

Model 63 Accelerometer



Triaxial DC Accelerometer
MEMS Gas Damped
Small Package, Compact
Durable Shielded Cable



The **Model 63** accelerometer is a small, compact triaxial device designed for vehicle impact and road testing. Its mechanical overload stops provide high shock protection in rugged applications. Featuring ranges from $\pm 50g$ to $\pm 2000g$ and frequency response to 3000Hz, this sensor is easily mounted in hard to reach places.

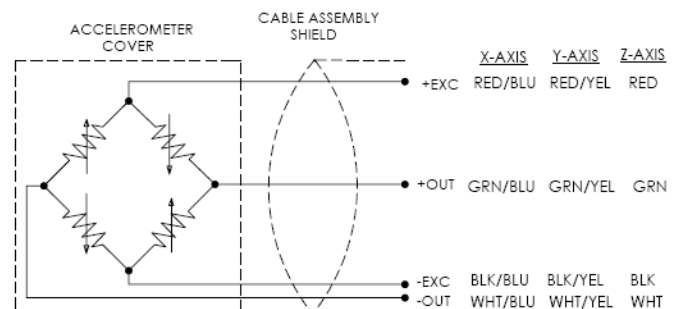
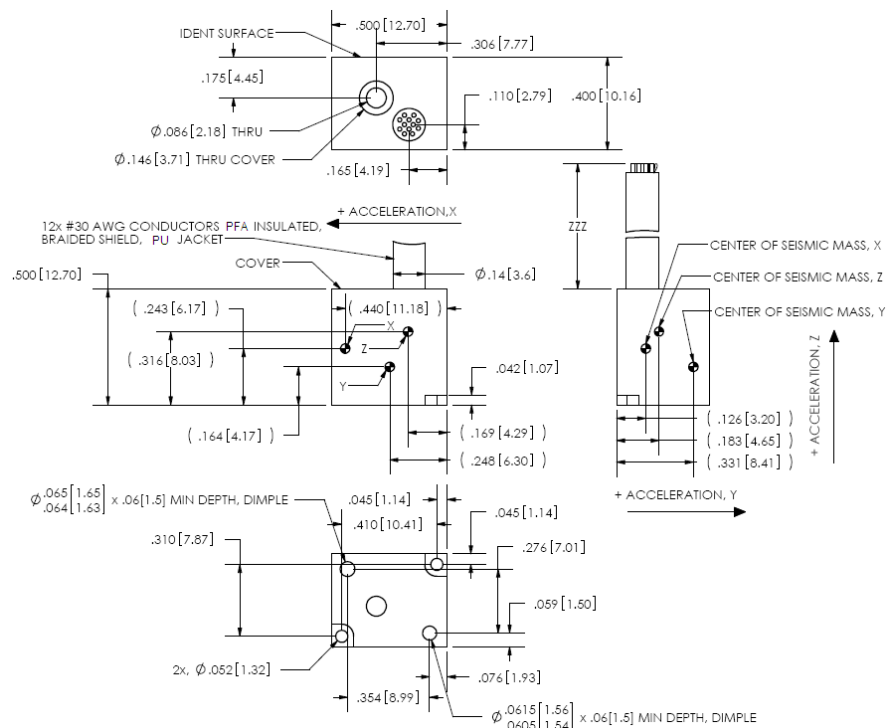
FEATURES

- Piezo-resistive MEMS Sensor
- 2-10 Vdc Excitation
- $\pm 50g$ to $\pm 2000 g$ Full Scale Range
- -20 to +85°C Operating Range
- $< \pm 50$ mV Zero Measurand Output
- Mechanical Overload Stops
- Replaceable Sensors

APPLICATIONS

- Auto Safety Testing
- Shock & Impact Testing
- Vehicle Testing
- Drop Testing

dimensions



Model 63 Accelerometer

performance specifications

All values are typical at $\pm 24^{\circ}\text{C}$, 100 Hz and 10 Vdc 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 | | | | | | | Notes |
|--|---|-----------|-----------|-----------|------------|------------|---------------------------------|
| DYNAMIC | | | | | | | |
| Range(g) | ± 50 | ± 100 | ± 200 | ± 500 | ± 1000 | ± 2000 | |
| Sensitivity (mV/g) ¹ | 2.0 | 1.5 | 0.9 | 0.45 | 0.15 | 0.15 | |
| Frequency Response (Hz), Z-Axis | 0-1000 | 0-1000 | 0-1200 | 0-2000 | 0-3000 | 0-3000 | $\pm 5\%$ |
| Frequency Response (Hz), X&Y Axis | 0-700 | 0-800 | 0-900 | 0-1500 | 0-1500 | 0-1500 | $\pm 5\%$ |
| Resonant Frequency (Hz) | 5000 | 6000 | 7000 | 12000 | 22000 | 26000 | |
| Damping Ratio | 0.5 | 0.5 | 0.5 | 0.3 | 0.05 | 0.05 | Typical |
| Shock Limit (g) | 5000 | 5000 | 5000 | 5000 | 7500 | 10000 | |
| Non-Linearity (% of reading) | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | |
| Transverse Sensitivity (%) | <3 | <3 | <3 | <3 | <3 | <3 | |
| ELECTRICAL | | | | | | | |
| Zero Acceleration Output (mV) | $\leq \pm 50$ | | | | | | |
| Excitation (Vdc) | 2 to 10 | | | | | | |
| Input Resistance (Ω) | 2400-6000 | | | | | | |
| Output Resistance (Ω) | 2400-6000 | | | | | | |
| Insulation Resistance (M Ω) | >100 | | | | | | @100Vdc |
| Residual Noise ($\mu\text{V RMS}$) | <10 | | | | | | |
| Ground Isolation | Isolated from mounting surface | | | | | | |
| ENVIRONMENTAL | | | | | | | |
| Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$) | ± 0.05 | | | | | | From 0 to $+50^{\circ}\text{C}$ |
| Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$) | ± 0.10 | | | | | | From 0 to $+50^{\circ}\text{C}$ |
| Operating Temperature ($^{\circ}\text{C}$) | -20 to +85 | | | | | | |
| Storage Temperature ($^{\circ}\text{C}$) | -20 to +85 | | | | | | |
| Humidity | Epoxy Sealed, IP61 | | | | | | |
| PHYSICAL | | | | | | | |
| Case & Cover Material | Stainless Steel | | | | | | |
| Cable (Integral 30 Foot Cable) | 12x #30 AWG Conductors PFA Insulated, Braided Shield, PU Jacket | | | | | | Cable Not Included |
| Weight (grams) | 7.0 | | | | | | Torque 3 lb-in |
| Mounting | 1x M2x0.4, 16mm Length Screw | | | | | | |

¹ Output is ratiometric to excitation voltage

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to $\pm 5\%$ Frequency Limit

Supplied accessories: AC-A02591 1x M2 x 0.4 (16mm length) Phillips Pan Head Screw & Washer

Optional accessories: 101 Three Channel DC Signal Conditioner Amplifier
140 Auto-Zero Inline Amplifier

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

ordering info

PART NUMBERING Model Number+Range+Cable Length

63-GGGG-CCC

I Cable (360 is 360 inches)
I Range (0500 is 500 g)

Example: 63-2000-072

Model 63, Standard Configuration: 2000g, 072" (6ft) cable