

MODEL 64B CRASH TEST ACCELEROMETER



SPECIFICATIONS

- Advance Piezoresistive MEMS Sensor
- Next Generation Piezoresistive MEMS Sensor
- $\pm 50g$ to $\pm 6000g$ Ranges
- Compliant to SAE-J211/J2570
- Compliant to ISO-6487
- High Over Range Protection

APPLICATIONS

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

FEATURES

- 1% Transverse Sensitivity Option
- Wide bandwidth to $>8kHz$
- Standard $<25mV$ ZMO
- Linearity $<1\%$
- 10,000g Shock Protection
- 2-10Vdc Excitation
- IP65 Environmentally Sealed
- Optimum Gas Damping
- Quick Warm-up Time

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 ± 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 IP65 environmental protection rating. The nominal 4000Ω 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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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) ¹	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	11000	28000	28000	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<1% on 'T' Option
Non-Linearity (% of reading)	±1	±1	±1	±1	±1	±1	
Damping Ratio	0.5	0.5	0.5	0.3	0.15	0.15	
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	<30 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, IP65	

PHYSICAL

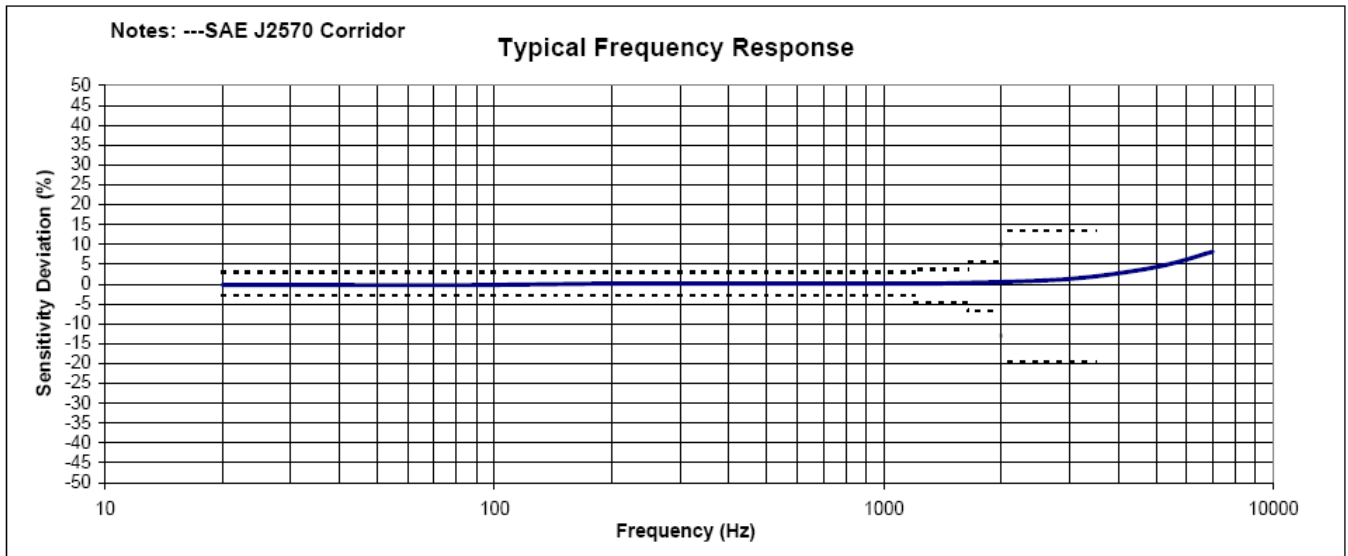
Case Material	Anodized Aluminum, Black	
Cable	4x #32 AWG Leads, PFA Insulated, Braided Shield, Polyurethane Jacket	
Weight (grams)	1.0	Cable not included
Mounting	2x #0-80 x 1/4" Socket Head Cap Screws	

¹ Output is ratiometric to excitation voltage

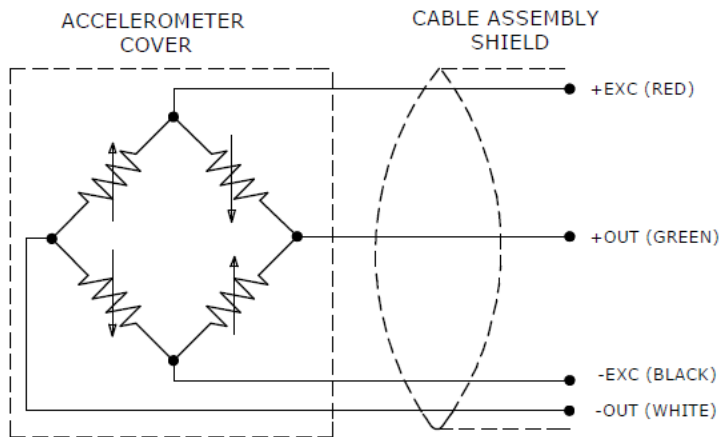
Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±1/2dB Frequency Limit
Optional accessories:	MTG-E4 121 140A	Triaxial Mounting Block 3-Channel Precision Low Noise DC Amplifier Auto-Zero Inline Amplifier

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TYPICAL FREQUENCY RESPONSE

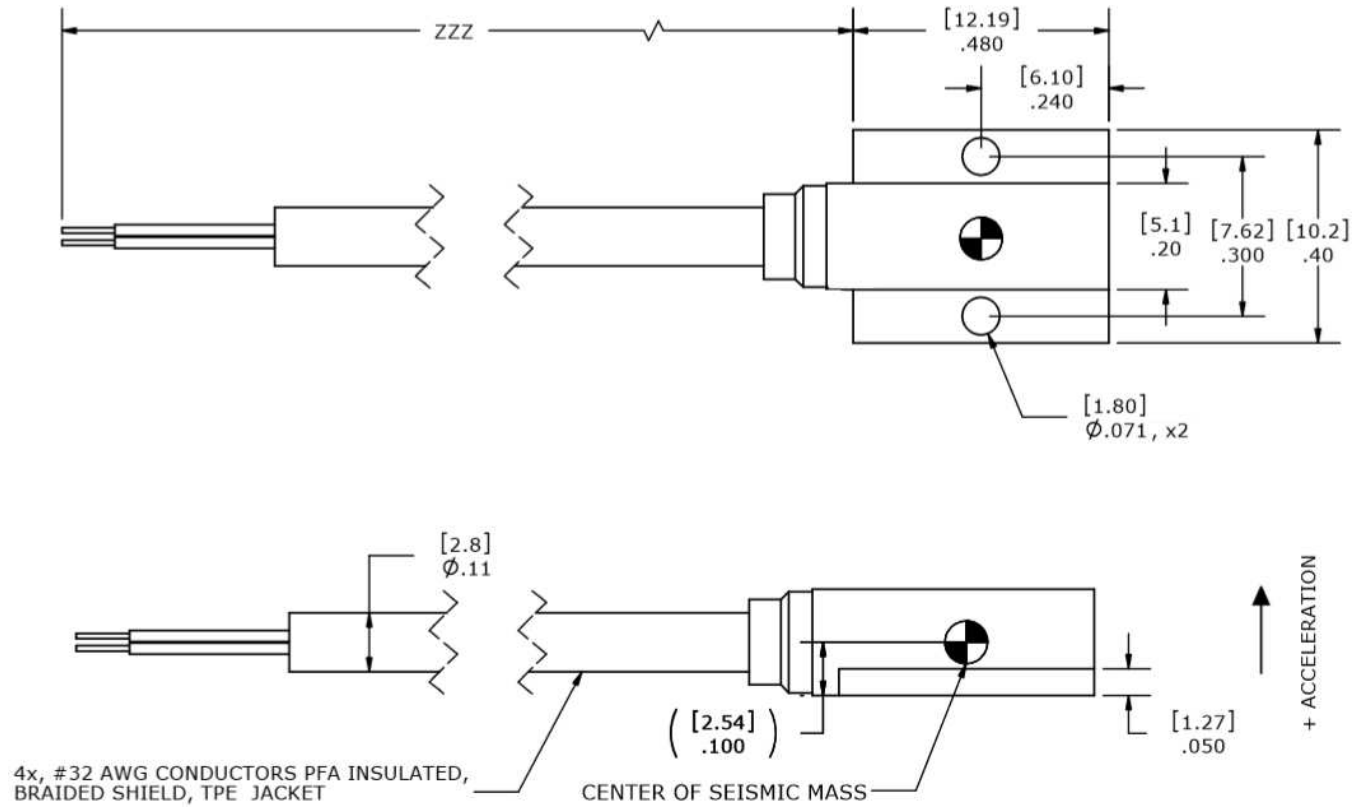


SCHEMATIC

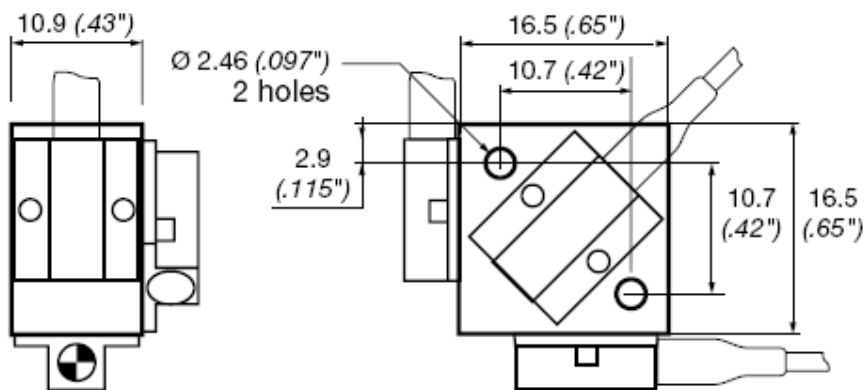


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DIMENSIONS



TRIAxIAL MOUNTING BLOCK



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ORDERING INFORMATION

64B	GGGG	ZZZ	T	XXX
Range 0050 = 50g 0100 = 100g 0200 = 200g 0500 = 500g 2000 = 2000g 6000 = 6000g				
Cable length 240 = 240 inches, 20ft 300 = 300 inches, 25ft 360 = 360 inches, 30ft 197 = 197 inches, 5 meters 276 = 276 inches, 7 meters 394 = 394 inches, 10 meters				
Transverse Sensitivity Option Blank = <3% T = <1%				
Excitation Voltage Option 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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