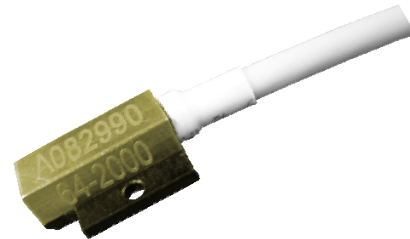


# Model 64 Accelerometer

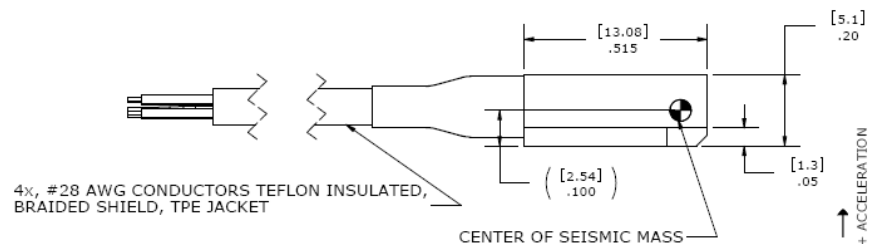
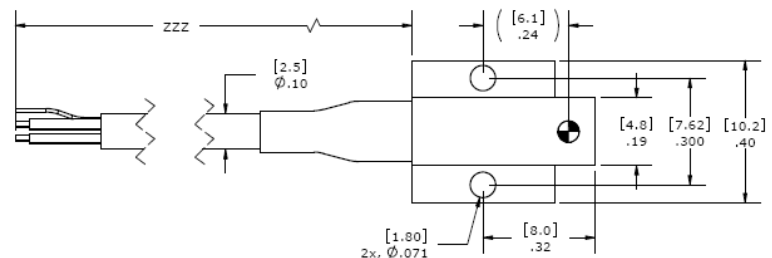
DC Response Accelerometer  
Durable Low Noise Cable  
Small Package  
SAE J2570 Compliant



**The Model 64 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 a compensated temperature range from 0 to +50° C. A slight amount of internal gas damping provides outstanding shock survivability and a flat amplitude and phase response up to 7kHz. The Model 64 is compliant with SAE J211 standards for anthropomorphic dummy instrumentation.



## dimensions

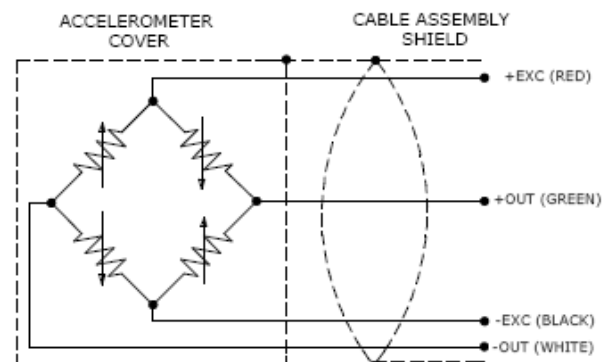


## FEATURES

- Piezoresistive MEMS Sensor
- $\pm 50g$  to  $\pm 6,000g$  Ranges
- 2-10 Vdc Excitation
- -40 to +121°C Temp Range
- Low Noise Jacketed Cable
- 1% Transverse Sensitivity Option
- $< \pm 25$  mV Zero Offset

## APPLICATIONS

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



# Model 64 Accelerometer

## performance specifications

All values are typical at  $\pm 24^{\circ}\text{C}$ , 100 Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

### Parameters

#### DYNAMIC

|                                 | $\pm 50$ | $\pm 100$ | $\pm 200$ | $\pm 500$ | $\pm 2000$ | $\pm 6000$ | Notes                  |
|---------------------------------|----------|-----------|-----------|-----------|------------|------------|------------------------|
| Range(g)                        | 2        | 0.9       | 0.8       | 0.4       | 0.15       | 0.10       |                        |
| Sensitivity (mV/g) <sup>1</sup> | 2        | 0.9       | 0.8       | 0.4       | 0.15       | 0.10       |                        |
| Frequency Response (Hz)         | 0-400    | 0-500     | 0-600     | 0-800     | 0-3000     | 0-3000     | $\pm 2\%$              |
|                                 | 0-1000   | 0-1200    | 0-1400    | 0-2000    | 0-5000     | 0-5000     | $\pm 5\%$              |
|                                 | 0-1400   | 0-1500    | 0-1900    | 0-2800    | 0-7000     | 0-7000     | $\pm 1\text{dB}$       |
| Resonant Frequency (Hz)         | 4000     | 6000      | 8000      | 15000     | 26000      | 26000      |                        |
| Damping Ratio                   | 0.5      | 0.5       | 0.5       | 0.3       | 0.05       | 0.05       | Typical                |
| Shock Limit (g)                 | 10000    | 10000     | 10000     | 10000     | 10000      | 10000      |                        |
| Non-Linearity (% of reading)    | $\pm 1$  | $\pm 1$   | $\pm 1$   | $\pm 1$   | $\pm 1$    | $\pm 1$    |                        |
| Repeatability (Equiv. g)        | $<0.2$   | $<0.2$    | $<0.2$    | $<0.2$    | $<0.2$     | $<0.2$     | After full scale shock |
| Transverse Sensitivity (%)      | $<3$     | $<3$      | $<3$      | $<3$      | $<3$       | $<3$       | $<1\%$ Option          |

#### ELECTRICAL

|  |                                |           |           |           |           |           |                           |
|--|--------------------------------|-----------|-----------|-----------|-----------|-----------|---------------------------|
| Zero Acceleration Output (mV)              | $<\pm 25$                      | $<\pm 25$ | $<\pm 25$ | $<\pm 25$ | $<\pm 25$ | $<\pm 25$ | $<\pm 10\text{mV}$ Option |
| Excitation (Vdc)                           | 2 to 10                        | 2 to 10   | 2 to 10   | 2 to 10   | 2 to 10   | 2 to 10   |                           |
| Input Resistance ( $\Omega$ )              | 2400-6000                      | 2400-6000 | 2400-6000 | 2400-6000 | 2400-6000 | 2400-6000 |                           |
| Output Resistance ( $\Omega$ )             | 2400-6000                      | 2400-6000 | 2400-6000 | 2400-6000 | 2400-6000 | 2400-6000 |                           |
| Insulation Resistance ( $\text{M}\Omega$ ) | $>100$                         | $>100$    | $>100$    | $>100$    | $>100$    | $>100$    | @50Vdc                    |
| Residual Noise ( $\mu\text{V RMS}$ )       | $<10$                          | $<10$     | $<10$     | $<10$     | $<10$     | $<10$     |                           |
| Ground Isolation                           | Isolated from mounting surface |           |           |           |           |           |                           |

#### ENVIRONMENTAL

|  |                    |  |  |  |  |  |                                 |
|--|--------------------|--|--|--|--|--|---------------------------------|
| Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ )     | $\pm 0.04$         |  |  |  |  |  | From 0 to $+50^{\circ}\text{C}$ |
| Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ ) | $\pm 0.1$          |  |  |  |  |  | From 0 to $+50^{\circ}\text{C}$ |
| Operating Temperature ( $^{\circ}\text{C}$ )       | -40 to $+121$      |  |  |  |  |  |                                 |
| Storage Temperature ( $^{\circ}\text{C}$ )         | -40 to $+121$      |  |  |  |  |  |                                 |
| Humidity   | Epoxy Sealed, IP61 |  |  |  |  |  |                                 |

#### PHYSICAL

|                                |  |  |  |  |  |  |                    |
|--------------------------------|--|--|--|--|--|--|--------------------|
| Case & Cover Material          | Anodized Aluminum Case, Brass Cover                                |  |  |  |  |  |                    |
| Cable (Integral 30 Foot Cable) | 4x #32 AWG Conductors Teflon Insulated, Braided Shield, TPE Jacket |  |  |  |  |  |                    |
| Weight (grams)                 | 1.0  |  |  |  |  |  | Cable Not Included |
| Mounting                       | 2x #0-80 x 3/16" Socket Head Cap Screws                            |  |  |  |  |  | Torque 3 lb-in     |

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

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to  $\pm 1\text{dB}$  Frequency Limit

**Supplied accessories:** AC-A02053 2x #0-80 (3/16 length) Socket Head Cap Screw, 2x #0 Washer, 1x Allen Key

**Optional accessories:** 101 Three Channel DC Signal Conditioner Amplifier

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## ordering info

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

64-GGGG-YY-CCCT-XY

| | | | | Connector Options (otherwise leave as 'XY')  
 | | | | | 1% Transverse Sensitivity when "T" is present.  
 | | | | | Cable (360 is 360 inches)  
 | | | | | Excitation Voltage (10 is 10Vdc)  
 | | | | | Range (0100 is 100g)

Example: 64-2000-10-360-XY

Model 64, Standard Configuration: 2000g, 10V Excitation, 360" (30ft) Cable, No Options.

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