



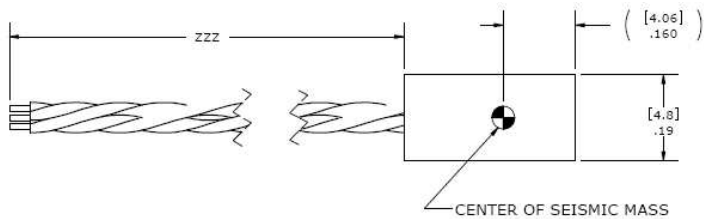
## MODEL 52 ACCELEROMETER

### SPECIFICATIONS

- DC Response Accelerometer
- Low Cost, Miniature Package
- Gas Damped MEMS
- Reliable Performance

The **Model 52 Accelerometer** is based on an advanced piezoresistive MEMS sensing element which offers exceptional dynamic range and stability. This unit features a full bridge output configuration with an operating temperature range from -40 to +90°C. A slight amount of internal gas damping provides outstanding shock survivability

### DIMENSIONS

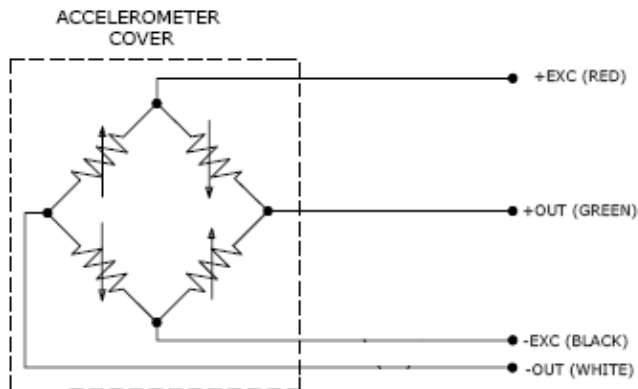
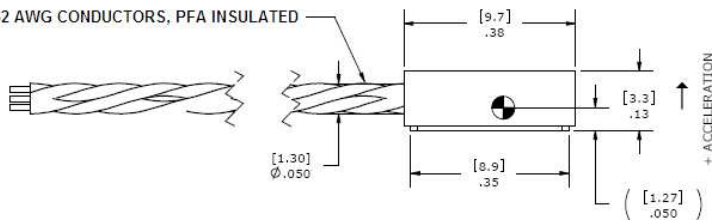


### FEATURES

- Piezoresistive MEMS Sensor
- ±50g to ±2,000g Ranges
- 2-10 Vdc Excitation
- <± 50 mV Zero Offset
- -40 to +90 °C Temperature Range

### APPLICATIONS

- Safety Impact Testing
  - Auto
  - Truck
  - Recreational Vehicles
- Shock Testing



**PERFORMANCE SPECIFICATIONS**

All values are typical at  $\pm 24^{\circ}\text{C}$ , 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters					Notes
<b>DYNAMIC</b>					
Range(g)	$\pm 50$	$\pm 200$	$\pm 500$	$\pm 2000$	
Sensitivity (mV/g) <sup>1</sup>	2	0.9	0.4	0.15	
Frequency Response (Hz)	0-400	0-600	0-800	0-2000	$\pm 2\%$
	0-1000	0-1400	0-2000	0-5000	$\pm 5\%$
	0-1400	0-1900	0-2800	0-7000	$\pm 1\text{dB}$
Resonant Frequency (Hz)	4000	8000	15000	26000	
Non-Linearity (% FSO)	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	
Transverse Sensitivity (%)	<3	<3	<3	<3	
Shock Limit (g)	5000	5000	5000	5000	
<b>ELECTRICAL</b>					
Zero Acceleration Output (mV)	< $\pm 50$				
Excitation (Vdc)	2 to 10				
Input Resistance	2400-6000				
Output Resistance ( $\Omega$ )	2400-6000				
Insulation Resistance (M $\Omega$ )	>100				@100Vdc
Ground Isolation	Isolated from mounting surface				
<b>ENVIRONMENTAL</b>					
Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ (%FSO/ $^{\circ}\text{F}$ ))*	$\pm 0.05 (\pm 0.03)$				0 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ (%/F))*	-0.20 $\pm$ 0.05 (-0.11 $\pm$ 0.03)				0 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$
Operating Temperature ( $^{\circ}\text{C}$ )	-40 to +90				
Storage Temperature ( $^{\circ}\text{C}$ )	-40 to +90				
Humidity	Epoxy Sealed, IP61				
<b>PHYSICAL</b>					
Case Material	Plastic				
Cable (Integral 30 Foot Cable)	4x #32 AWG Conductors PFA Insulated				
Weight (grams)	0.5				Cable not included
Mounting	Adhesive				

<sup>1</sup> Output is ratiometric to excitation voltage

**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

**Optional accessories:** 121 Three Channel DC Signal Conditioner Amplifier  
140A Auto-zero Inline Amplifier

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**ORDERING INFORMATION**

PART NUMBERING Model Number+Range+Excitation+Cable Length+Options

52-GGGG-CCC-ZZ

    |    |    |    Options  
    |    |    |    Cable (360 is 360 inches)  
    |    |    |    Range (0100 is 100 g)

Optional Dash Numbers  
-01 5Vdc Calibration  
-02 2Vdc Calibration  
-03 3.3Vdc Calibration

Example: 52-2000-360  
Model 52, 2000g, 360" (30ft) Cable), No Options.

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