

# MODEL 64B ACCELEROMETER

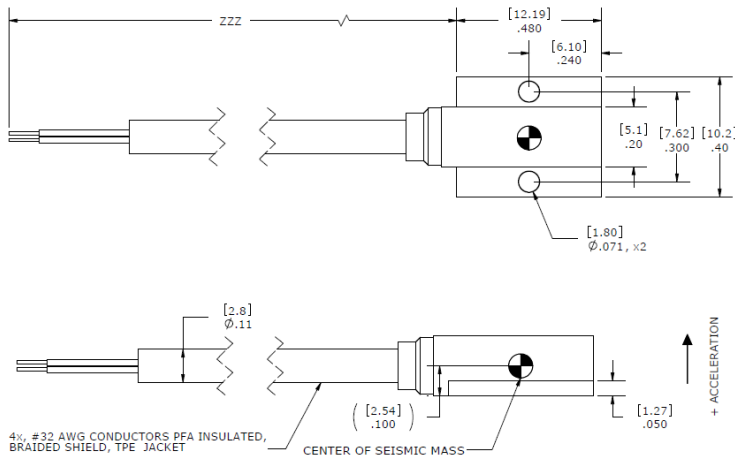


## SPECIFICATIONS

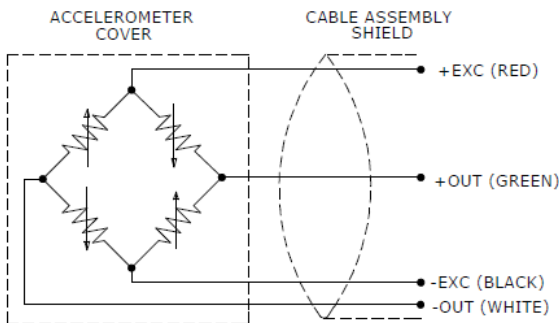
- ◆ DC Response Accelerometer
- ◆ Durable Low Noise Cable
- ◆ Environmentally Sealed
- ◆ SAE J2570 Compliant

The Model 64B Accelerometer is based on an advanced piezoresistive MEMS sensing element which offers exceptional dynamic range and stability. This unit features a full bridge output configuration with a temperature range from 0 to +50° C. A slight amount of internal gas damping provides outstanding shock survivability and a flat amplitude and phase response up to 7kHz. The Model 64B is compliant with SAE J211 standards for anthropomorphic dummy instrumentation.

## DIMENSIONS



4x, #32 AWG CONDUCTORS PFA INSULATED, BRAIDED SHIELD, TPE JACKET



## FEATURES

- ◆ Piezoresistive MEMS Sensor
- ◆  $\pm 50g$  to  $\pm 6,000g$  Ranges
- ◆ 2-10 Vdc Excitation
- ◆ 0-50°C Temperature Range
- ◆ Low Noise Jacketed Cable
- ◆ 1% Transverse Sensitivity Option
- ◆  $< \pm 25$  mV Zero Offset

## APPLICATIONS

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



**PERFORMANCE SPECIFICATIONS**

All values are typical at  $\pm 24^{\circ}\text{C}$ , 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

**Parameters**

**DYNAMIC**

	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$	$\pm 2000$	$\pm 6000$	<b>Notes</b>
Range(g)	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$	$\pm 2000$	$\pm 6000$	
Sensitivity (mV/g) <sup>1</sup>	2	0.9	0.8	0.4	0.15	0.10	
Frequency Response (Hz)	0-400	0-500	0-600	0-800	0-3000	0-3000	$\pm 2\%$
	0-1000	0-1200	0-1400	0-2000	0-5000	0-5000	$\pm 1/2\text{dB}$
	0-1400	0-1500	0-1900	0-2800	0-7000	0-7000	$\pm 1\text{dB}$
Resonant Frequency (Hz)	4000	6000	8000	15000	26000	26000	
Damping Ratio	0.5	0.5	0.5	0.3	0.05	0.05	Typical
Shock Limit (g)	5000	5000	5000	10000	10000	10000	
Non-Linearity (% of reading)	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	
Transverse Sensitivity (%)	$<3$	$<3$	$<3$	$<3$	$<3$	$<3$	$<1\%$ Option

**ELECTRICAL**

Zero Acceleration Output (mV)	$<\pm 25$						$<\pm 10\text{mV}$ Option
Excitation (Vdc)	2 to 10						
Input Resistance ( $\Omega$ )	2400-6000						
Output Resistance ( $\Omega$ )	2400-6000						
Insulation Resistance (M $\Omega$ )	$>100$						@100Vdc
Residual Noise ( $\mu\text{V RMS}$ )	$<10$						
Ground Isolation	Isolated from mounting surface						

**ENVIRONMENTAL**

Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ )	$\pm 0.04$						From 0 to $+50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ )	$-0.20 \pm 0.05$						From 0 to $+50^{\circ}\text{C}$
Operating Temperature ( $^{\circ}\text{C}$ )	-40 to $+121$						
Storage Temperature ( $^{\circ}\text{C}$ )	-40 to $+121$						
Humidity	Epoxy Sealed, IP65						

**PHYSICAL**

Case & Cover Material	Anodized Aluminum						
Cable (Integral 30 Foot Cable)	4x #32 AWG Conductors PFA Insulated, Braided Shield, TPE Jacket						
Weight (grams)	1.0						Cable Not Included
Mounting	2x #0-80 x 3/16" Socket Head Cap Screws						Torque 3 lb-in

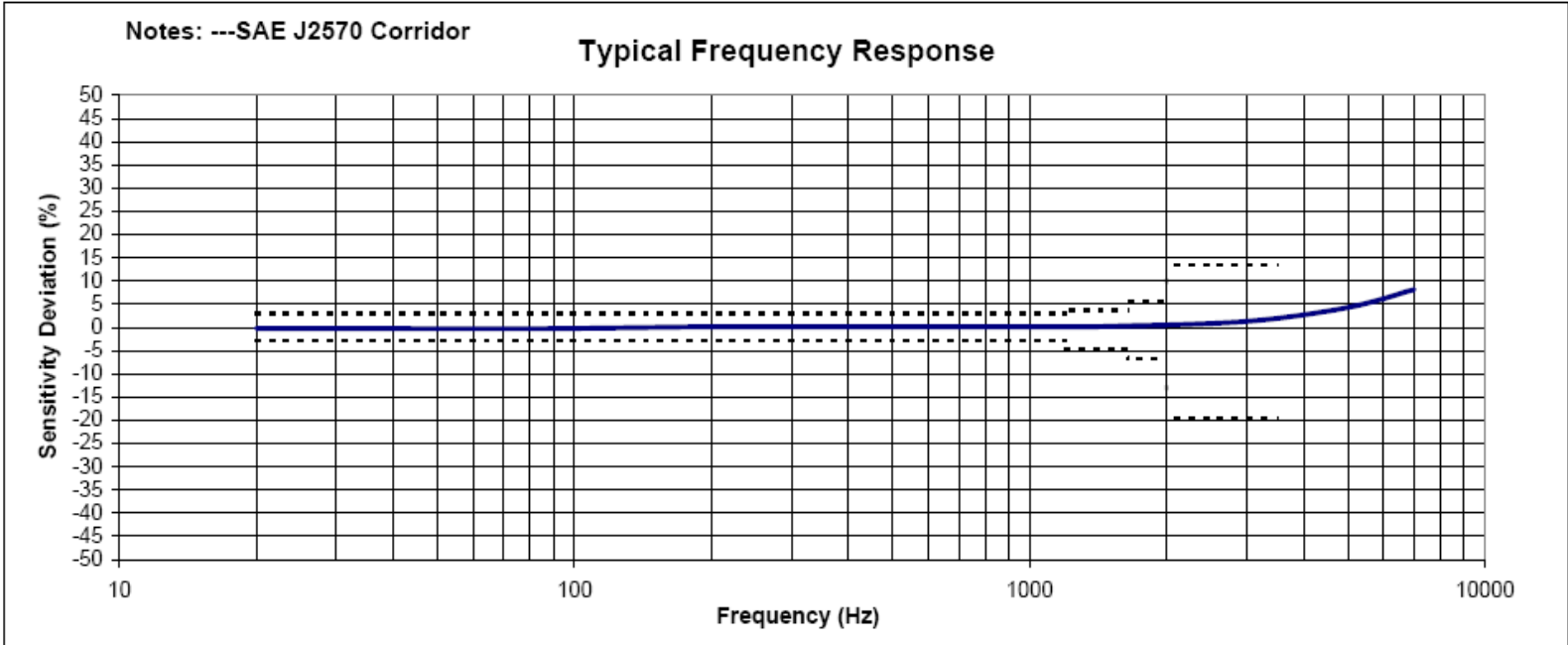
<sup>1</sup> Output is ratiometric to excitation voltage

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to  $\pm 1\text{dB}$  Frequency Limit

**Supplied accessories:** AC-A02053 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

64B-GGGG-CCCT-ZZZ

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

Optional Dash Numbers  
 -001 5Vdc Calibration  
 -004 ZMO <10mV  
 -005 2Vdc Calibration

Example: 64B-2000-360  
 Model 64B, 2000g, 360" (30ft) Cable), No Options.



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