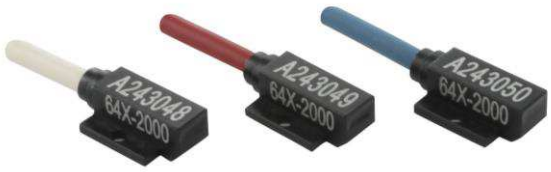
te.com

MODEL 64X CRASH TEST ACCELEROMETER



Specifications

- Next Generation Crash Accelerometer
- Advanced Piezoresistive MEMS Sensor
- Excellent Accuracy in Crash Testing
- Compliant to SAE J211/J2570
- Compliant to ISO 6487
- ±50g to ±6000g Dynamic Range
- Color Coded Cable to g-Range

Features

- Standard <2% Transverse Sensitivity
- Wide bandwidth to >8kHz
- Standard <20mV ZMO
- Linearity <0.7%
- 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 64X is the most advanced accelerometer ever released for 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 64X accelerometer has a standard cross-talk accuracy of <2% (with option for <1%), a standard ZMO of <±20mV and a linearity accuracy specification of <±0.70%.

The model 64X crash test accelerometer is offered in ranges from ±50 to ±6000g and has distinct colored cables specified for each model so the g-range can visually be identified by the instrumentation engineer during testing.

The crash test accelerometer has a standard operating temperature range of -40°C to +121°C and is fully encapsulated in Stycast for IP66 environmental protection rating. The nominal 4000Ω bridge impedance limits current draw resulting in quick <10 second 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	±200	±500	±2000	±6000	
Sensitivity (mV/g)[1]	1.2-3.0	0.60-0.12	0.30-0.60	0.12-0.30	0.05-0.12	@10Vdc Excitation
Frequency Response (Hz)	0-400 0-1000 0-1400	0-600 0-1400 0-1900	0-800 0-2000 0-2800	0-3000 0-6000 0-8000	0-3000 0-6000 0-8000	±2% ±5% ±1dB
Natural Frequency (Hz)	4000	8000	15000	26000	28000	
Transverse Sensitivity (%)	<2	<2	<2	<2	<2	<1% Option
Non-Linearity (%FSO)	±0.7	±0.7	±0.7	±0.7	±0.7	
Damping Ratio	0.50	0.50	0.30	0.15	0.10	
Cable Color	Black	Blue	Red	White	White	
Shock Limit (g)	10000	10000	10000	10000	10000	

ELECTRICAL		
Zero Acceleration Output (mV)	<±20	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	

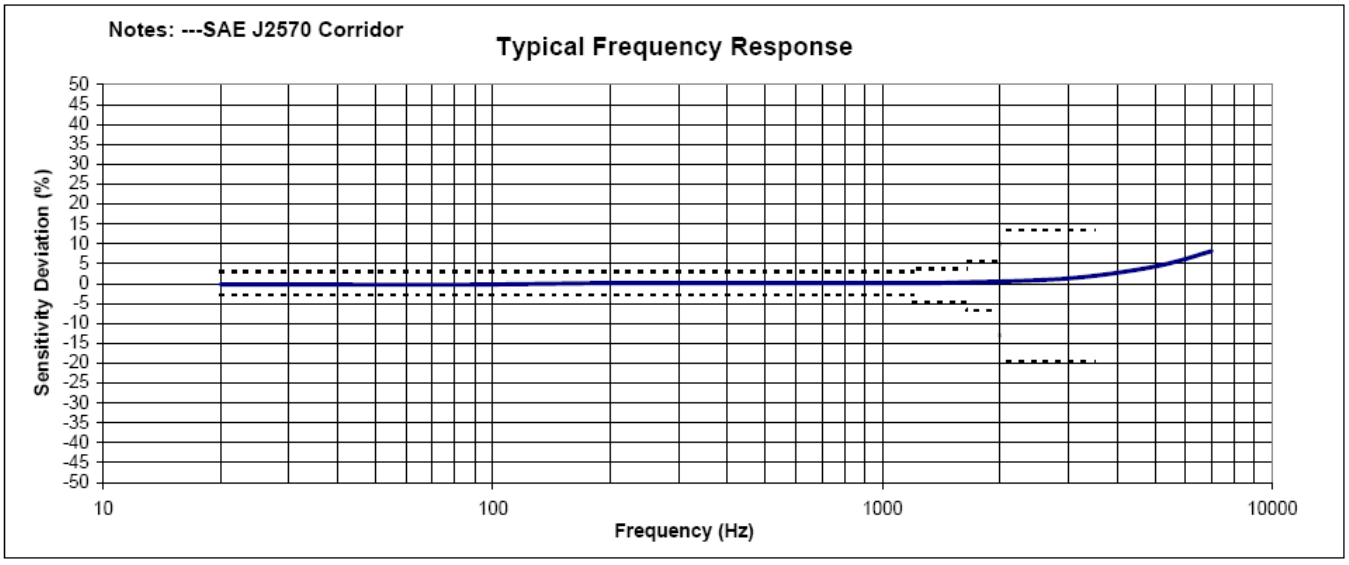
ENVIRONMENTAL		
Thermal Zero Shift (%FSO/°C)	±0.04	From 0 to +50°C
Thermal Sensitivity Shift (%/°C)	-0.20 ±0.05	From 0 to +50°C
Operating Temperature (°C)	-40 to +121	
Humidity	Epoxy Sealed, IP66	

PHYSICAL		
Case Material	Anodized Aluminum	
Cable	4x #32 AWG Leads, PFA Insulated, Braided Shield, TPE Jacket	
Weight (grams)	1.0	Cable not included
Mounting	2x #0- 80 x 3/16" Socket Head Cap Screws	

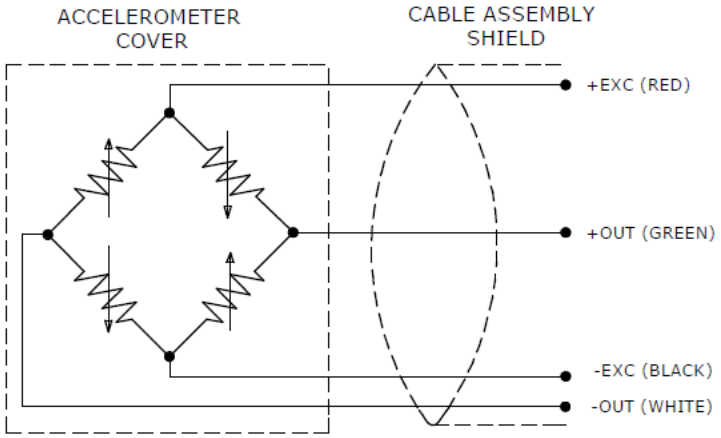
[1] Output is ratiometric to excitation voltage

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Limit
Optional accessories:	MTG-E2	Triaxial Mounting Block
	121	3-Channel Precision Low Noise DC Amplifier

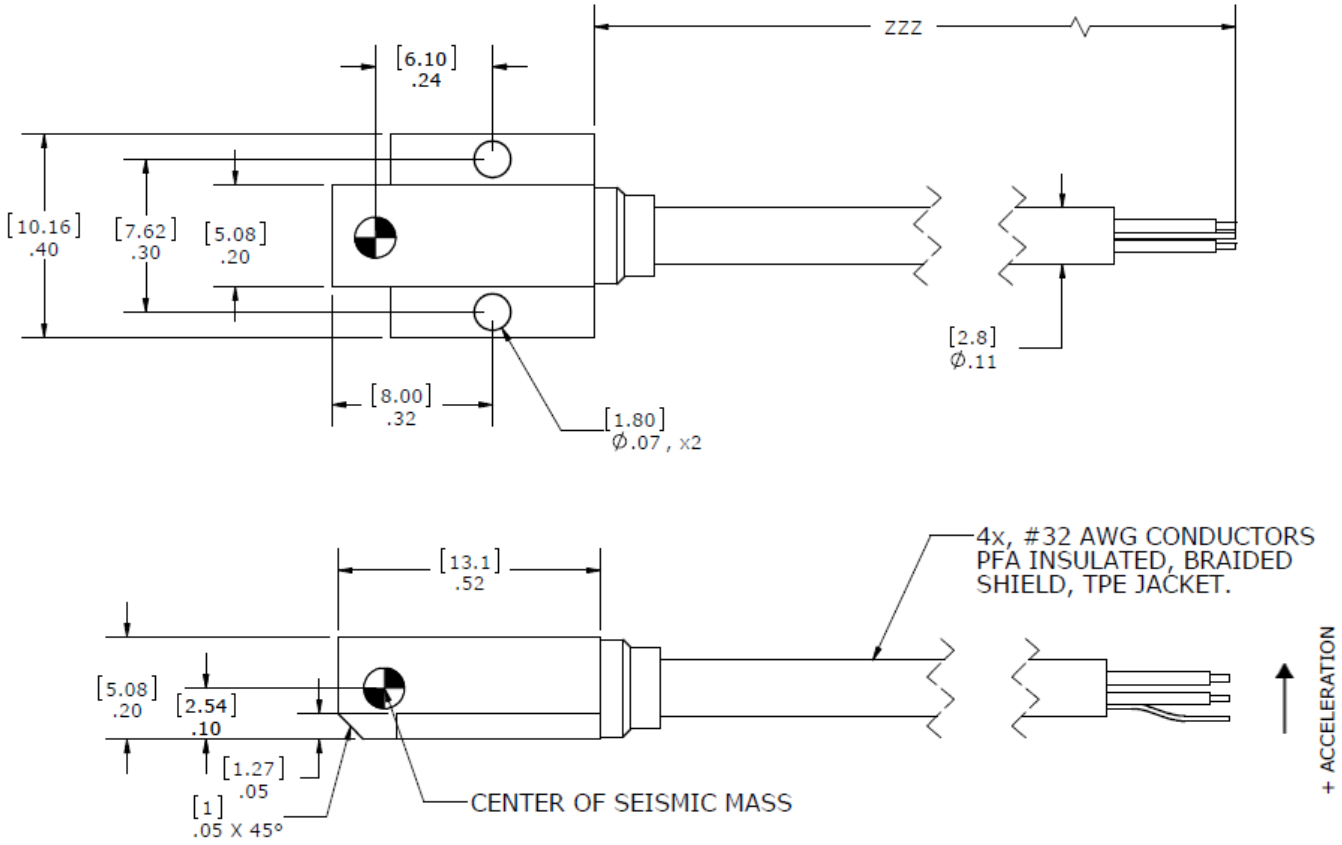
Typical Frequency Response



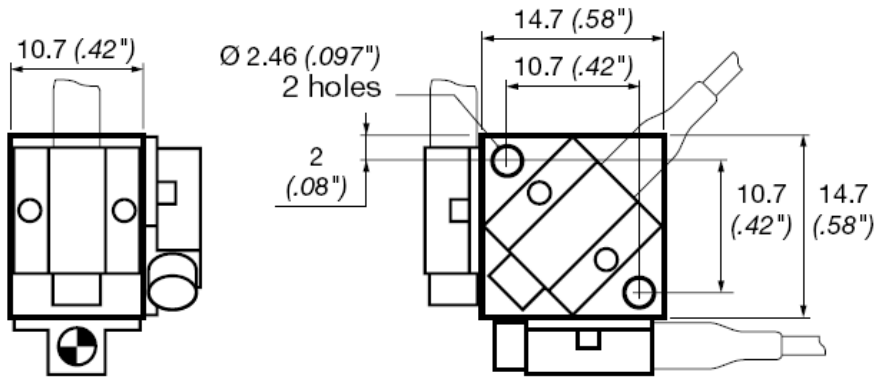
Schematic



Dimensions



Triaxial Mounting Block



Ordering Information

64X	GGGG	ZZZ	T	XXX

Range
0050 = 50g (black cable)
0200 = 200g (blue cable)
0500 = 500g (red cable)
2000 = 2000g (white cable)
6000 = 6000g (white cable)

Cable length
240 = 240 inches, 20 feet
360 = 360 inches, 30 feet
276 = 276 inches, 7 meters

Transverse Sensitivity Option
Blank = <2%
T = <1%

Excitation Voltage Option
Blank = 10Vdc
001 = 5Vdc
005 = 2Vdc

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

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

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