



## MODEL 64B CRASH TEST ACCELEROMETER

### Specifications

- Next Generation Crash Test Accelerometer
- Advanced Piezoresistive MEMS Sensor
- Excellent Accuracy in Crash Testing
- Compliant to SAE J211/J2570
- Compliant to ISO 6487
- $\pm 50g$  to  $\pm 6000g$  Dynamic Range
- Mechanical Over Range Stops

### Features

- Standard  $<3\%$  Transverse Sensitivity
- Wide bandwidth to  $>8kHz$
- Standard  $<20mV$  ZMO
- Linearity  $<1\%$
- 10,000g Shock Protection
- 2-10Vdc Excitation
- IP66 Environmentally Sealed
- Optimum Gas Damping
- $<10sec$  Warm-Up Time

### Applications

- Anthropomorphic Dummy Instrumentation
- Crush Zone Testing
- Pedestrian Impact Testing
- Auto Safety Testing Applications
- Shock and Impact Testing
- Transient Drop Testing

The TE Connectivity model 64B is an exceptional piezoresistive MEMS accelerometer designed for both crush zone and anthropomorphic dummy instrumentation. The accelerometer features a full bridge output configuration with ideal gas damping tailored for outstanding shock survivability and a flat frequency response to  $>8kHz$ . The model 64B accelerometer has a standard cross-talk accuracy of  $<3\%$  (with option for  $<1\%$ ), a standard ZMO of  $\pm 25mV$  and a linearity accuracy specification of  $\pm 1.0\%$ .

The model 64B crash test accelerometer is offered in ranges from  $\pm 50$  to  $\pm 6000g$  and has a standard operating temperature range of  $-40^{\circ}C$  to  $+121^{\circ}C$ . The sensor is fully encapsulated in Stycast for IP66 environmental protection rating. The nominal  $4000\Omega$  bridge impedance limits current draw resulting in quick warm-up time and minimal drift, unlike lower impedance designs on the market which are subject to much longer warm-up time due to gage heating effects.

TE Connectivity also supplies the calibration data in a user friendly excel format which enables high volume users to quickly upload the calibration information for each sensor installed.

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## MODEL 64B ACCELEROMETER

### Performance Specifications

All values are typical at +24°C, 80Hz and 10Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

#### PARAMETERS

DYNAMIC							NOTES
Range (g)	±50	±100	±200	±500	±2000	±6000	
Sensitivity (mV/g) <sup>1</sup>	1.2-3.0	0.6-1.2	0.6-1.2	0.3-0.6	0.12-0.3	0.05-0.12	@10Vdc Excitation
Frequency Response (Hz)	0-1000	0-1200	0-1400	0-2000	0-6000	0-6000	±5%
	0-1400	0-1600	0-1900	0-2800	0-8000	0-8000	±1dB
Natural Frequency (Hz)	4000	6000	8000	15000	26000	28000	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<1% on 'T' Option
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	±1	
Damping Ratio	0.5	0.5	0.5	0.3	0.15	0.10	
Shock Limit (g)	10000	10000	10000	10000	10000	10000	

#### ELECTRICAL

Zero Acceleration Output (mV)	<±25						Differential
Excitation Voltage (Vdc)	2 to 10						
Input Resistance (Ω)	3500-4500						
Output Resistance (Ω)	3500-4500						
Insulation Resistance (MΩ)	>100						@100Vdc
Residual Noise (μV RMS)	<10						
Ground Isolation	Isolated from mounting surface						
Warm-up Time	<10 seconds						@10Vdc Excitation

#### ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.04						From 0 to +50°C
Thermal Sensitivity Shift (%/°C)	-0.20 ±0.05						From 0 to +50°C
Operating Temperature (°C)	-40 to +121						
Humidity	Epoxy Sealed, IP66						

#### PHYSICAL

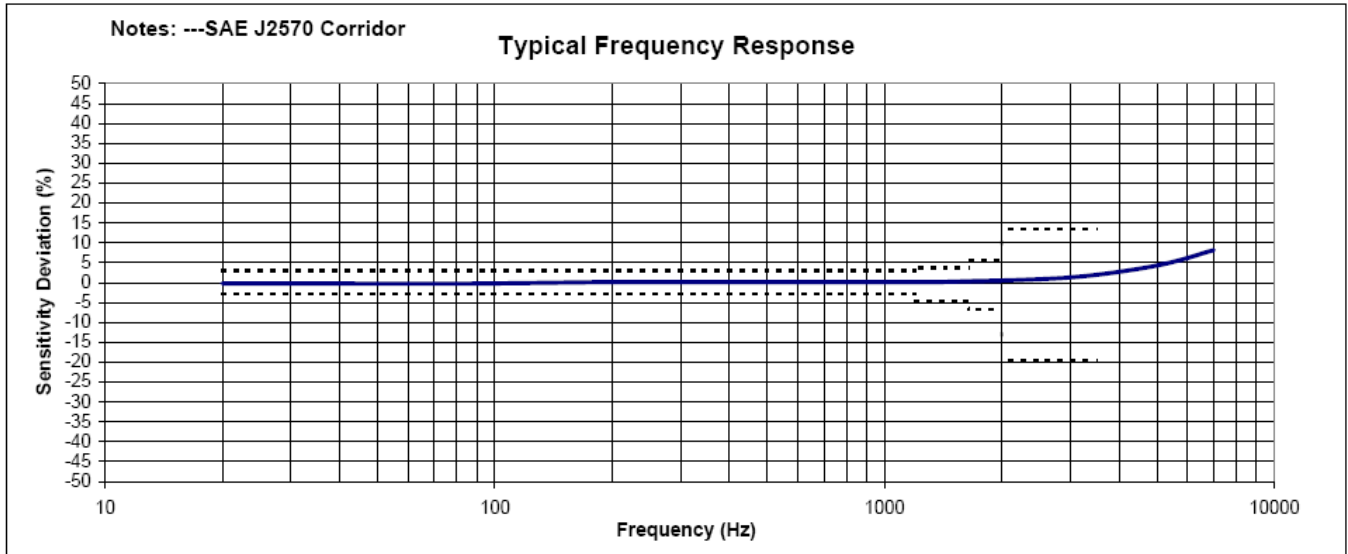
Case Material	Anodized Aluminum, Black						
Cable	4x #32 AWG Leads, PFA Insulated, Braided Shield, TPE Jacket						
Weight (grams)	1.0						Cable not included
Mounting	2x #0-80 x 1/4" Socket Head Cap Screws						

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

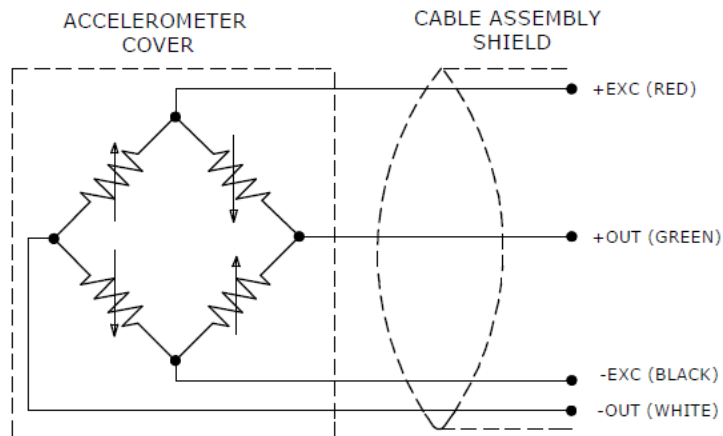
<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Limit
<b>Optional accessories:</b>	MTG-E4 121	Triaxial Mounting Block 3-Channel Precision Low Noise DC Amplifier

# MODEL 64B ACCELEROMETER

## Typical Frequency Response



## Schematic





# MODEL 64B ACCELEROMETER

## Ordering Information

<b>64B</b>	<b>GGGG</b>	<b>ZZZ</b>	<b>T</b>	<b>XXX</b>
<b>Range</b> 0050 = 50g 0100 = 100g 0200 = 200g 0500 = 500g 2000 = 2000g 6000 = 6000g				
<b>Cable length</b> 240 = 240 inches, 20 feet 360 = 360 inches, 30 feet 276 = 276 inches, 7 meters				
<b>Transverse Sensitivity Option</b> Blank = <3% T = <1%				
<b>Excitation Voltage Option</b> Blank = 10Vdc 001 = 5Vdc 005 = 2Vdc				

Example;64B-2000-360  
Model 64B, 2000g range, 360inch (30ft) cable length

Example;64B-0500-276T-001  
Model 64B, 500g range, 276inch (7m) cable length, <1% transverse sensitivity option, 5V calibration

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