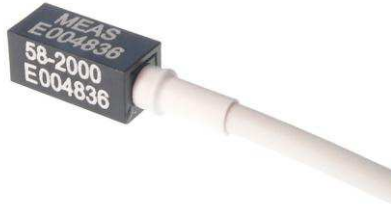
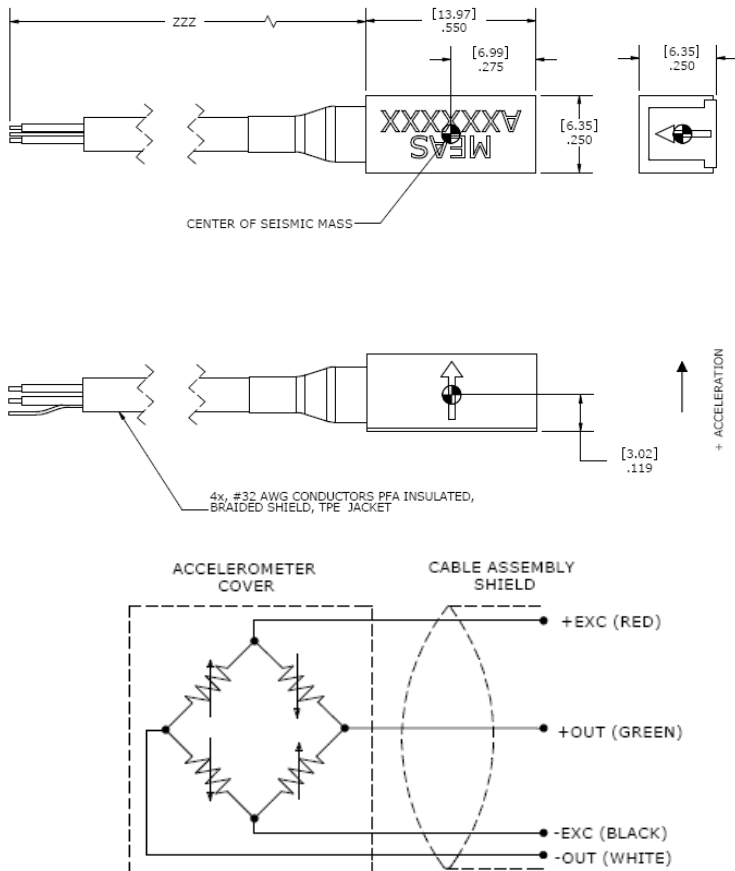


# MODEL 58 ACCELEROMETER



## DIMENSIONS



## SPECIFICATIONS

- DC Response Accelerometer
- Durable Low-Noise Cable
- Small Package, Light Weight
- $\pm 50g$  to  $\pm 2000$  Ranges

The Model 58 Accelerometer is a MEMS DC response accelerometer designed for auto safety crash testing. The accelerometer is packaged in a rugged housing with a shielded low-noise cable specifically designed for crush zone testing. The model 58 accelerometer features a full bridge output configuration with a temperature range from -20 to +85°C. A slight amount of internal gas damping provides outstanding shock survivability and a flat amplitude and phase response up to 4000Hz.

## FEATURES

- 2-10 Vdc Excitation
- Piezoresistive MEMS Sensor
- 0-50 °C Temperature Range
- Low Noise Jacketed Cable
- Linearity  $\pm 1\%$
- $< \pm 25$  mV Zero Offset
- Transverse sensitivity  $< 3\%$

## APPLICATIONS

- Crash Testing
- Crush Zone Testing
- Impact Testing
- Off-Road Testing
- Transportation Testing

**PERFORMANCE SPECIFICATIONS**

All values are typical at ±24°C, 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice

**Parameters**

**DYNAMIC**

	±50	±100	±200	±500	±2000	<b>Notes</b>
Range(g)	±50	±100	±200	±500	±2000	
Sensitivity (mV/g) <sup>1</sup>	1.2-3.0	0.6-1.2	0.6-1.2	0.30-0.60	0.12-0.30	
Frequency Response (Hz)	0-900	0-1300	0-1500	0-1900	0-4000	± ½dB
Resonant Frequency (Hz)	4000	6000	8000	11000	23000	
Damping Ratio	0.5	0.5	0.5	0.3	0.05	
Shock Limit (g)	5000	5000	5000	5000	5000	
Non-Linearity (% of reading)	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	1% Option

**ELECTRICAL**

Zero Acceleration Output (mV)	<±25					<±10mV Option
Excitation (Vdc)	2 to 10					
Input Resistance (Ω)	2400-6000					
Output Resistance (Ω)	2400-6000					
Insulation Resistance (MΩ)	>100					@100Vdc
Residual Noise (µV RMS)	<10					
Ground Isolation	Isolated from mounting surface					

**ENVIRONMENTAL**

Thermal Zero Shift (%FSO/°C)	±0.10					From 0 to +50°C
Thermal Sensitivity Shift (%/°C)	-0.14 ±0.06					From 0 to +50°C
Operating Temperature (°C)	-20 to +85					
Storage Temperature (°C)	-20 to +85					
Humidity	Epoxy Sealed, IP61					

**PHYSICAL**

Case & Cover Material	Anodized Aluminum, Black					
Cable (Integral 30 Foot Cable)	4x #32 AWG Conductors PFA Insulated, Braided Shield, TPE Jacket					Cable Not Included
Weight (grams)	1.2					
Mounting	Adhesive					

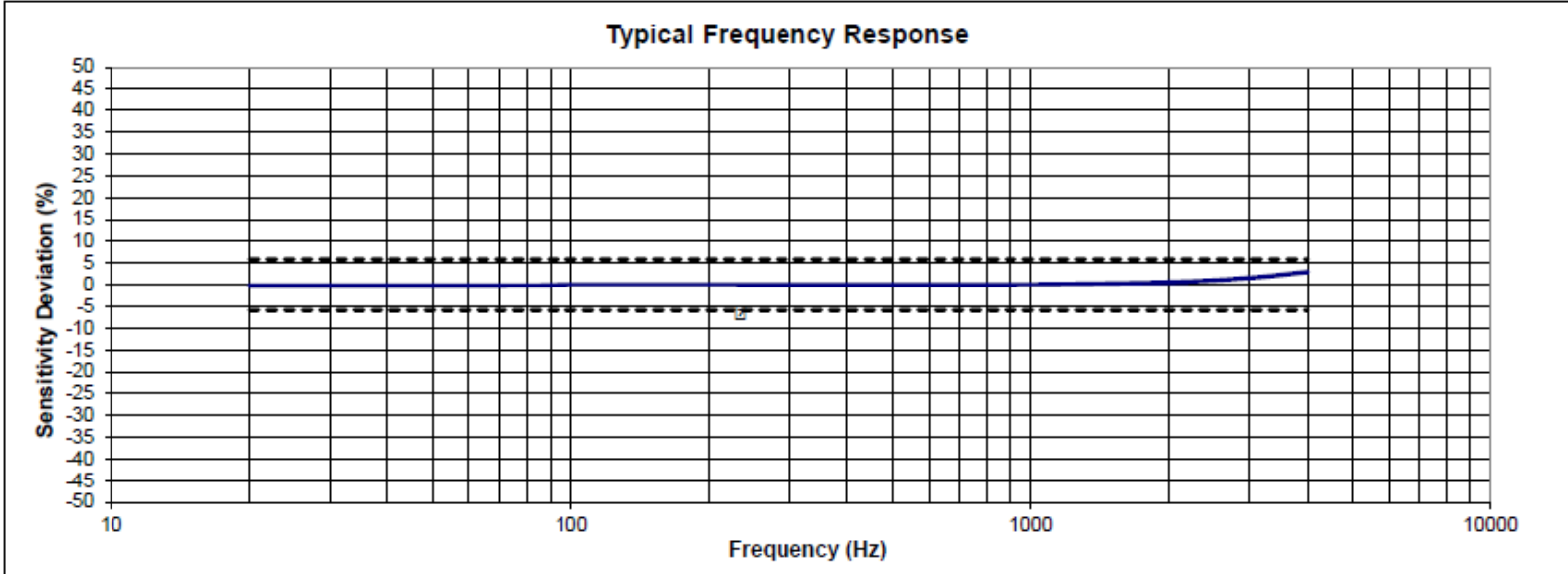
<sup>1</sup> Output is ratiometric to excitation voltage

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±½dB Frequency Limit

**Optional accessories:** 121 Three Channel DC Differential Amplifier  
140A Auto-Zero Inline Amplifier

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**PERFORMANCE SPECIFICATIONS**



**ORDERING INFORMATION**

**PART NUMBERING** Model Number+Range+Cable Length+Options

58-GGGG-CCCT-ZZ

| | | | Options  
 | | | | 1% Transverse Sensitivity when "T" is present.  
 | | | | Cable (360 is 360 inches)  
 | | | | Range (0100 is 100 g)

**Optional Dash Numbers**  
 -01 5Vdc Calibration  
 -02 2Vdc Calibration

Example: 58-2000-360  
 Model 58, 2000g, 360" (30ft) Cable), No Options.

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