

Model 3700 Accelerometer



Shock & Impact Testing
Piezoresistive MEMS
mV Output
DC Response



The **Model 3700** is a MEMS piezoresistive shock accelerometer in a rugged stainless steel package. The accelerometer is available in ranges from is offered in ranges from ± 50 to $\pm 6000g$ and is ideal for long duration shock transient measurements. The accelerometer incorporates mechanical over-range stops and is packaged in an industry standard footprint.

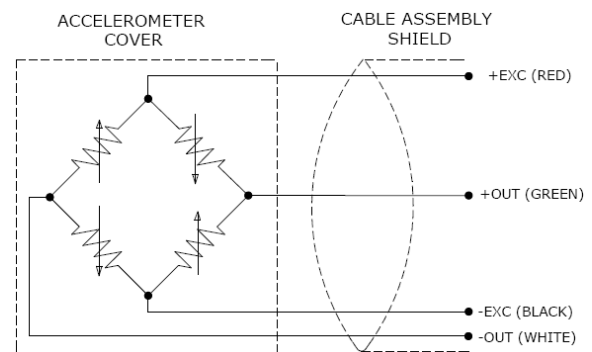
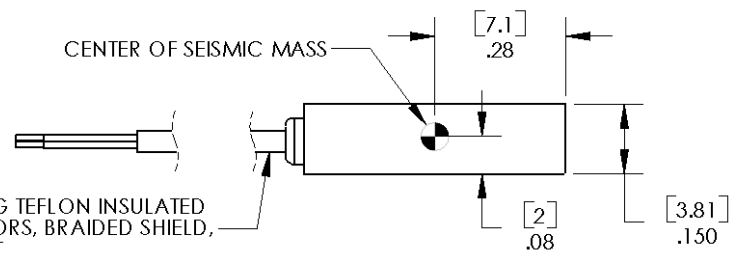
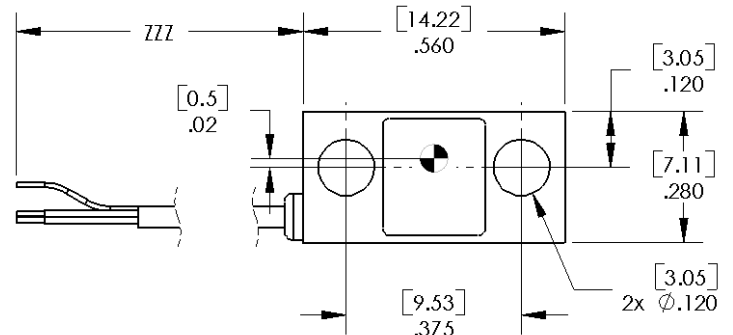
FEATURES

- $\pm 50g$ to $\pm 6000g$ Dynamic Range
- 10,000g Shock Protection
- Environmentally Sealed
- Gas Damping
- mV Output
- Stainless Steel Housing
- Bolt Mounted

APPLICATIONS

- Impact Testing
- Structural Testing
- Transient Shock Testing
- Auto Safety Applications

dimensions



Model 3700 Accelerometer

performance specifications

All values are typical at +24°C, 100Hz 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

	±50	±100	±200	±500	±2000	±6000	Notes
Range (g)	±50	±100	±200	±500	±2000	±6000	
Sensitivity (mV/g) ¹	2.0	0.9	0.7	0.4	0.15	0.08	@10Vdc Excitation
Frequency Response (Hz)	0-1000	0-1400	0-1500	0-2000	0-5000	0-5000	±5%
Natural Frequency (Hz)	4000	6000	8000	15000	24000	26000	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	±1.0	±2.0	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	
Damping Ratio	0.7	0.5	0.5	0.3	0.15	0.1	
Shock Limit (g)	10000	10000	10000	10000	10000	10000	

ELECTRICAL

Zero Acceleration Output (mV)	<±25						Differential
Excitation Voltage (Vdc)	2 to 10						
Input Resistance (Ω)	2400-6000						
Output Resistance (Ω)	2400-6000						
Insulation Resistance (MΩ)	>100						@50Vdc
Residual Noise (µV RMS)	<10						
Ground Isolation	Isolated from mounting surface						

ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.04						Typical
Thermal Sensitivity Shift (%/°C)	-0.15						Typical
Operating Temperature (°C)	-55 to +125						
Compensated Temperature (°C)	Uncompensated						
Storage Temperature (°C)	-55 to +125						
Humidity	Epoxy Sealed, IP65						

PHYSICAL

Case Material	Stainless Steel
Cable	4x #36 AWG Leads, Teflon Insulated, Braided Shield, PFA Jacket
Weight (grams)	2.1
Mounting	2x #4-40 or M3 Mounting Screws
Mounting Torque	8 lb-in (0.9 N-m)

¹ Output is ratiometric to excitation voltage

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

Supplied accessories: 2x #4-40 Mounting Screws (1/4 inch length)

Optional accessories: AC-D03249 Triaxial Mounting Block
 101 Three Channel DC Signal Conditioner Amplifier
 140 Auto-Zero Inline Amplifier

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ordering info

PART NUMBERING Model Number+Range+Cable Length

3700-XK-ZZZ

I | I _____ Cable (120 is 120 inches)
 I _____ Range (2K is 2000g)
 (500 is 500g)
 (050 is 50g)

Example: 3700-2K-120
 Model 3700, 2000g, 120" (10ft) Cable

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