MODEL 64B CRASH TEST ACCELEROMETER

SPECIFICATIONS

- **Advance Piezoresistive MEMS Sensor**
- **Next Generation Piezoresistive MEMS Sensor**
- **±50g to ±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 <±25mV and a linearity accuracy specification of <±1.0%.

The model 64B crash test accelerometer is offered in ranges from ±50 to ±6000g and has a standard operating temperature range of -40°C to +121°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.

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 0-1400	0-1200 0-1600	0-1400 0-1900	0-2000 0-2800	0-6000 0-8000	0-6000 0-8000	±5% ±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

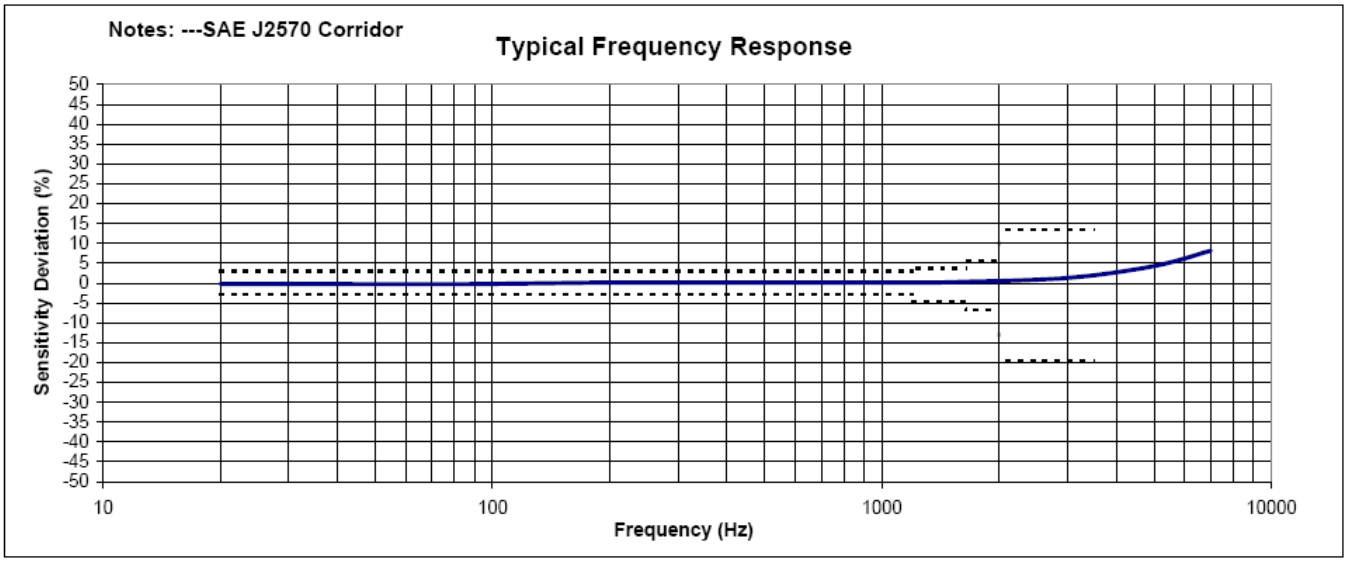
ENVIRONMENTAL		
Thermal Zero Shift (%FSO/°C)	±0.04	From 0 to +50°C
Thermal Sensitivity Shift (%/°C)	-0.20 ±0.05	From 0 to +50°C
Operating Temperature (°C)	-40 to +121	
Humidity	Epoxy Sealed, IP65	

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	

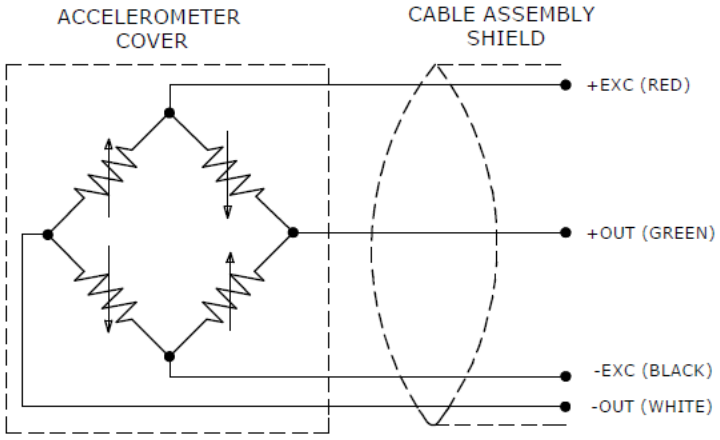
[1] Output is ratiometric to excitation voltage

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

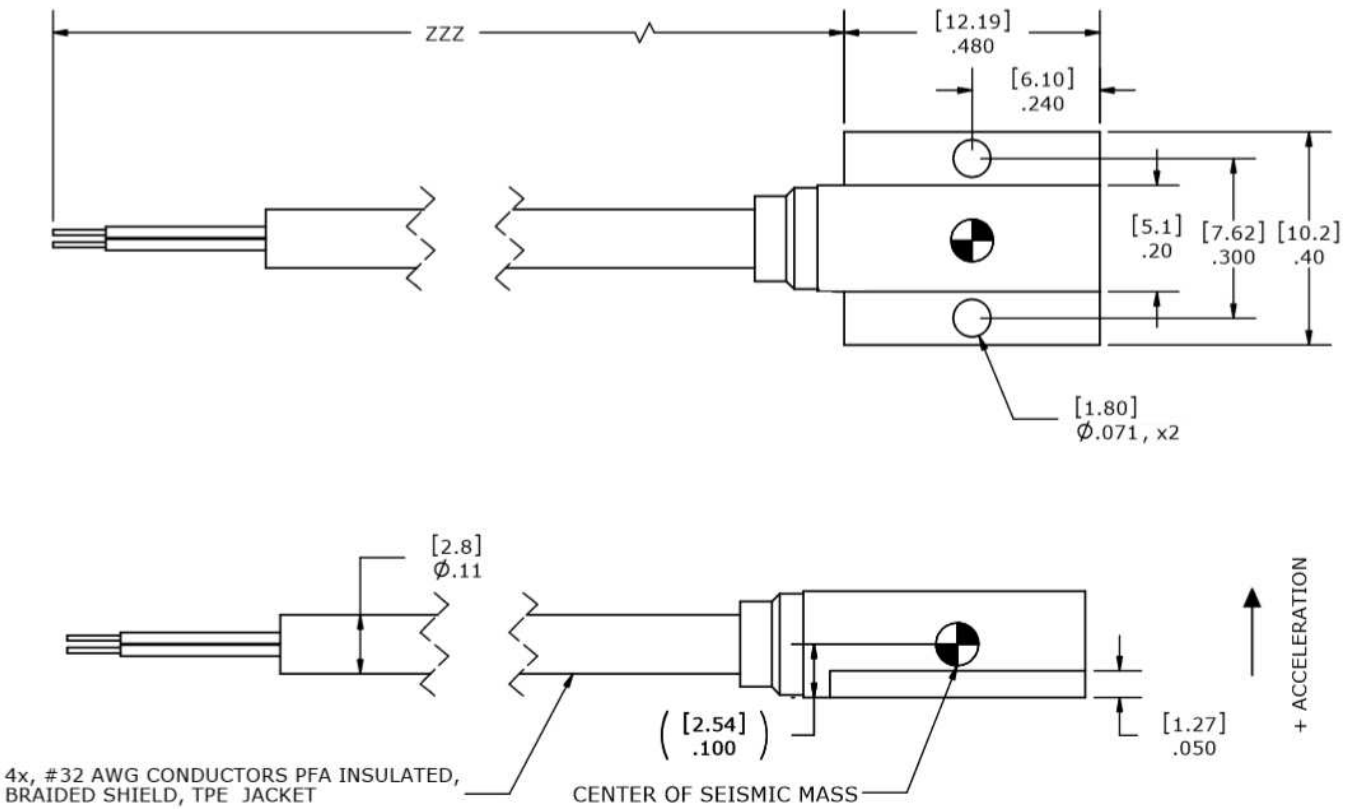
TYPICAL FREQUENCY RESPONSE



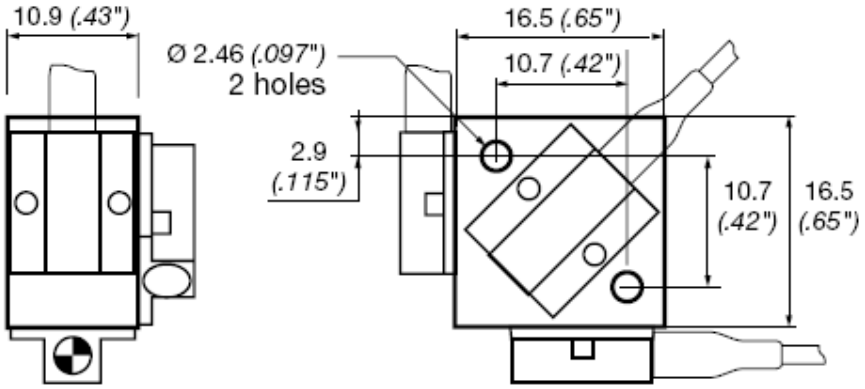
SCHEMATIC



DIMENSIONS



TRIAXIAL MOUNTING BLOCK



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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