

# Model 64 Accelerometer



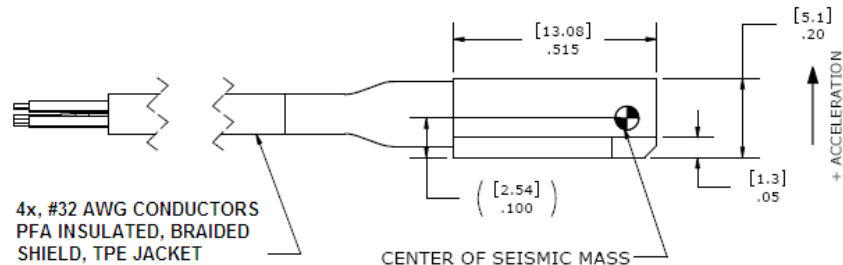
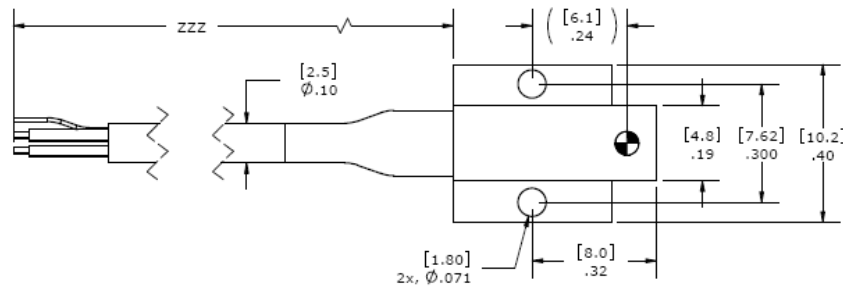
DC Response Accelerometer  
Durable Low Noise Cable  
Small Package  
SAE J2570 Compliant



## The Model 64 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 compensated 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 64 is compliant with SAE J211 standards for anthropomorphic dummy instrumentation.

## dimensions

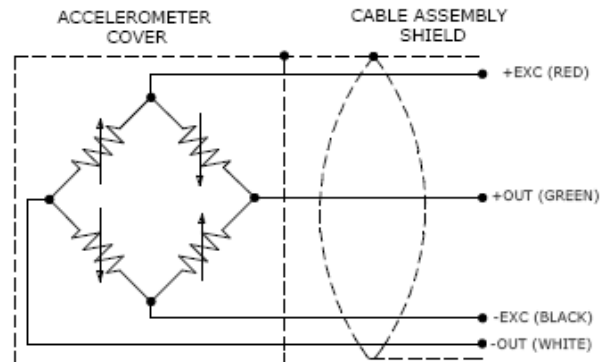


## FEATURES

- Piezoresistive MEMS Sensor
- ±50g to ±6,000g Ranges
- 2-10 Vdc Excitation
- -40 to +121°C Temp Range
- Low Noise Jacketed Cable
- 1% Transverse Sensitivity Option
- <±25 mV Zero Offset

## APPLICATIONS

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



# Model 64 Accelerometer

## performance specifications

All values are typical at  $\pm 24^{\circ}\text{C}$ , 100 Hz and 10Vdc 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

#### DYNAMIC

	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$	$\pm 2000$	$\pm 6000$	Notes
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	$\pm 2\%$ ( $\pm 3\%$ for 2000g/6000g)
	0-1000	0-1200	0-1400	0-2000	0-5000	0-5000	$\pm 1/2\text{dB}$ ( $\pm 7\%$ for 2000g/6000g)
	0-1400	0-1500	0-1900	0-2800	0-7000	0-7000	$\pm 1\text{dB}$ ( $\pm 13\%$ for 2000g/6000g)
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)	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	
Repeatability (Equiv. g)	$<0.2$	$<0.2$	$<0.2$	$<0.2$	$<0.2$	$<0.2$	After full scale shock
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 ( $\text{M}\Omega$ )	$>100$						@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, IP61						

#### PHYSICAL

Case & Cover Material	Anodized Aluminum Case, Brass Cover						
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

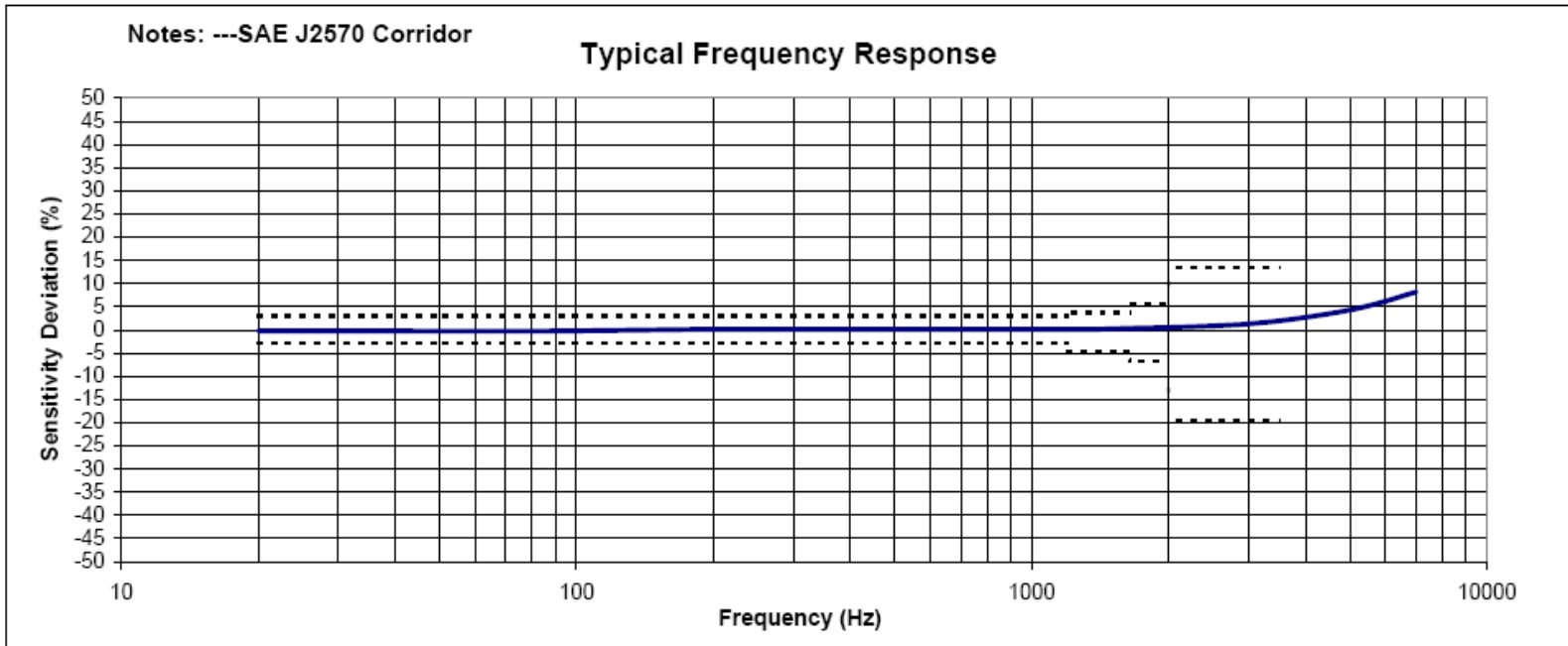
**Supplied accessories:** AC-A02053 2x #0-80 (3/16 length) Socket Head Cap Screw, 2x #0 Washer, 1x Allen Key

**Optional accessories:** MTG-E4 Triaxial Mounting Block  
121 3-Channel Precision Low Noise DC Amplifier  
140 Auto-Zero Inline Amplifier

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# Model 64 Accelerometer

## performance specifications



## ordering info

PART NUMBERING Model Number+Range+Excitation+Cable Length+Options

64-GGGG-YY-CCCT-XY

| | | | | Connector Options (otherwise leave as 'XY')

| | | | | 1% Transverse Sensitivity when "T" is present.

| | | | | Cable (360 is 360 inches)

| | | | | Excitation Voltage (10 is 10Vdc)

| | | | | Range (0100 is 100g)

Example: 64-2000-10-360-XY

Model 64, Standard Configuration: 2000g, 10V Excitation, 360" (30ft) Cable, No Options.