

Model 1210F Accelerometer



MEMS DC Response
Durable Cable, Integral Relief
Temperature Compensation
Reliable Performance



The **Model 1210F** accelerometer is a small, compact uniaxial MEMS accelerometer designed for vehicle impact and road testing. Its mechanical overload stops provide high shock protection in rugged applications. Featuring ranges from 2g to 200g and frequency response to 2000 Hz, this sensor is easily mounted in hard to get places on vehicles under test.

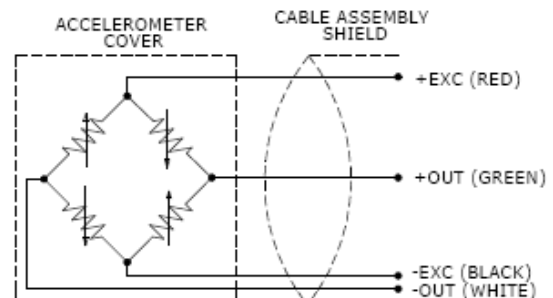
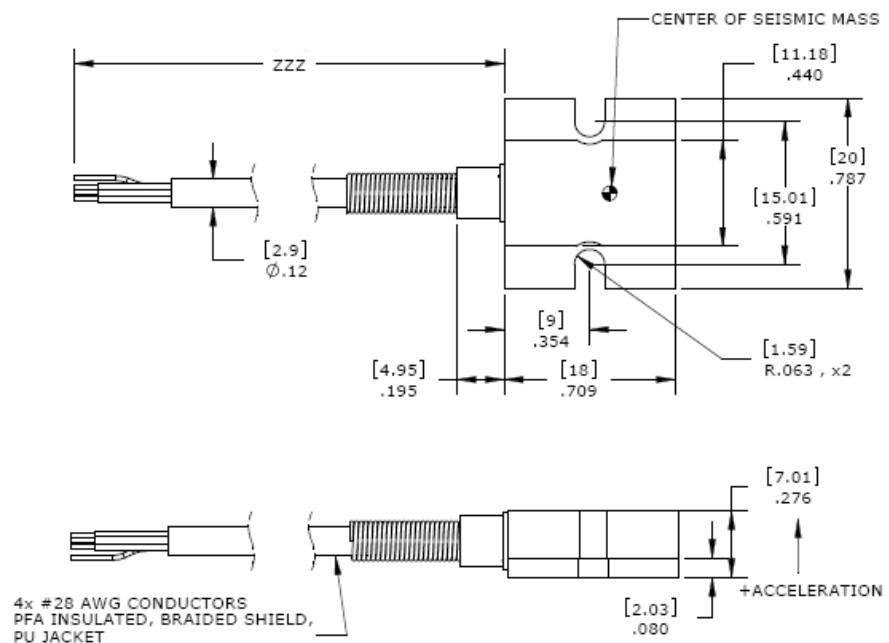
FEATURES

- ±2g to ±200g Dynamic Range
- Environmentally Sealed
- -40°C to +100°C Operating Range
- Rugged Strain Relief
- Mechanical Overload Stops
- Gas Damping
- mV Output
- Bolt Mounted

APPLICATIONS

- Crash Testing
- Impact Testing
- Off-Road Testing
- Vehicle Testing

dimensions



Model 1210F Accelerometer

performance specifications

All values are typical at +24°C, 100Hz and 10Vdc 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

	±2	±5	±10	±20	±50	±100	±200	Notes
Range (g)	±2	±5	±10	±20	±50	±100	±200	
Sensitivity (mV/g) ¹	27	16	9	4.5	2	0.9	0.7	@10Vdc Excitation
Frequency Response (Hz)	0-100	0-200	0-300	0-400	0-800	0-1300	0-1500	±5%
Frequency Response (Hz)	0-200	0-300	0-400	0-500	0-1000	0-1500	0-1800	±1dB
Phase Response	0-50	0-60	0-70	0-100	0-300	0-500	0-500	<±5°
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	7000	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	
Damping Ratio	0.7	0.7	0.7	0.7	0.6	0.6	0.5	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	5000	

ELECTRICAL

Zero Acceleration Output (mV)	±40							Differential
Excitation Voltage (Vdc)	2 to 10							
Input Resistance (Ω)	2400-5000							
Output Resistance (Ω)	2400-5000							
Insulation Resistance (MΩ)	>100							@50Vdc
Residual Noise (μV RMS)	10							Maximum
Ground Isolation	Isolated from Mounting Surface							

ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.05
Thermal Sensitivity Shift (%/°C)	-0.20 ±0.05
Operating Temperature (°C)	-40 to +100
Compensated Temperature (°C)	-20 to +85
Storage Temperature (°C)	-40 to +100
Humidity	Epoxy Sealed

PHYSICAL

Case Material	Anodized Aluminum
Cable	PFA Insulated Leads, Braided Shield, Polyurethane Jacket
Weight (grams)	3.5
Mounting	2x #4 or M3 Screws
Mounting Torque	4.0 lb-in (0.5 N-m)
AWG	#28

¹ Output is ratiometric to excitation voltage

Wiring color code: +Excitation = Red; -Excitation = Black; +Output = Green; -Output = White;

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit

Supplied accessories: 2x #4-40 (1/4" length) Socket Head Cap Screw and Washer

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

1210F-XXXX-ZZZ

| | Cable (360 is 360 inches)
| Range (0050 is 50g)

Example: 1210F-0050-360
Model 1210F, 50g, 360" (30ft) Cable