

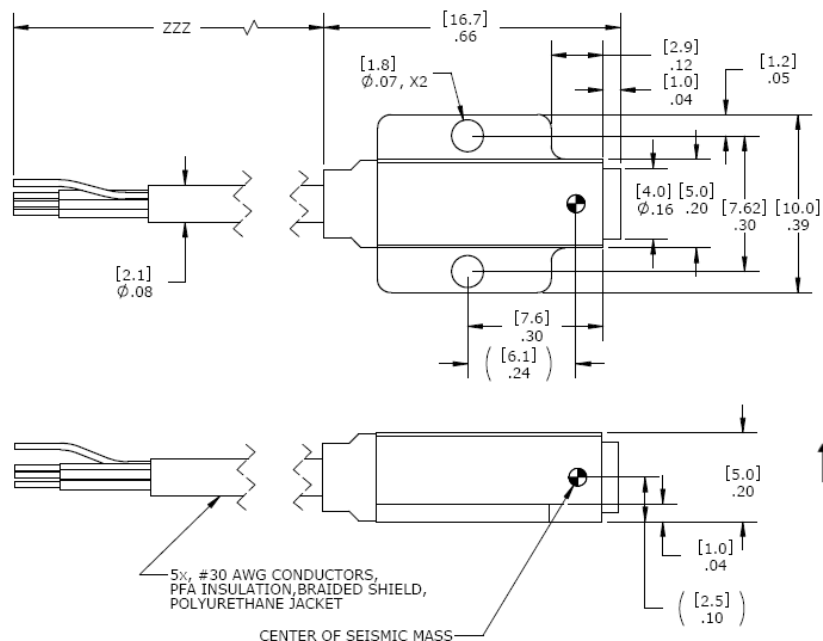
Model 40A Accelerometer

±100g to ±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.

dimensions

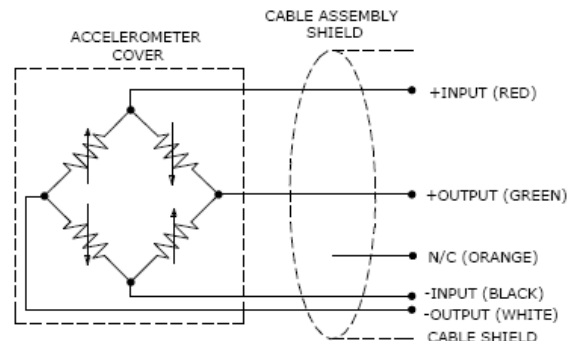


FEATURES

- Silicon Piezoresistive Elements
- ±100 to ±2,000 g Ranges
- 2-10 Vdc Excitation
- -20 to +80 °C Temperature Range
- Critically Damped Sensor
- Low Transverse Sensitivity
- <±10 mV Zero Offset

APPLICATIONS

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



Model 40A Accelerometer

performance specifications

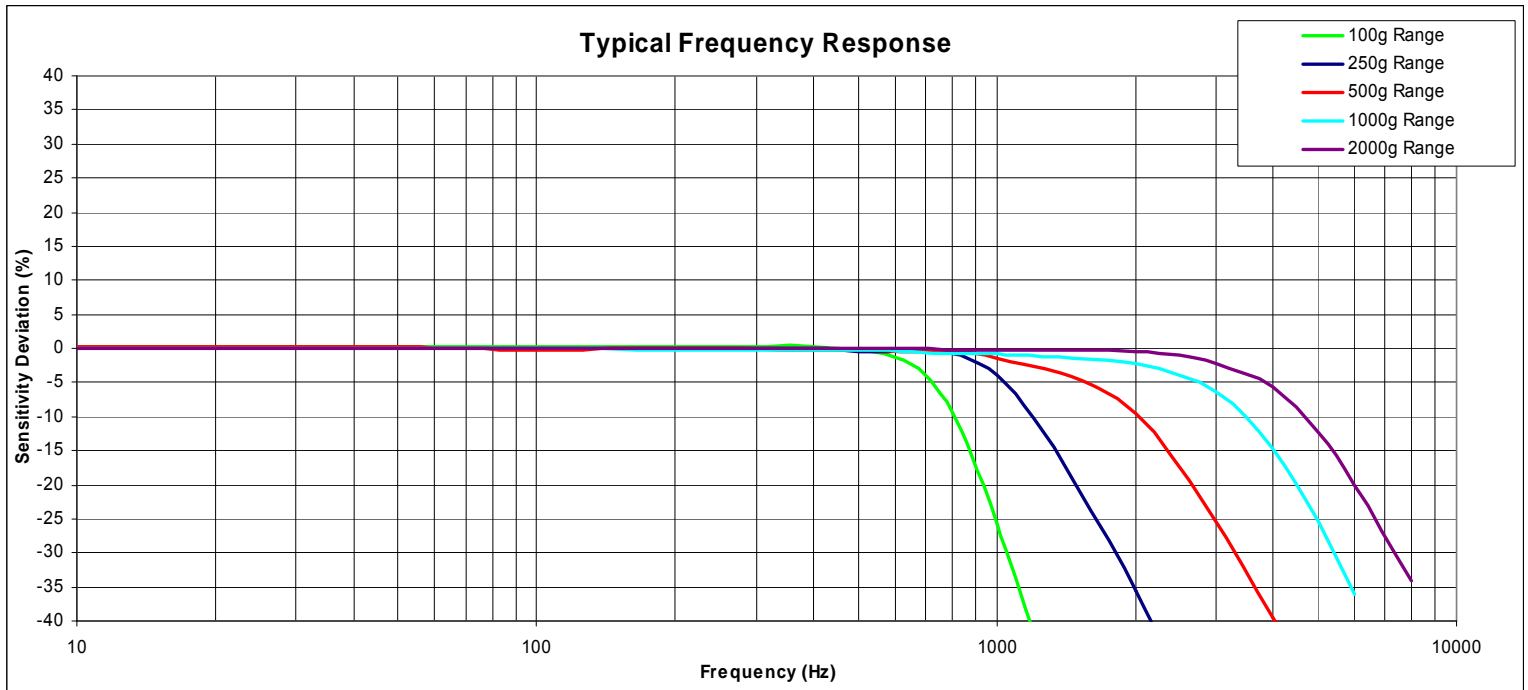
All values are typical at $\pm 24^{\circ}\text{C}$, 100 Hz and 10 Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

Parameters	-0100	-0250	-0500	-1000	-2000	Notes
DYNAMIC						
Range(g)	± 100	± 250	± 500	± 1000	± 2000	
Sensitivity (mV/g) ¹	1.5	0.60	0.30	0.15	0.075	@ 10Vdc excitation
Frequency Response (Hz)	0-400	0-600	0-1100	0-1500	0-2500	+2.5%/-8%
	0-675	0-1100	0-2000	0-2700	0-4500	+2.5%/-20%
Natural Frequency (Hz)	>1500	>2500	>4500	>6000	>10000	
Non-Linearity (% FS)	± 1	± 1	± 1	± 1	± 1	
Damping Ratio	0.7	0.7	0.7	0.7	0.7	Typical
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	
Shock Limit (g)	10000	10000	10000	10000	10000	
ELECTRICAL						
Zero Acceleration Output (mV)	$\leq \pm 10$					
Excitation (Vdc)	2 to 10					
Input Resistance (Ω)	2000					Typical
Output Resistance (Ω)	1000					Typical
Insulation Resistance (M Ω)	>100					@50Vdc
Ground Isolation	Isolated from mounting surface.					
ENVIRONMENTAL						
Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$)	± 0.05					From -10 to $+50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$)	± 0.1					From -10 to $+50^{\circ}\text{C}$
Operating Temperature ($^{\circ}\text{C}$)	-20 to +80					
Storage Temperature ($^{\circ}\text{C}$)	-20 to +80					
Humidity	Epoxy Sealed, IP61					
PHYSICAL						
Case Material / Cover Material	Anodized Aluminum					
Cable (Integral 30 Foot Cable)	4 x #30 AWG Conductors, PFA Insulated, Braided Shield, PU Jacket					
Weight (grams)	<5					Cable Not Included
Mounting	2x 0-80 x 3/16 socket head cap screws					Torque 3 lb-in
OPTION						
Model 40L-GGGG-CCC	With transverse sensing direction (parallel to mounting surface)					
¹ Output is ratiometric to excitation voltage. Tolerance is +50%/-30%.						
Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to $\pm 1\text{dB}$ Frequency Limit				
Supplied accessories:	AC-A03923	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				
	140	Auto-zero Inline Amplifier				

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performance specifications



ordering info

PART NUMBERING Model Number+Range +Cable Length

40A-GGGG-CCC

| | Cable (360 is 360 inches)
 | Range (0100 is 100 g)

Example: 40A-2000-360

Model 40A, 2000g, 360" (30ft) Cable

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