

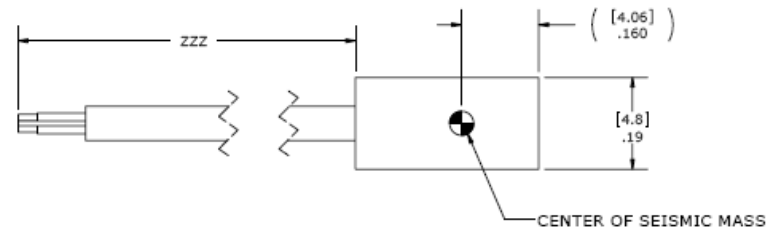
# Model 52M30 Accelerometer

Small Size, Light Weight  
Jacketed & Shielded Cable  
Aluminum Housing  
Silicon MEMS Technology  
High g Ranges

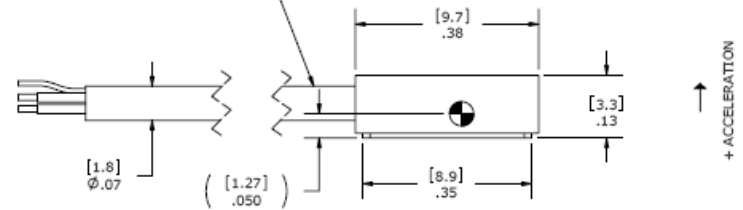


The **Model 52M30** accelerometer has an advanced piezoresistive MEMS sensing element which offers excellent dynamic range and stability. This unit features a full bridge output with an operating temperature range from -40 to +90°C. A slight amount of gas damping provides outstanding shock survivability and a flat amplitude response to 7kHz.

## dimensions



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

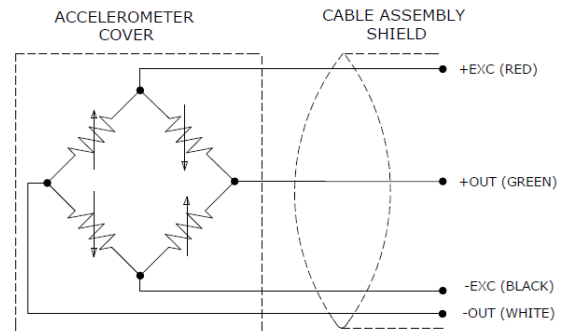


## FEATURES

- 2-10 Vdc Excitation
- ±50g to ±2,000g Ranges
- DC Response
- ±5,000g Shock Protection
- Transverse Sensitivity <3%
- Output Ratiometric to Excitation
- 26,000 Hz Resonant Frequency
- Linearity ±1%

## 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

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

#### ELECTRICAL

Zero Acceleration Output (mV)	$\leq \pm 50$				
Excitation (Vdc)	2 to 10				
Input Resistance	2400-6000				
Output Resistance ( $\Omega$ )	2400-6000				
Insulation Resistance ( $M\Omega$ )	>100				@50Vdc
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 Teflon® Insulated, Braided Shield, PU Jacket				Cable not included
Weight (grams)	0.5				
Mounting	Adhesive				

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

**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 100Hz

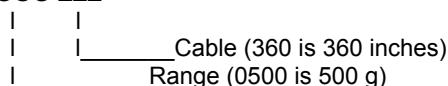
**Optional accessories:** 101 Three Channel DC Signal Conditioner Amplifier  
140 Auto-zero Inline Amplifier

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## ordering info

PART NUMBERING Model Number+Range+Cable Length

52M30-GGGG-ZZZ



Example: 52M30-0500-360  
Model 52M30, 500g Full Scale Range, 360 inches cable