

# MODEL 3700 ACCELEROMETER

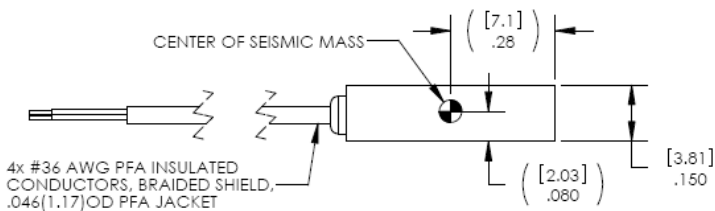
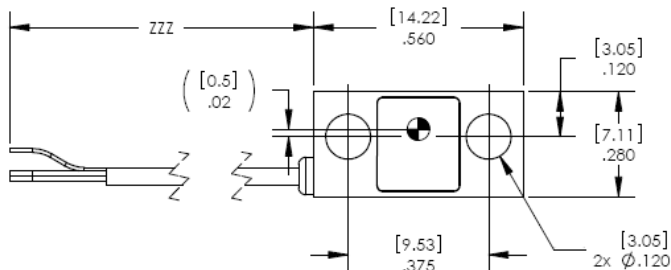


## SPECIFICATIONS

- ◆ Shock & Impact Testing
- ◆ Piezoresistive MEMS
- ◆ mV Output, DC Response
- ◆ Low Noise, Shielded Cable

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  $\pm 50$  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.

## dimensions

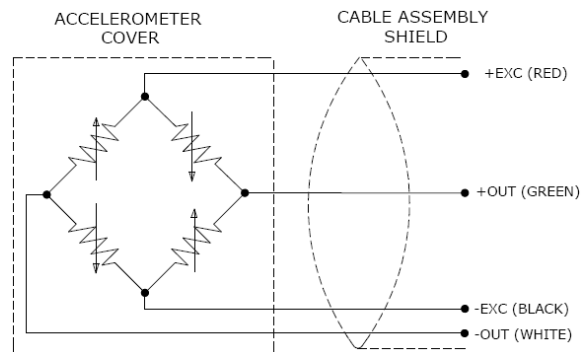


## FEATURES

- ◆  $\pm 50g$  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



**PERFORMANCE SPECIFICATIONS**

All values are typical at +24°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)	±50	±100	±200	±500	±2000	±6000	
Sensitivity (mV/g) <sup>1</sup>	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	±1/2dB
	0-1400	0-1800	0-1900	0-2800	0-7000	0-7000	±1dB
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	<1% Option
Damping Ratio	0.6	0.5	0.5	0.3	0.15	0.1	
Shock Limit (g)	10000	10000	10000	10000	10000	10000	
<b>ELECTRICAL</b>							
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						@100Vdc
Residual Noise (µV RMS)	<10						
Ground Isolation	Isolated from mounting surface						
<b>ENVIRONMENTAL</b>							
Thermal Zero Shift (%FSO/°C)	±0.04						Typical
Thermal Sensitivity Shift (%/°C)	-0.15						Typical
Operating Temperature (°C)	-55 to +125						
Storage Temperature (°C)	-55 to +125						
Humidity	Epoxy Sealed, IP65						
<b>PHYSICAL</b>							
Case Material	Stainless Steel						
Cable	4x #36 AWG Leads, PFA 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)						

<sup>1</sup> 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  
 121 3-Channel Precision Low Noise DC Amplifier  
 140A Auto-Zero Inline Amplifier

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## ORDERING INFO

<b>3700</b>	<b>GGG</b>	<b>ZZZ</b>
<b>Series Type</b>		
<b>Range</b>		
050=50g		
100=100g		
200=200g		
500=500g		
2K=2000g		
6K=6000g		
<b>Cable length</b>		
060=60 inches		
120=120 inches		
180=180 inches		
240=240 inches		
300=300 inches		
360=360 inches		
480=480 inches		
600=600 inches		
197=197 inches, 5 meters		
394=394 inches, 10 meters		

Example; 3700-100-060  
Model 3700,100g range, 60inch cable length

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