

Model 52 Accelerometer

DC Response

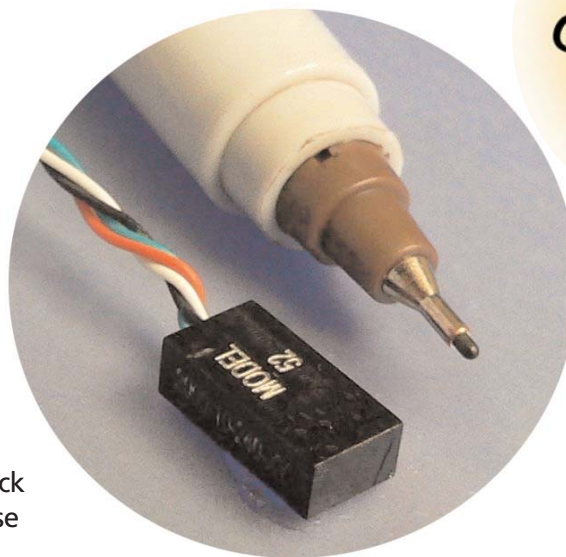
Miniature

Low Cost

Reliable Performance

DESCRIPTION

The **Model 52** accelerometer is based on an advanced piezoresistive MEMS sensing element which offers exceptional dynamic range and stability. This unit features a full bridge output configuration with an operating temperature range from -40 to +121°C. A slight amount of internal gas damping provides outstanding shock survivability and a flat amplitude/phase response up to 7kHz.



**Ideal for
Side Impact
Crash Testing**

dimensions

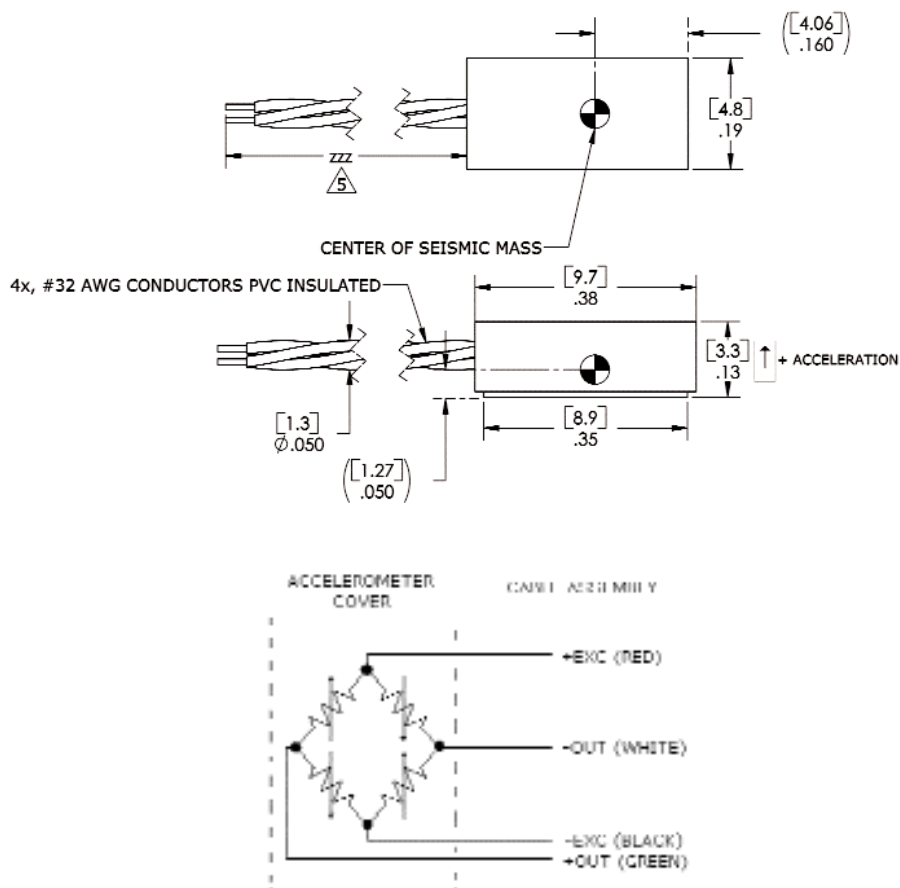
(Dimensions in inches)

FEATURES

- ◆ 2nd GEN MEMS Sensing Element
- ◆ 50, 200, 500 and 2,000 g Ranges
- ◆ 2-10 Vdc Excitation
- ◆ $\leq \pm 50$ mV Zero Offset

APPLICATIONS

- ◆ Safety Impact Testing
 - Auto
 - Truck
 - Recreational Vehicles
- ◆ Shock Testing



Model 52 Accelerometer

performance specifications

All values are typical at +24°C, 100 Hz and 10 Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters					Notes
DYNAMIC					
Range(g)	±50	±200	±500	±2000	
Sensitivity (mV/g)	2	0.9	0.4	0.15	
Frequency Response (Hz)	0-400	0-800	0-1200	0-2000	±2%
	0-1000	0-2000	0-3000	0-5000	±5%
	0-1400	0-2800	0-4200	0-7000	±1dB
Resonance (Hz)	4000	8000	15000	26000	
Shock Limit	5000	5000	5000	5000	g
Non-Linearity		±1		% FSO	
Transverse Sensitivity		<3		%	
Zero Acceleration Output		<±50		mV	
Thermal Zero Shift		±0.2 (±0.11)		%FSO/°C(%FSO/°F)	0°C to +50°C (32 to 122°F)
Thermal Sensitivity Shift		±0.4 (±0.22)		%/°C(%/°F)	0°C to +50°C (32 to 122°F)
ELECTRICAL					
Voltage Excitation		2 to 10		Vdc	Output ratiometric to excitation. Do not reverse polarity.
Input Resistance		3500-4800		Ω	Measured between +EXC and - EXC
Output Resistance (Varies with current)		2700-4800		Ω	Measured between +OUT and - OUT
Insulation Resistance		>100		MΩ	At 50 Vdc
ELECTRICAL					
Cable Output Connections		+EXC		RED	32 AWG PVC Insulated
		-EXC		BLACK	32 AWG PVC Insulated
		+OUT		GREEN	32 AWG PVC Insulated
		-OUT		WHITE	32 AWG PVC Insulated
PHYSICAL					
Case Material					Plastic
Cable Connections					Integral 30 foot cable
Weight		0.5		grams	
Mounting					Adhesive
ENVIRONMENTAL					
Operating Temperature		-40 to +121		°C	
Humidity					Epoxy Sealed
PART NUMBERING					
Model Number + Range (g's) + Excitation Vdc + Cable Length + Options (see sample below)					

ordering information

52-ZZZZ-ZZ-ZZZ-XY

NO CONNECTOR
 CABLE LENGTH (INCHES) [e.g. 360 IS 360 INCHES OF CABLE]
 EXCITATION (Vdc) [e.g. 10 IS 10 Vdc EXCITATION]
 RANGE (g) [e.g. 0200 IS 200g RANGE]

Custom connector options are available.

Contact Measurement Specialties, Inc. for applicable model number.