

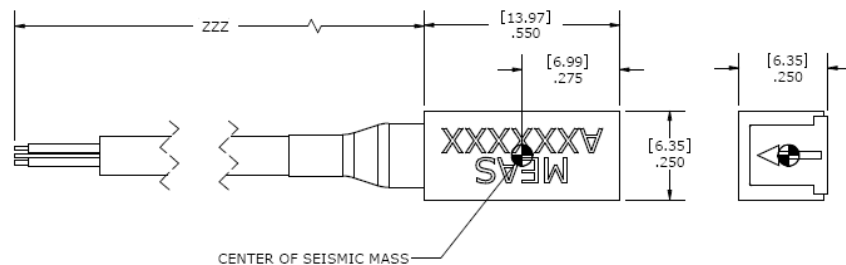
Model 58 Accelerometer

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



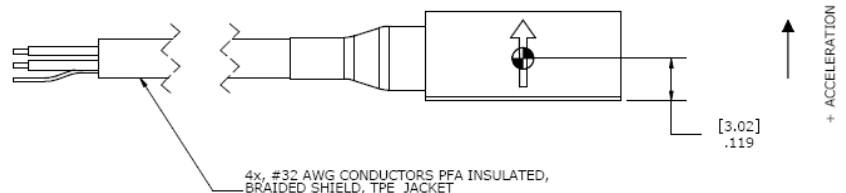
The **Model 58 Accelerometer** is a MEMS DC response accelerometer designed for auto safety crash testing. The accelerometer is packaged in a rugged housing with a shielded low-noise cable specifically designed for crush zone testing. The model 58 accelerometer features a full bridge output configuration 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.

dimensions



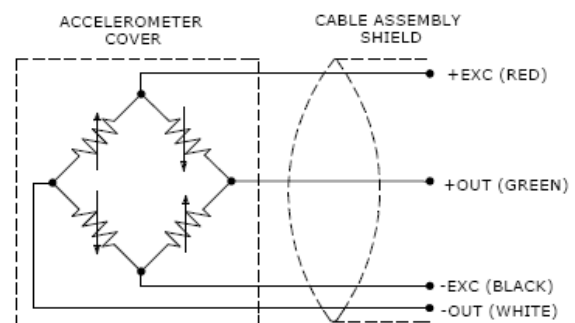
FEATURES

- 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



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

	± 50	± 100	± 200	± 500	± 2000	Notes
Range(g)	± 50	± 100	± 200	± 500	± 2000	
Sensitivity (mV/g) ¹	2	0.9	0.8	0.4	0.15	$\pm 1/2\text{dB}$
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)	± 1	± 1	± 1	± 1	± 1	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	

ELECTRICAL

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

ENVIRONMENTAL

Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$)	± 0.10					From 0 to $+50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$)	-0.14 ± 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					

¹ 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

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

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.