Transportation Measurements

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## dimensions



# Model 4002 Accelerometer

## performance specifications

All values are typical at 24°C, 100Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties 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	Typical
Frequency Response	0-200	0-300	0-350	0-600	Hz	±5%
Residual Noise	120	100	80	80	µV rms	
Range	±50	±100	±200		Units	Notes
Sensitivity	40	20	10		mV/g	Typical
Frequency Response	0-800	0-1300	0-1500		Hz	±5%
Residual Noise	100	100	100		µV rms	
Non-Linearity			±0.5		% FSO	
Transverse Sensitivity			±3		%	±1% Typical
Zero Acceleration Output			±100		mV	
Thermal Zero Shift (-20 to +85°C)			±.04		% FSO/°C	
Thermal Sensitivity Shift (-20 to +85°C)			±.05		%/°C	
Damping Ratio			0.70			Gas Damped

#### ELECTRICAL

Excitation Voltage	8 to 36	Vdc	
Excitation Current	5.0	mA	Typical
Bias Voltage	2.5	Vdc	
Output Impedance	100	Ohms	Maximum
Insulation Resistance (@ 50Vdc)	100	MΩ	Minimum
Ground Isolation	Isolated		

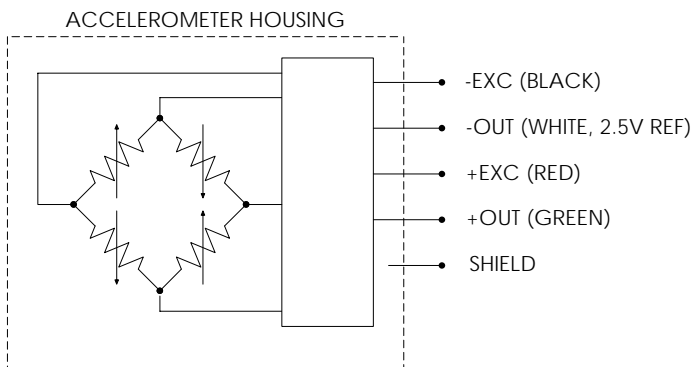
#### PHYSICAL

Housing	Aluminum		Hard Anodized
Weight (cable not included)	7	grams	
Mounting	2x #4 or 2x M3 Screws		6 lb-in mounting torque

#### ENVIRONMENTAL

Shock Limit	5,000	g's
Operating Temperature	-20 to +85	°C
Humidity	Epoxy sealed	

### electrical schematic



### ordering information

**4002-002-060**

