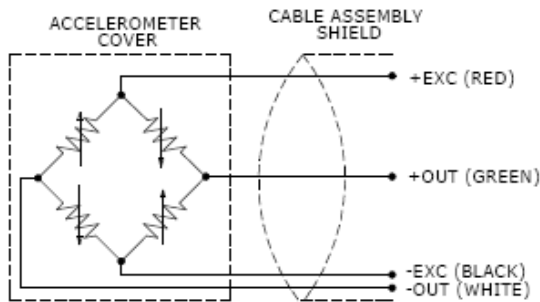
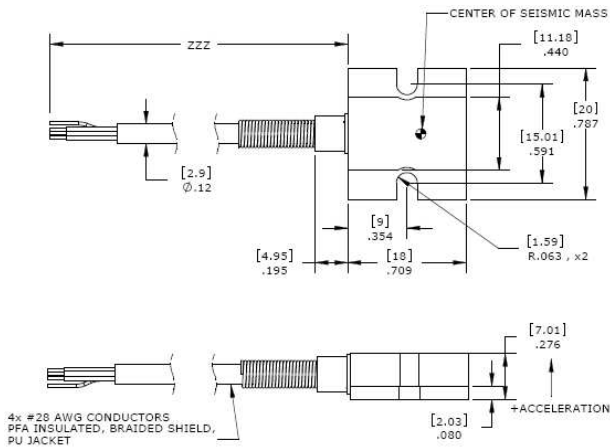


# MODEL 1210F ACCELEROMETER



## DIMENSIONS



## SPECIFICATIONS

- ◆ MEMS DC Response
- ◆ Durable Cable
- ◆ 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

- ◆  $\pm 2g$  to  $\pm 200g$  Dynamic Range
- ◆ Environmentally Sealed
- ◆  $-40^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$  Operating Range
- ◆ Rugged Strain Relief
- ◆ Mechanical Overload Stops
- ◆ Gas Damping
- ◆ mV Output
- ◆ Bolt Mounted

## APPLICATIONS

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

# MODEL 1210F ACCELEROMETER

## 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

	±2	±5	±10	±20	±50	±100	±200	Notes
Range (g)								
Sensitivity (mV/g) <sup>1</sup>	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)	2000	2000	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)	3.5
Mounting	2x #4 or M3 Screws
Mounting Torque	4.0 lb-in (0.5 N-m)

<sup>1</sup> Output is ratiometric to excitation voltage

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

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

## ORDERING INFORMATION

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

### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
Tel: 800-522-6752  
Email: [customercare.hmpt@te.com](mailto:customercare.hmpt@te.com)

### EUROPE

MEAS France SAS  
a TE Connectivity Company  
Tel: 800-440-5100  
Email: [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

### ASIA

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
Tel: 0400-820-6015  
Email: [customercare.shzn@te.com](mailto:customercare.shzn@te.com)

### [TE.com/sensorsolutions](http://TE.com/sensorsolutions)

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.