

# 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

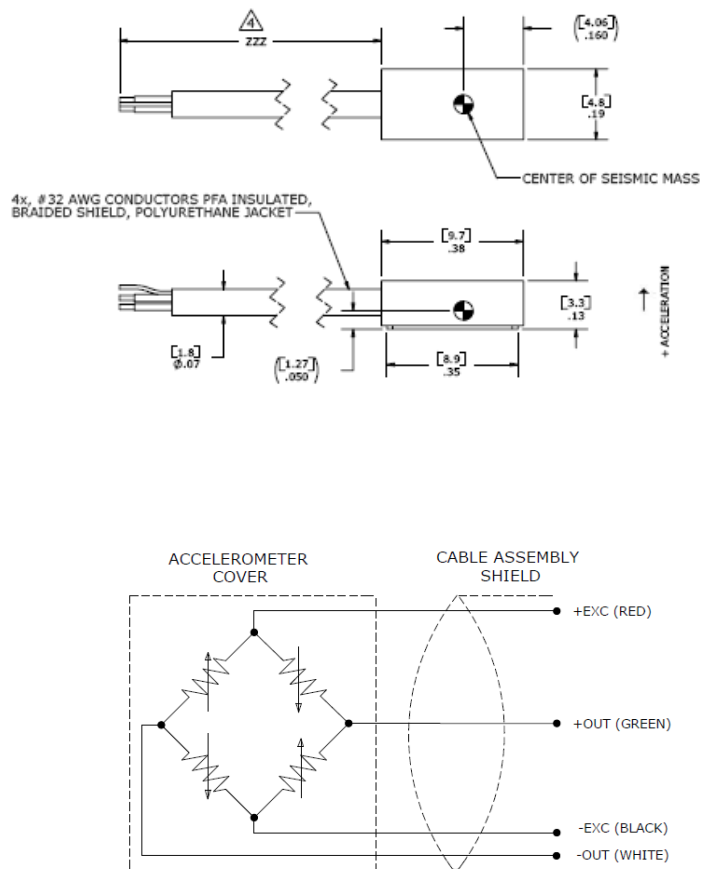
- 2-10 Vdc Excitation
- Ranges to  $\pm 2000$  g's
- Measures static acceleration
- Over shock protection to  $\pm 5,000$  g's
- Transverse sensitivity <3%
- Weight <5 grams
- Output ratiometric to excitation
- Resonant frequency to 26,000 Hz
- Linearity  $\pm 1\%$

## APPLICATIONS

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

	$\pm 50$	$\pm 200$	$\pm 500$	$\pm 2000$	Notes
<b>Range(g)</b>	2	0.9	0.4	0.15	
Sensitivity (mV/g)	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	$\pm 1\text{dB}\%$
Resonance (Hz)	4000	8000	15000	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/ $^{\circ}\text{F}$ ))*			$\pm 0.2(\pm 0.11)$		
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ (%/ $^{\circ}\text{F}$ ))*			$\pm 0.4(\pm 0.22)$		

#### ELECTRICAL

Excitation (Vdc)	2 to 10
Input Resistance ( $\Omega$ )	2400-5000
Output Resistance ( $\Omega$ )	2400-5000
Insulation Resistance (M $\Omega$ )	$> 100$

#### PHYSICAL

Case Material	Aluminum	Black anodized
Cable	32 AWG	PVC insulated
Weight (grams)	0.5	Without cable
Mounting	Adhesive	

#### ENVIRONMENTAL

Operating Temperature ( $^{\circ}\text{C}$ )	-40 to +121	
Humidity	Epoxy Sealed, IP61	Epoxy Sealed

#### PART NUMBERING

Model Number + Range (g's)+Cable Length (Options require factory-specified Model Numbers)

\*  $0^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  ( $32^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ )

**Wiring color code:** +EXC = Red, -EXC = Black, +OUT = Green, -OUT = White

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to  $\pm 1\text{dB}$  Frequency Response Limit

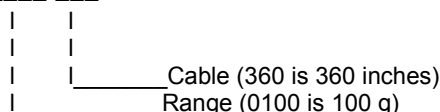
**Optional accessories:** 101 Three Channel DC Signal Conditioner Amplifier

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## ordering info

PART NUMBERING Model Number+Range+Cable Length

52M30-ZZZZ-ZZZ



Example: 52M30-0500-360

Model 52M30, 500g Full Scale Range, 360 inches cable

### CONTATO

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