



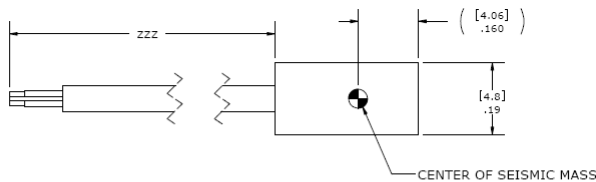
MODEL 52M30 ACCELEROMETER

SPECIFICATIONS

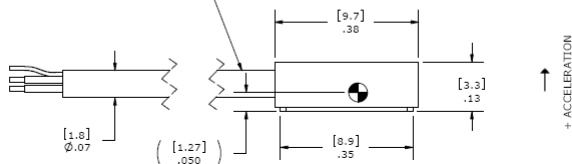
- ✦ Small Size, Light Weight
- ✦ Jacketed & Shielded Cable
- ✦ Silicon MEMS Technology
- ✦ $\pm 50g$ to $\pm 6000g$ Ranges

The **Model 52M30** accelerometer has an advanced piezoresistive MEMS sensing element which offers excellent dynamic range and stability. This unit features a full bridge output with an operating temperature range from -40 to $+90^{\circ}\text{C}$ and measurement ranges of $\pm 50g$ to $\pm 6,000g$. A slight amount of gas damping provides outstanding shock survivability and a flat amplitude response to 7kHz .

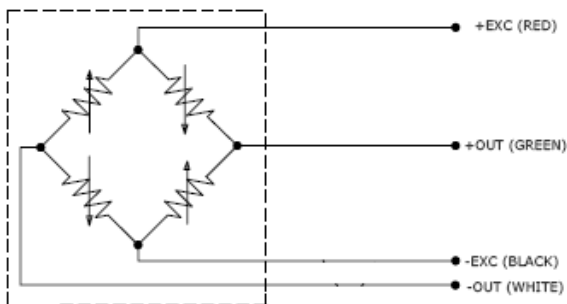
DIMENSIONS



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



ACCELEROMETER
COVER



FEATURES

- ✦ 2-10 Vdc Excitation
- ✦ $\pm 50g$ to $\pm 6,000g$ Ranges
- ✦ DC Response
- ✦ $\pm 10,000g$ Shock Protection
- ✦ Transverse Sensitivity $<3\%$
- ✦ 26kHz Resonant Frequency
- ✦ Linearity $\pm 1\%$
- ✦ Output Ratiometric to Excitation

APPLICATIONS

- ✦ Automotive crash testing
- ✦ High impact research
- ✦ Biomechanical studies
- ✦ Shock testing

PERFORMANCE SPECIFICATIONS

All values are typical at $\pm 24^{\circ}\text{C}$, 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters

DYNAMIC

	± 50	± 200	± 500	± 2000	± 6000	Notes
Range(g)						
Sensitivity (mV/g) ¹	2.0	0.9	0.4	0.15	0.10	
Frequency Response (Hz)	0-400	0-600	0-800	0-2000	0-3000	$\pm 2\%$
	0-1000	0-1400	0-2000	0-5000	0-5000	$\pm 5\%$
	0-1400	0-1900	0-2800	0-7000	0-7000	$\pm 1\text{dB}$
Resonant Frequency (Hz)	4000	8000	15000	26000	26000	
Non-Linearity (% FSO)	± 1	± 1	± 1	± 1	± 1	
Transverse Sensitivity (%)	< 3	< 3	< 3	< 3	< 3	
Shock Limit (g)	5000	5000	5000	5000	10000	

ELECTRICAL

Zero Acceleration Output (mV)	$< \pm 50$	
Excitation (Vdc)	2 to 10	
Input Resistance	2400-6000	
Output Resistance (Ω)	2400-6000	
Insulation Resistance ($M\Omega$)	> 100	@100Vdc
Ground Isolation	Isolated from mounting surface	

ENVIRONMENTAL

Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ (%FSO/ $^{\circ}\text{F}$))*	$\pm 0.05 (\pm 0.03)$	$0^{\circ}\text{C to } +50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ (%/ $^{\circ}\text{F}$))*	$-0.20 \pm 0.05 (-0.11 \pm 0.03)$	$0^{\circ}\text{C to } +50^{\circ}\text{C}$
Operating Temperature ($^{\circ}\text{C}$)	-40 to +90	
Storage Temperature ($^{\circ}\text{C}$)	-40 to +90	
Humidity	Epoxy Sealed, IP61	

PHYSICAL

Case Material	Anodized Aluminum	
Cable (Integral 30 Foot Cable)	4x #32 AWG 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-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

Optional accessories: AC-D02346 Triaxial Mounting Block
121 3-Channel Precision Low Noise DC Amplifier
140A Auto-zero Inline Amplifier

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ORDERING INFORMATION

PART NUMBERING Model Number+Range+Cable Length+Options

52M30-GGGG-CCC-ZZ

 | | | Options
 | | Cable (360 is 360 inches)
 | Range (0500 is 500 g)

Optional Dash Numbers

-01 5Vdc Calibration

-02 2Vdc Calibration

Example: 52M30-2000-360

Model 52M30, 2000g Full Scale Range, 360 inches cable, No Options