



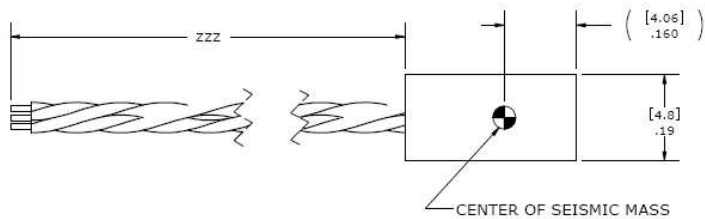
MODEL 52 ACCELEROMETER

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

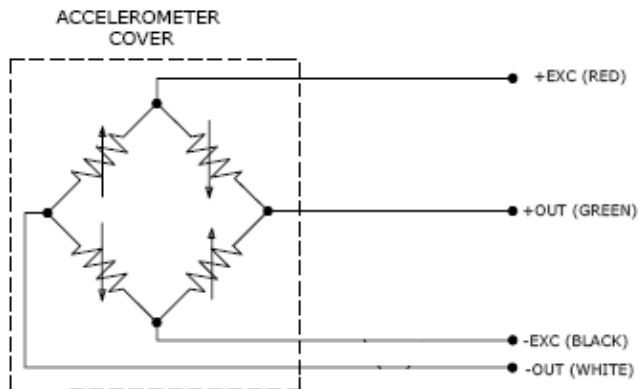
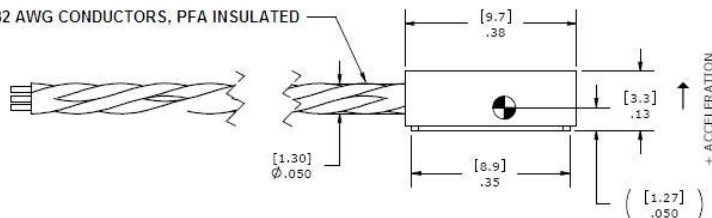


FEATURES

- 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 |
|---|-------------------------------------|-----------|-----------|------------|--|
| DYNAMIC | | | | | |
| Range(g) | ± 50 | ± 200 | ± 500 | ± 2000 | |
| Sensitivity (mV/g) ¹ | 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) | ± 1 | ± 1 | ± 1 | ± 1 | |
| Transverse Sensitivity (%) | <3 | <3 | <3 | <3 | |
| Shock Limit (g) | 5000 | 5000 | 5000 | 5000 | |
| ELECTRICAL | | | | | |
| Zero Acceleration Output (mV) | < ± 50 | | | | |
| Excitation (Vdc) | 2 to 10 | | | | |
| Input Resistance | 2400-6000 | | | | |
| Output Resistance (Ω) | 2400-6000 | | | | |
| Insulation Resistance (M Ω) | >100 | | | | @100Vdc |
| Ground Isolation | Isolated from mounting surface | | | | |
| ENVIRONMENTAL | | | | | |
| 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 (%/ $^{\circ}\text{C}$ (%/ $^{\circ}\text{F}$))* | -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 | | | | |
| PHYSICAL | | | | | |
| Case Material | Plastic | | | | |
| Cable (Integral 30 Foot Cable) | 4x #32 AWG Conductors PFA Insulated | | | | |
| Weight (grams) | 0.5 | | | | Cable not included |
| Mounting | Adhesive | | | | |

¹ 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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