

MODEL 1207F ACCELEROMETER

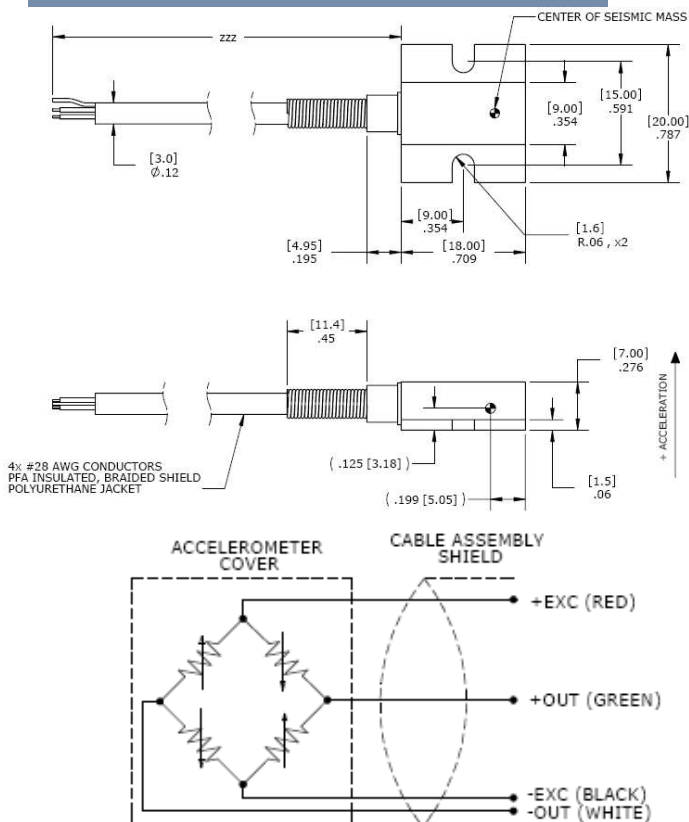


SPECIFICATIONS

- 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.

DIMENSIONS



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

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters

| DYNAMIC | | | | | | Notes |
|---------------------------------|-------|--------|--------|--------|--------|-------------------|
| Range (g) | ±50 | ±100 | ±200 | ±500 | ±1000 | |
| Sensitivity (mV/g) ¹ | 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, IP65 |

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) |

¹ Output is ratiometric to excitation voltage

- 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:** 121 Three Channel DC Differential Amplifier
140A Auto-zero Inline Amplifier

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ORDERING INFORMATION

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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