



## 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
- $\pm 50g$  to  $\pm 6000g$  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
- IP65 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  $<\pm 20mV$  and a linearity accuracy specification of  $<\pm 0.70\%$ .

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

The accelerometer has a standard operating temperature range of  $-40^{\circ}C$  to  $+121^{\circ}C$  and is fully encapsulated in Stycast for IP65 environmental protection rating. The nominal  $4000\Omega$  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) <sup>1</sup>	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	0-600	0-800	0-3000	0-3000	±2%
	0-1000	0-1400	0-2000	0-6000	0-6000	±5%
	0-1400	0-1900	0-2800	0-8000	0-8000	±1dB
Natural Frequency (Hz)	4000	8000	15000	26000	28000	
Transverse Sensitivity (%)	<2	<2	<2	<2	<2	<1% Option
Non-Linearity (% of reading)	±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, IP65	

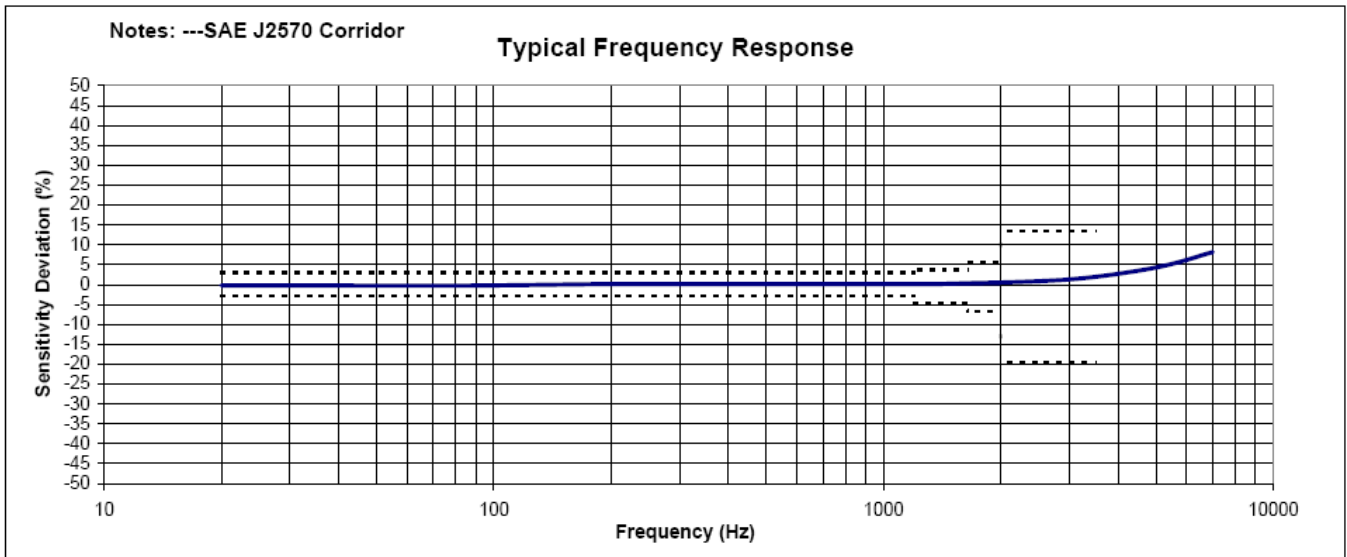
#### PHYSICAL

Case Material	Anodized Aluminum	
Cable	4x #32 AWG Leads, PFA Insulated, Braided Shield, TPE Jacket	
Weight (grams)	1.0	
Mounting	2x #0- 80 x 3/16" Socket Head Cap Screws	

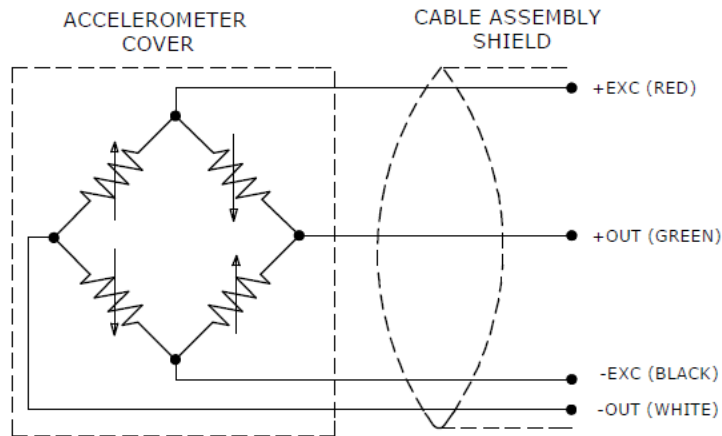
<sup>1</sup> Output is ratiometric to excitation voltage

<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Limit
<b>Supplied accessories:</b>	AC-A02053	2x #0-80 (3/16 length) Socket Head Cap Screw, 2x #0 Washer, 1x Allen Key
<b>Optional accessories:</b>	MTG-E2	Triaxial Mounting Block
	121	3-Channel Precision Low Noise DC Amplifier
	140A	Auto-Zero Inline Amplifier

Typical Frequency Response



Schematic





# MODEL 64X ACCELEROMETER

## Ordering Information

64X	GGGG	ZZZ	T	XXX
<b>Range</b> 0050 = 50g (black cable) 0200 = 200g (blue cable) 0500 = 500g (red cable) 2000 = 2000g (white cable) 6000 = 6000g (white cable)				
<b>Cable length</b> 240 = 240 inches 300 = 300 inches 360 = 360 inches  197 = 197 inches, 5 meters 276 = 276 inches, 7 meters 394 = 394 inches, 10 meters				
<b>Transverse Sensitivity Option</b> Blank = <2% T = <1%				
<b>Excitation Voltage Option</b> Blank = 10Vdc 001 = 5Vdc 005 = 2Vdc				

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

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