

# Model 1207F Accelerometer



MEMS DC Response  
Durable Cable  
Low Cost  
Reliable Performance



The **Model 1207F** accelerometer is a small, compact uniaxial device designed for vehicle impact and road testing. Its mechanical overload stops provide high shock protection in rugged applications. Featuring ranges from 50g to 1000g and frequency response to 3000 Hz, this sensor is easily mounted in hard to get places on vehicles under test.

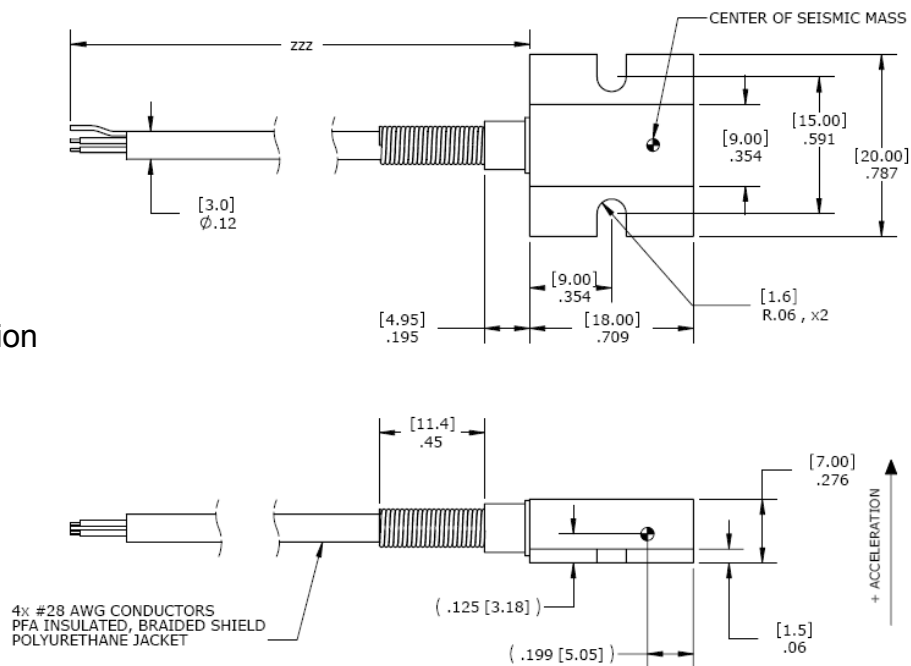
## FEATURES

- MEMS Sensing Element
- ±50g to ±1000g Dynamic Range
- 2-10 VDC Excitation
- 0 to 50°C Temperature Compensation
- ±40 mV Zero Acceleration Output
- Rugged Strain Relief
- Mechanical Overload Stops

## APPLICATIONS

- Crash Testing
- Impact testing
- Off-Road Testing
- Road Testing

## dimensions



# Model 1207F 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

	±50	±100	±200	±500	±1000	Notes
Range (g)	±50	±100	±200	±500	±1000	
Sensitivity (mV/g) <sup>1</sup>	2	0.9	0.7	0.4	0.15	@10Vdc Excitation
Frequency Response (Hz)	0-800	0-1500	0-1800	0-2700	0-4000	±1dB
Phase Response	0-300	0-500	0-500	0-1000	0-2000	<±5°
Natural Frequency (Hz)	2000	3000	4000	6000	7000	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	
Damping Ratio	0.6	0.6	0.6	0.3	0.1	
Shock Limit (g)	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)	3.0
Mounting	2x #4 or M3 Screws
Mounting Torque	4.0 lb-in (0.5 N-m)
AWG	#28

<sup>1</sup> 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 ±1dB 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

1207F-XXXX-ZZZ

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

Example: 1207F-0050-360  
Model 1207F, 50g, 360" (30ft) Cable

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