

Model 58 Accelerometer

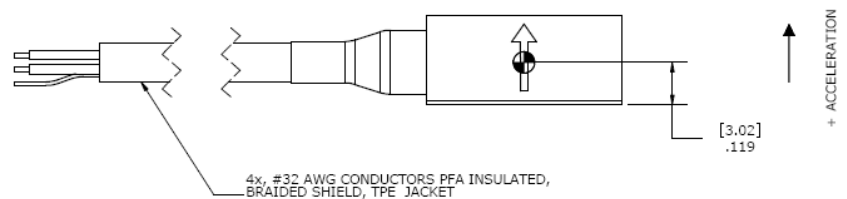
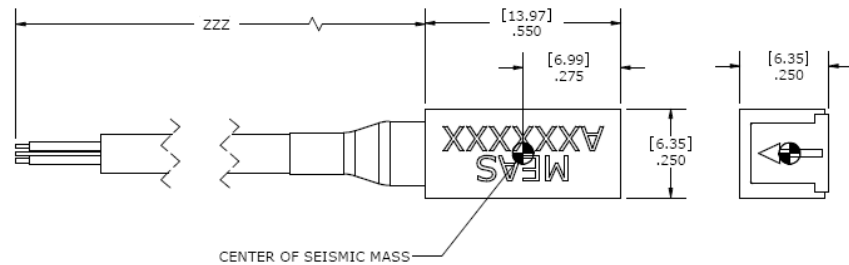


DC Response Accelerometer
Durable Low-Noise Cable
Small Package, Light Weight
 $\pm 50g$ to ± 2000 Ranges



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 $+85^{\circ}\text{C}$. A slight amount of internal gas damping provides outstanding shock survivability and a flat amplitude and phase response up to 4000Hz .

dimensions

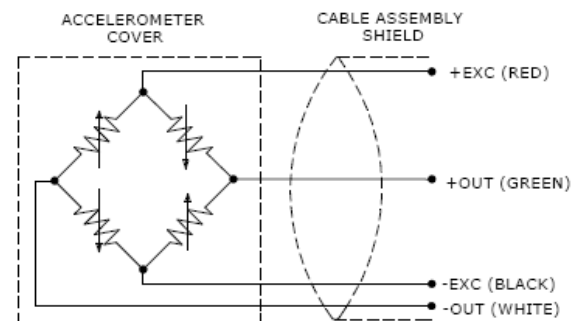


FEATURES

- 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



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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
Range(g)	± 50	± 100	± 200	± 500	± 2000
Sensitivity (mV/g) ¹	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)	± 1	± 1	± 1	± 1	± 1
Transverse Sensitivity (%)	<3	<3	<3	<3	<3

Notes

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

ELECTRICAL

Zero Acceleration Output (mV)	< ± 25					< $\pm 10\text{mV}$ 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

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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.