

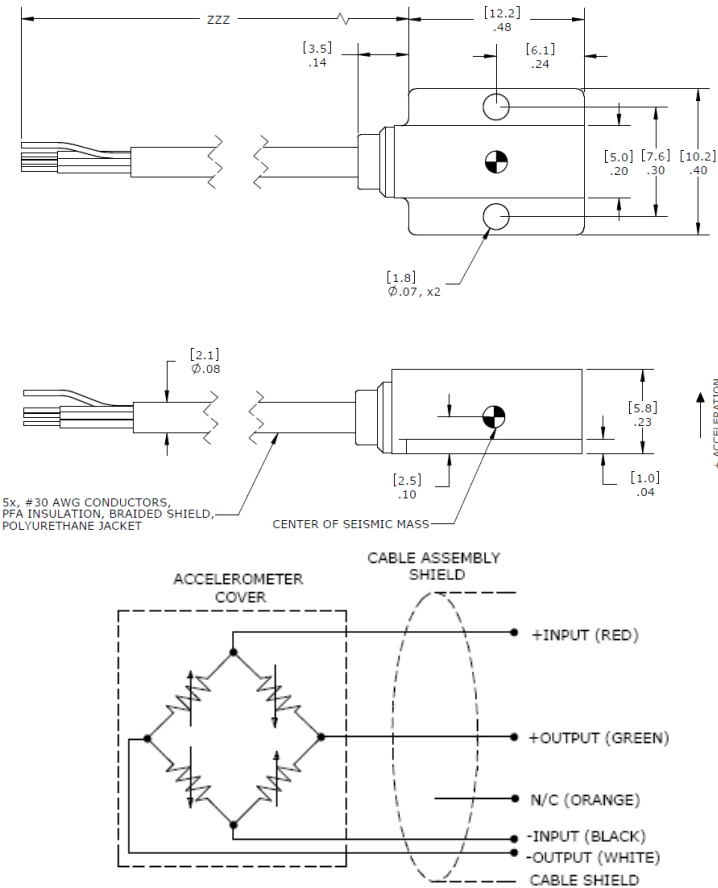
## MODEL 40B ACCELEROMETER

### SPECIFICATIONS

- $\pm 100g$  to  $\pm 2000g$  Dynamic Rang0065
- Fluid Damped, DC Response
- Compliant to SAE J2570
- Temperature Compensated

The **Model 40B 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
- $\pm 100$  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
- Pedestrian Impact Testing
- Dummy Instrumentation
- 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	-0100	-0250	-0500	-1000	-2000	Notes
<b>DYNAMIC</b>						
Range(g)	±100	±250	±500	±1000	±2000	
Sensitivity (mV/g) <sup>1</sup>	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	
<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					Cable Not Included
Mounting	2x 0-80 x 3/16 socket head cap screws					
Mounting Torque	3 lb-in (0.7 N-m)					
<b>OPTION</b>						
Model 40BL-GGGG-ZZZ	With transverse sensing direction (parallel to mounting surface)					

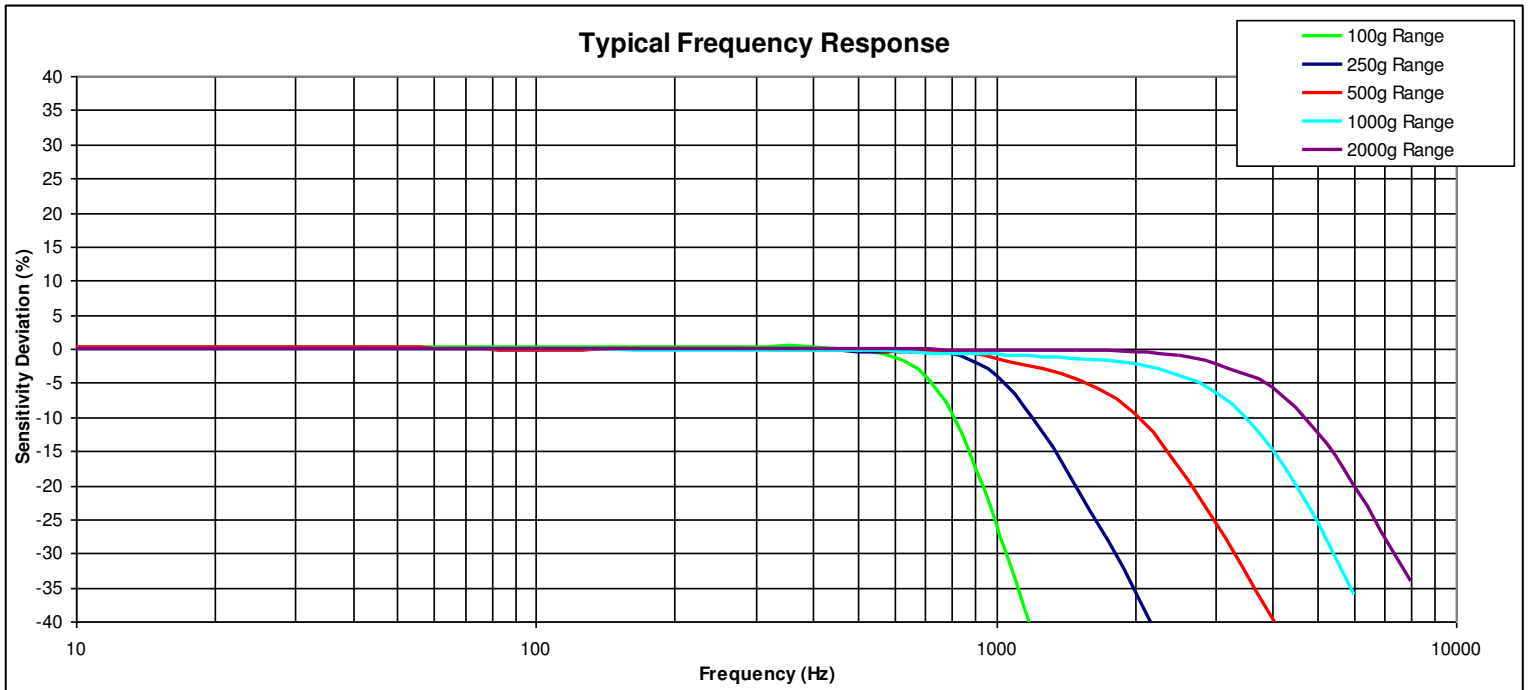
<sup>1</sup> Output is ratiometric to excitation voltage. Tolerance is +50%/-30%.

**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-E4 Triaxial Mounting Block  
 121 3-Channel Precision Low Noise DC Amplifier  
 140A Auto-zero Inline Amplifier

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**ORDERING INFORMATION**

PART NUMBERING Model Number+Range +Cable Length+Options

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

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

**NORTH AMERICA**

Measurement Specialties, Inc.,  
 a TE Connectivity Company  
 1000 Lucas Way  
 Hampton, VA 23666  
 Sales and Customer Service  
 Tel: +1-800-745-8008 or  
 +1-757-766-1500  
 Fax: +1-757-766-4297  
 t&m@meas-spec.com

**Stig Wahlström**  
 Automatik   
 Box 64, 123 22 FARSTA, Sweden  
 Phone:+46(0)8 683 33 00 Fax:+46[0]8 605 81 746  
 Visit us at [www.wahlstrom.se](http://www.wahlstrom.se)

**ASIA**

Measurement Specialties (China), Ltd.,  
 a TE Connectivity Company  
 No. 26 Langshan Road  
 Shenzhen High-Tech Park (North)  
 Nanshan District, Shenzhen 518057  
 China  
 Sales and Customer Service  
 Tel: +86 755 3330 5088  
 Fax: +86 755 3330 5099  
 t&m@meas-spec.com

**TE.com/sensorsolutions**

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