

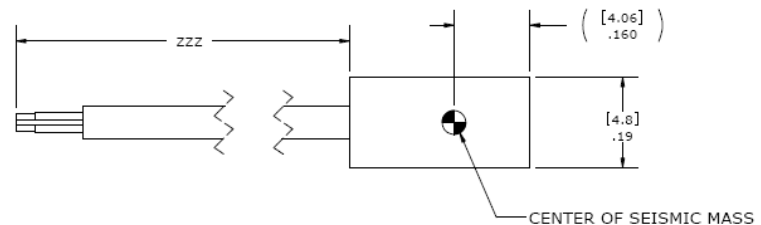
Model 52M30 Accelerometer

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 .

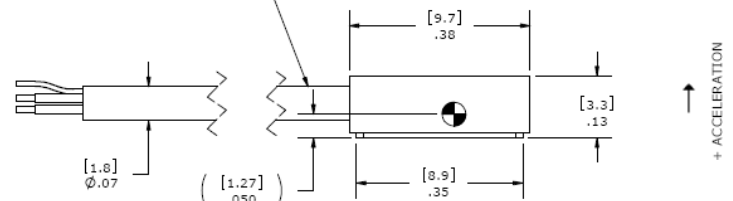
dimensions



FEATURES

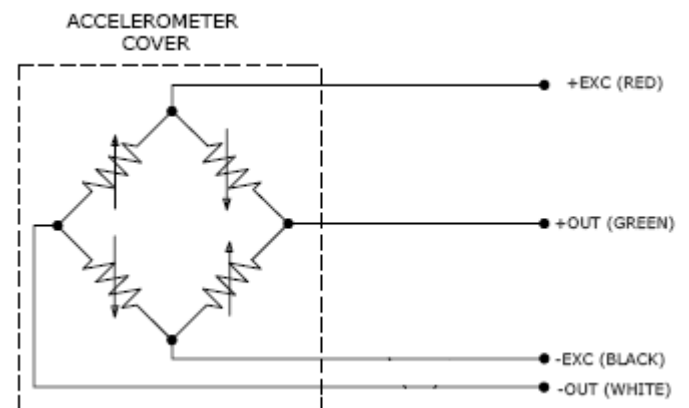
- 2-10 Vdc Excitation
- $\pm 50g$ to $\pm 6,000g$ Ranges
- DC Response
- $\pm 10,000g$ Shock Protection
- Transverse Sensitivity $<3\%$
- 26kHz Resonant Frequency
- Linearity $\pm 1\%$
- Output Ratiometric to Excitation

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



APPLICATIONS

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



Model 52M30 Accelerometer

performance specifications

All values are typical at $\pm 24^{\circ}\text{C}$, 100 Hz and 10 Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

Parameters

DYNAMIC

	± 50	± 200	± 500	± 2000	± 6000	Notes
Range(g)	2.0	0.9	0.4	0.15	0.10	
Sensitivity (mV/g) ¹						
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°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°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 100Hz

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

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ordering info

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: 52M30-0500-360

Model 52M30, 500g Full Scale Range, 360 inches cable, No Options