

Model 58 Accelerometer

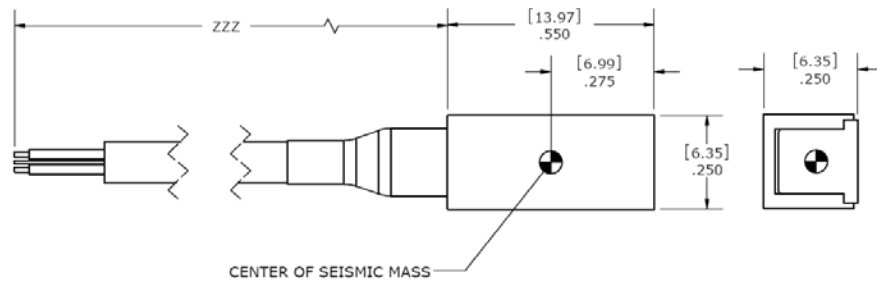


DC Response Accelerometer
Durable Low-Noise Cable
Small Package, Light Weight
±50g to ±2000 Ranges



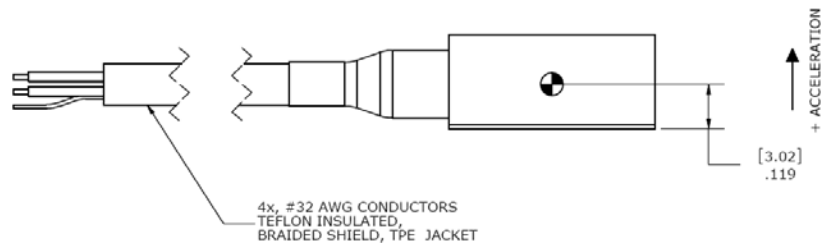
The Model 58 Accelerometer is a MEMS DC response accelerometer designed for auto safety crash testing. The accelerometer is packaged in a rugged housing with a shielded low-noise cable specifically designed for crush zone testing. The model 58 accelerometer features a full bridge output configuration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



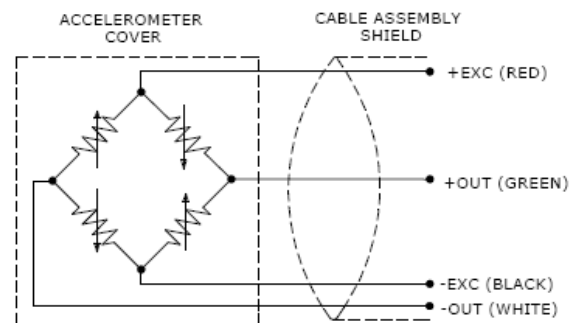
FEATURES

- 2-10 Vdc Excitation
- Piezoresistive MEMS Sensor
- 0-50 °C Temperature Range
- Low Noise Jacketed Cable
- Linearity ±1%
- <±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)	$<\pm 25$	$<\pm 25$	$<\pm 25$	$<\pm 25$	$<\pm 25$
Excitation (Vdc)	2 to 10	2 to 10	2 to 10	2 to 10	2 to 10
Input Resistance (Ω)	2400-6000	2400-6000	2400-6000	2400-6000	2400-6000
Output Resistance (Ω)	2400-6000	2400-6000	2400-6000	2400-6000	2400-6000
Insulation Resistance (M Ω)	>100	>100	>100	>100	>100
Residual Noise ($\mu\text{V RMS}$)	<10	<10	<10	<10	<10
Ground Isolation	Isolated from mounting surface				

$<\pm 10\text{mV Option}$

@50Vdc

ENVIRONMENTAL

Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$)	± 0.10
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$)	-0.14 ± 0.06
Operating Temperature ($^{\circ}\text{C}$)	-20 to +85
Storage Temperature ($^{\circ}\text{C}$)	-20 to +85
Humidity	Epoxy Sealed, IP61

From 0 to +50 $^{\circ}\text{C}$
From 0 to +50 $^{\circ}\text{C}$

PHYSICAL

Case & Cover Material	Anodized Aluminum, Black
Cable (Integral 30 Foot Cable)	4x #32 AWG Conductors Teflon Insulated, Braided Shield, TPE Jacket
Weight (grams)	1.2
Mounting	Adhesive

Cable Not Included

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.