

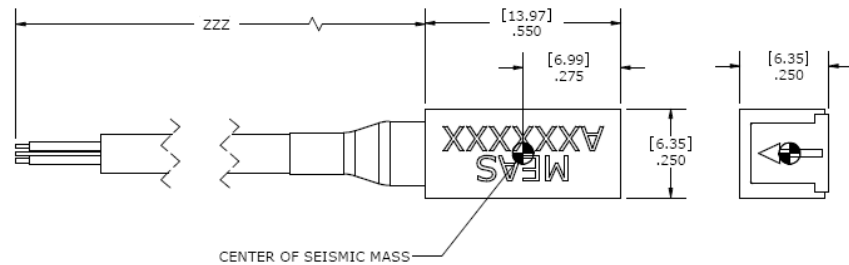
# Model 58 Accelerometer

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



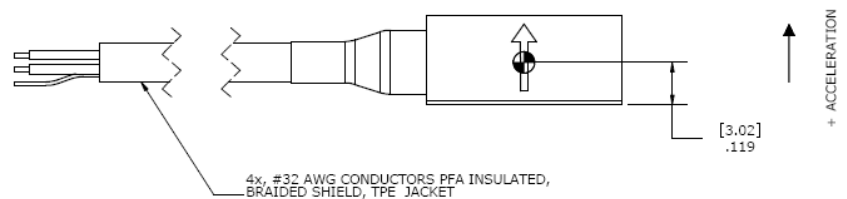
The **Model 58 Accelerometer** is a MEMS DC response accelerometer designed for auto safety crash testing. The accelerometer is packaged in a rugged housing with a shielded low-noise cable specifically designed for crush zone testing. The model 58 accelerometer features a full bridge output configuration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

## dimensions



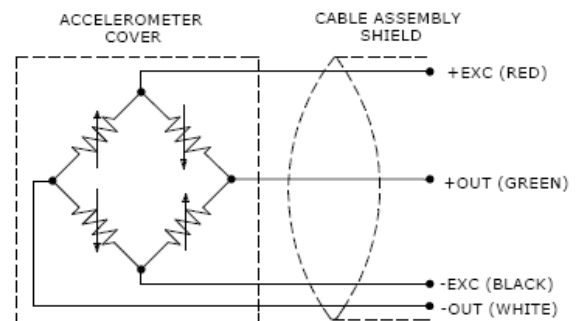
## FEATURES

- 2-10 Vdc Excitation
- Piezoresistive MEMS Sensor
- $0-50^{\circ}\text{C}$  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



# Model 58 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

	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$	$\pm 2000$
Range(g)	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$	$\pm 2000$
Sensitivity (mV/g) <sup>1</sup>	2	0.9	0.8	0.4	0.15
Frequency Response (Hz)	0-900	0-1300	0-1500	0-1900	0-4000
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)	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$
Transverse Sensitivity (%)	<3	<3	<3	<3	<3

#### Notes

$\pm 1/2\text{dB}$

#### ELECTRICAL

Zero Acceleration Output (mV)	< $\pm 25$					< $\pm 10\text{mV}$ Option
Excitation (Vdc)	2 to 10					
Input Resistance ( $\Omega$ )	2400-6000					
Output Resistance ( $\Omega$ )	2400-6000					
Insulation Resistance (M $\Omega$ )	>100					@100Vdc
Residual Noise ( $\mu\text{V}$ RMS)	<10					
Ground Isolation	Isolated from mounting surface					

#### ENVIRONMENTAL

Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ )	$\pm 0.10$					From 0 to $+50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ )	$-0.14 \pm 0.06$					From 0 to $+50^{\circ}\text{C}$
Operating Temperature ( $^{\circ}\text{C}$ )	-20 to +85					
Storage Temperature ( $^{\circ}\text{C}$ )	-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					
Weight (grams)	1.2					Cable Not Included
Mounting	Adhesive					

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

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to  $\pm 1/2\text{dB}$  Frequency Limit

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

## ordering info

PART NUMBERING Model Number+Range+Cable Length+Options

58-GGGG-CCC-ZZ

| | | Options  
| | 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.

## 联系方式



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