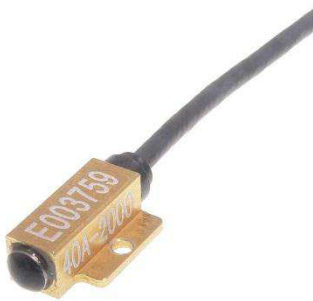
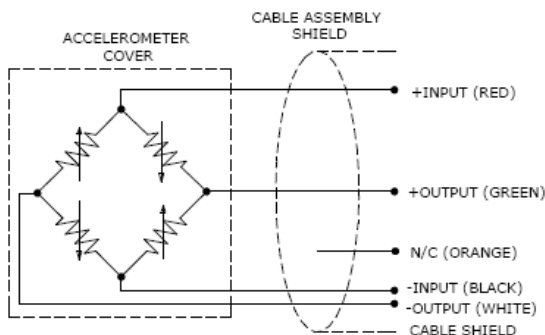
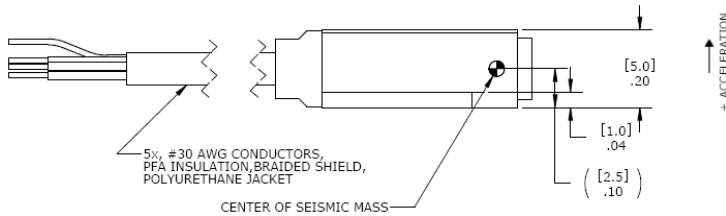
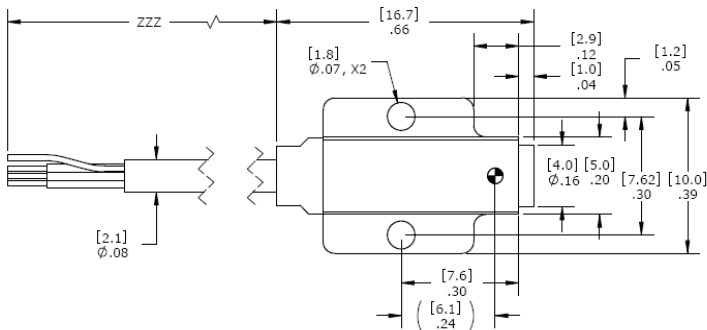


# MODEL 40A ACCELEROMETER



## DIMENSIONS



## SPECIFICATIONS

- $\pm 25g$  to  $\pm 2000g$  Dynamic Range
- Fluid Damped, DC Response
- Compliant to SAE J2570
- Temperature Compensated

The **Model 40A Accelerometer** is a small piezoresistive accelerometer designed to be compliant with the latest SAE J211/J2570 (AUG2009) specifications. This unit features built-in mechanical stops, anodized aluminum alloy housing and flexible cable output. The sensing element is fluid damped to extend useful frequency range and reduce the adverse effect of high frequencies ringing caused by sensor resonance

## FEATURES

- Silicon Piezoresistive Elements
- $\pm 25$  to  $\pm 2,000$  g Ranges
- 2-10 Vdc Excitation
- -20 to +80 °C Temperature Range
- Critically Damped Sensor
- Low Transverse Sensitivity
- $< \pm 20$  mV Zero Offset

## APPLICATIONS

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

**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	-0025	-0100	-0250	-0500	-1000	-2000	Notes
<b>DYNAMIC</b>							
Range(g)	±25	±100	±250	±500	±1000	±2000	
Sensitivity (mV/g) <sup>1</sup>	6.0	1.5	0.60	0.30	0.15	0.075	@10Vdc excitation
Frequency Response (Hz)	0-200	0-400	0-600	0-1100	0-1500	0-2500	+2.5%/-8%
	0-350	0-675	0-1100	0-2000	0-2700	0-4500	+2.5%/-20%
Natural Frequency (Hz)	>800	>1500	>2500	>4500	>6000	>10000	
Non-Linearity (% FS)	±1	±1	±1	±1	±1	±1	
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	Typical
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	
Shock Limit (g)	5000	10000	10000	10000	10000	10000	
<b>ELECTRICAL</b>							
Zero Acceleration Output (mV)	<±20						
Excitation (Vdc)	2 to 10						
Input Resistance (Ω)	2000						Typical
Output Resistance (Ω)	1000						Typical
Insulation Resistance (MΩ)	>100						@100Vdc
Ground Isolation	Isolated from mounting surface.						
<b>ENVIRONMENTAL</b>							
Thermal Zero Shift (%FSO/°C)	±0.05						From -10 to +50°C
Thermal Sensitivity Shift (%/°C)	±0.1						From -10 to +50°C
Operating Temperature (°C)	-20 to +80						
Storage Temperature (°C)	-20 to +80						
Humidity	Epoxy Sealed, IP61						
<b>PHYSICAL</b>							
Case Material / Cover Material	Anodized Aluminum						
Cable (Integral 30 Foot Cable)	5x #30 AWG Conductors, PFA Insulated, Braided Shield, PU Jacket						
Weight (grams)	<5						
Mounting	2x 0-80 x 3/16 socket head cap screws						
Mounting Torque	3 lb-in (0.7 N-m)						
<b>OPTION</b>							
Model 40L-GGGG-ZZZ	With transverse sensing direction (parallel to mounting surface)						

<sup>1</sup> Output is ratiometric to excitation voltage. Tolerance is +50%/-30%.

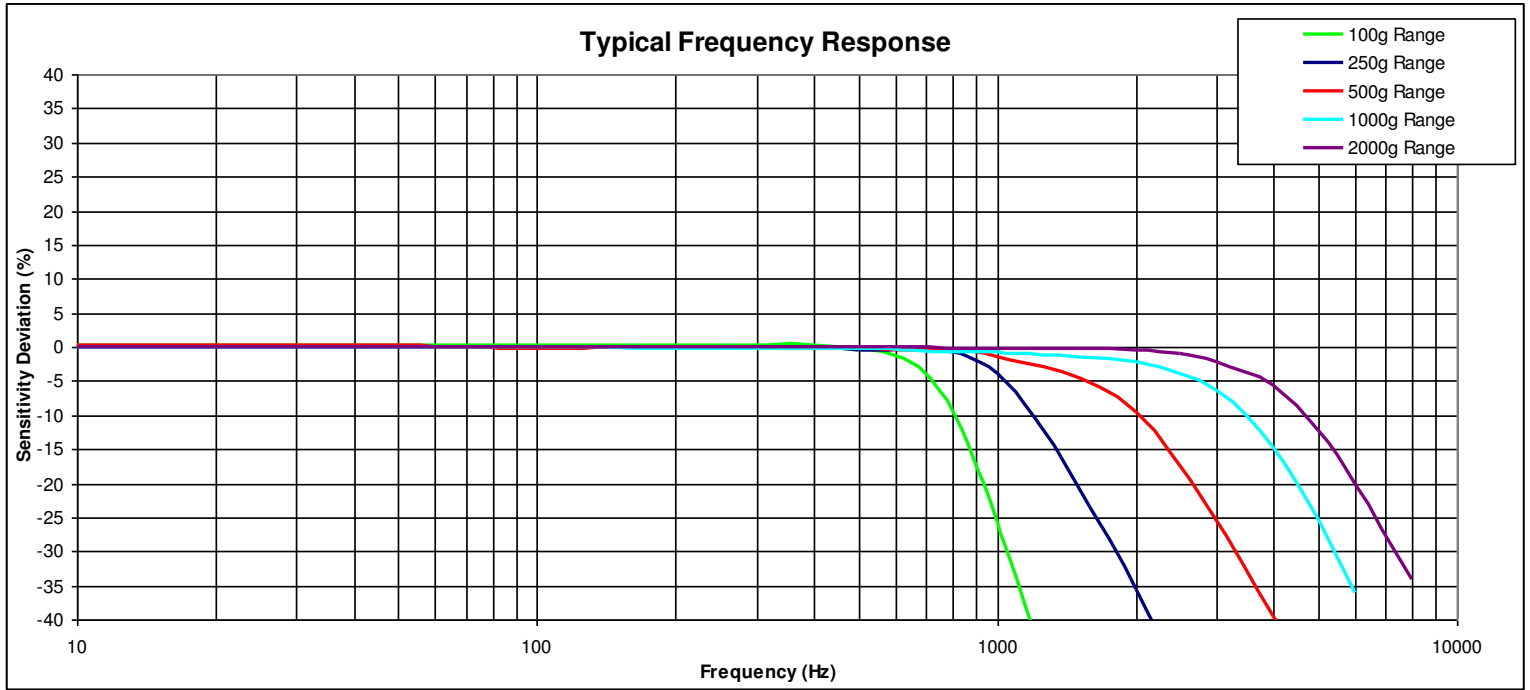
**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to Upper Frequency Limit

**Supplied accessories:** AC-A03923 2x #0-80 (3/16" length) Socket Head Cap Screw, 2x #0 Washer, 1x Allen Key

**Optional accessories:** MTG-E2 Triaxial Mounting Block  
 121 3-Channel Precision Low Noise DC Amplifier  
 140A Auto-zero Inline Amplifier

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# MODEL 40A ACCELEROMETER



## ORDERING INFORMATION

PART NUMBERING Model Number+Range +Cable Length+Options

40A-GGGG-ZZZT-XXX

| | | | Options (otherwise leave blank)  
 | | | 1% Transverse Sensitivity when "T" is present  
 | | Cable (360 is 360 inches)  
 | Range (0100 is 100 g)

Optional Dash Numbers  
 -001 5Vdc Calibration  
 -002 2Vdc Calibration

Example: 40A-2000-360  
 Model 40A, 2000g, 360" (30ft) Cable, No Options

Option: Model 40L-GGGG-ZZZ with transverse sensing direction (parallel to mounting surface)

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