



MODEL 52M30 CRASH TEST ACCELEROMETER

Specifications

- Advanced Piezoresistive MEMS Sensor
- Small Form Factor for Side Impact Crash Testing
- Compliant to SAE J211/J2570
- $\pm 50g$ to $\pm 2000g$ Dynamic Range
- Light Weight, Adhesive Mounting
- Crush Zone Mounting

Features

- Standard $<3\%$ Transverse Sensitivity
- Wide bandwidth to $>7kHz$
- Linearity $<1\%$
- 5000g Shock Protection
- 2-10Vdc Excitation Voltage
- Optimum Gas Damping
- Jacketed and Shielded Cable

Applications

- Automotive Crash Testing
- Side Impact Testing
- Shock and Impact Testing
- Transient Drop Testing
- Biomedical Studies

The TE Connectivity model 52M30 accelerometer is designed for size constrained installations where miniature form factor is critical such as side impact crash test installations. The accelerometer features a full 4000Ω bridge output configuration with ideal gas damping tailored for outstanding shock survivability and superior long-term stability compared to half bridge designs with impedance mismatch

The model 52M30 crash test accelerometer is offered in ranges from ± 50 to $\pm 2000g$ and is designed for adhesive mounting. For a screw mounting option, TE Connectivity also offers customers the model 52F flange mount accelerometer. For triaxial configurations

The crash test accelerometer has a standard operating temperature range of $-40^{\circ}C$ to $+90^{\circ}C$ and includes an integral shielded and jacketed cable designed with minimal induced tribo-electric noise for high-g test applications. An optional triaxial mounting block is also offered for multi-axis measurement test applications.

CLICK HERE ›
CONNECT WITH A SPECIALIST

MODEL 52M30 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	±200	±500	±2000	
Sensitivity (mV/g) ¹	1.2-3.0	0.6-1.2	0.3-0.6	0.12-0.3	@10Vdc Excitation
Frequency Response (Hz)	0-1000	0-1400	0-2000	0-5000	±5%
	0-1400	0-1900	0-2800	0-7000	±1dB
Natural Frequency (Hz)	4000	8000	15000	26000	
Transverse Sensitivity (%)	<3	<3	<3	<3	
Non-Linearity (%FSO)	±1	±1	±1	±1	
Damping Ratio	0.5	0.5	0.3	0.15	
Shock Limit (g)	5000	5000	5000	5000	

ELECTRICAL

Zero Acceleration Output (mV)	<±50				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	-40 to +90°C (-40 to +194°F)				
Storage Temperature	-40 to +90°C (-40 to +194°F)				
Humidity	Epoxy Sealed, IP61				

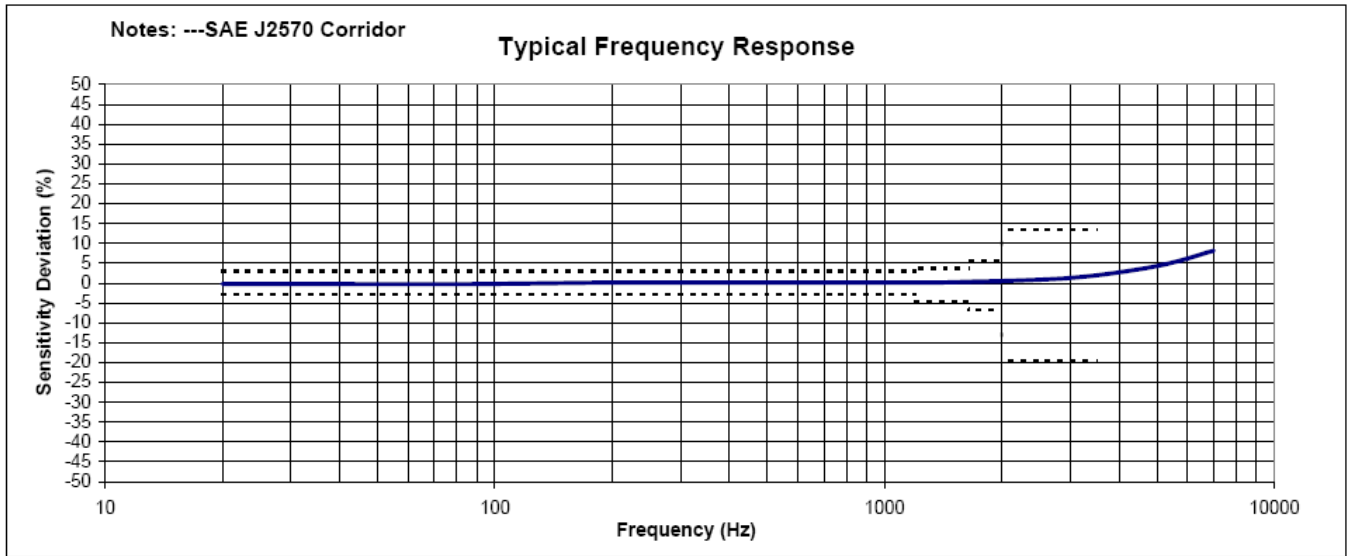
PHYSICAL

Material	Ceramic Mounting Base, Anodized Aluminum Cover				
Cable	4x #32 AWG Leads, PFA Insulated, Braided Shield, PU Jacket				
Weight (grams)	0.5				Cable not included
Mounting	Adhesive				

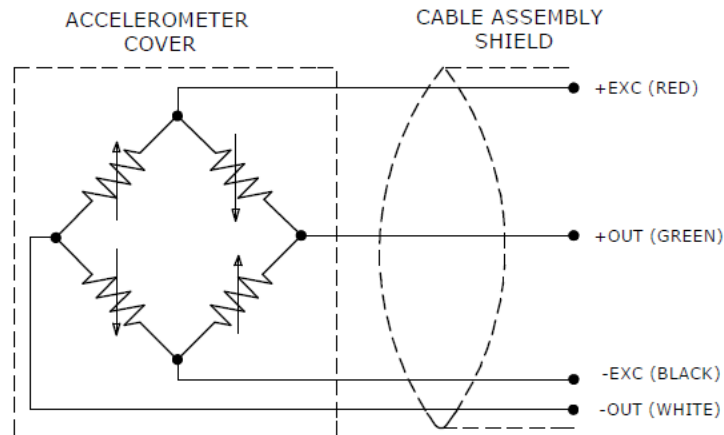
¹ Output is ratiometric to excitation voltage

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Limit
Optional accessories: 121 3-Channel Precision Low Noise DC Amplifier

Typical Frequency Response

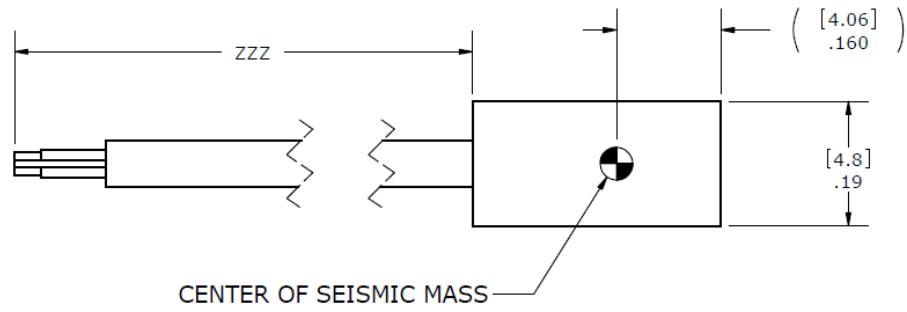


Schematic

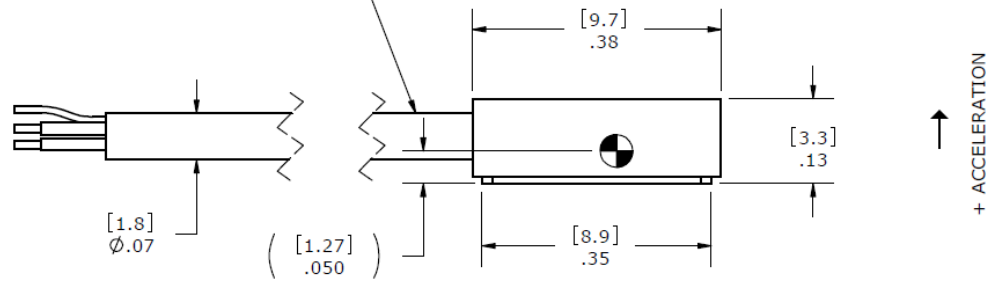


MODEL 52M30 ACCELEROMETER

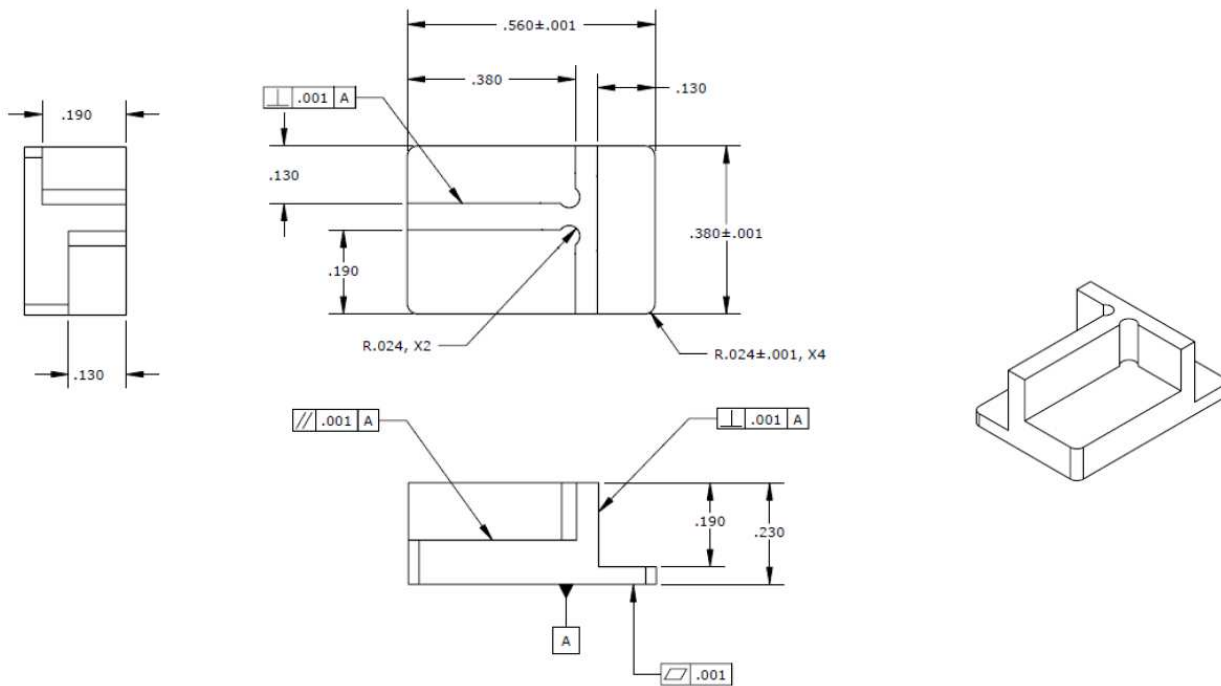
Dimensions



4x, #32 AWG CONDUCTORS PFA INSULATED, BRAIDED SHIELD, POLYURETHANE JACKET



Triaxial Mounting Block



MODEL 52M30 ACCELEROMETER

Ordering Information

52M30	GGGG	ZZZ	T	XX
Range 0050 = 50g 0200 = 200g 0500 = 500g 2000 = 2000g				
Cable length 240 = 240 inches, 20 feet 360 = 360 inches, 30 feet 276 = 276 inches, 7 meters				
Transverse Sensitivity Option Blank = <3%				
Calibration Voltage Option Blank = 10Vdc 01 = 5Vdc 05 = 2Vdc				

Example; 52M30-2000-360
Model 52M30, 2000g range, 360inch (30ft) cable length

Example; 52M30-0500-276-01
Model 52M30, 500g range, 276inch (7m) cable length, 5Vdc Calibration Voltage

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

中国大陆
西安鑫源宇通电子科技有限公司
陕西省西安市高新区锦业路70号航
天恒星园区1号厂房一层南
Tel: 400-780-9688
sales@senstechxyz.com

中国香港
深大实业有限公司
香港新界沙田安平街6号新贸易
中心B座13楼06室
Tel: +86 17792099916
info@caltropinstruments.com

新加坡
深大实业有限公司
香港新界沙田安平街6号新贸易
中心B座13楼06室
Tel: +86 17792099919
info@senstechxyz.com

