

# Model 52M30 Accelerometer

- Small Size
- Jacketed Cable
- Integral Cable Shield
- 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 121 °C. A slight amount of gas damping provides outstanding shock survivability and a flat amplitude response to 7kHz.

## FEATURES

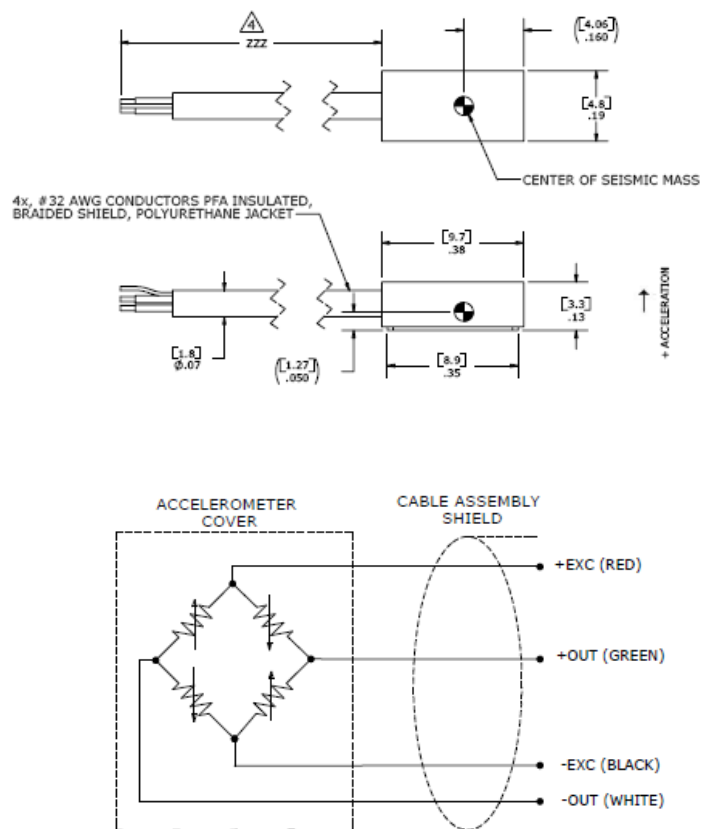
- 2-10 Vdc Excitation
- Range  $\pm 2000$  g's
- Measures static acceleration
- Over shock protection to  $\pm 5,000$  g's
- Transverse sensitivity <3%
- Weight <0.5 grams
- Output ratiometric to excitation
- Resonant frequency to 26,000 Hz
- Linearity  $\pm 1\%$

## APPLICATIONS

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

## dimensions

(Dimensions in Inches)



# 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

		Notes
Range(g)	$\pm 2000$	
Sensitivity (mV/g)	0.15	
Frequency Response (Hz)	0-2000	$\pm 2\%$
	0-5000	$\pm 5\%$
	0-7000	$\pm 1\text{dB}$
Resonance (Hz)	26000	
Shock Limit (g)	5000	
Non-Linearity (% FSO)	$\pm 1$	
Transverse Sensitivity (%)	$< 3$	
Zero Acceleration Output (mV)	$< \pm 50$	
Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ (%FSO/ $^{\circ}\text{F}$ ))*	$\pm 0.2(\pm 0.11)$	$0^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ ( $32^{\circ}\text{F}$ to $122^{\circ}\text{F}$ )
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ (%/ $^{\circ}\text{F}$ ))*	$\pm 0.4(\pm 0.22)$	$0^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ ( $32^{\circ}\text{F}$ to $122^{\circ}\text{F}$ )

#### ELECTRICAL

Excitation (Vdc)	2 to 10	
Input Resistance ( $\Omega$ )	2400-5000	
Output Resistance ( $\Omega$ )	2400-5000	Varies with current
Insulation Resistance ( $\text{M}\Omega$ )	$> 100$	

#### PHYSICAL

Case Material	Aluminum	Black anodized
Cable (Polyurethane Jacket, 4 wire+shield)	32 AWG	PFA insulated
Weight (grams)	0.5	Without cable
Mounting	Adhesive	

#### ENVIRONMENTAL

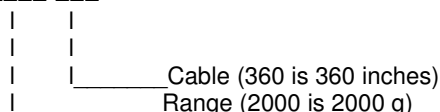
Operating Temperature ( $^{\circ}\text{C}$ )	-40 to +121	
Humidity		Epoxy Sealed

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## ordering info

PART NUMBERING Model Number+Range+Cable Length

52M30-ZZZZ-ZZZ



Example: 52M30-2000-360

Model 52M30, 2000g Full Scale Range, 360 inches cable