

# Model 1203 Accelerometer

DC Response Triaxial Accelerometer  
Durable, Low Noise Cable  
Reliable Performance  
Low Cost, Rugged



## The Model 1203 Accelerometer

is a small, compact triaxial device designed for vehicle impact and road testing. Its mechanical overload stops provide high shock protection in rugged applications. Featuring ranges from  $\pm 50g$  to  $\pm 1000g$  and frequency response to 3000 Hz, this sensor is easily mounted in hard to reach places on vehicles under test.

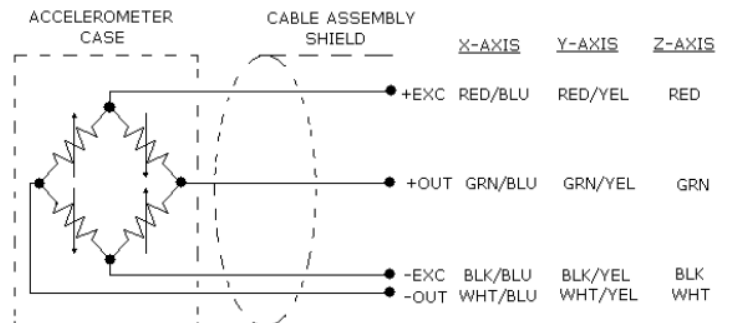
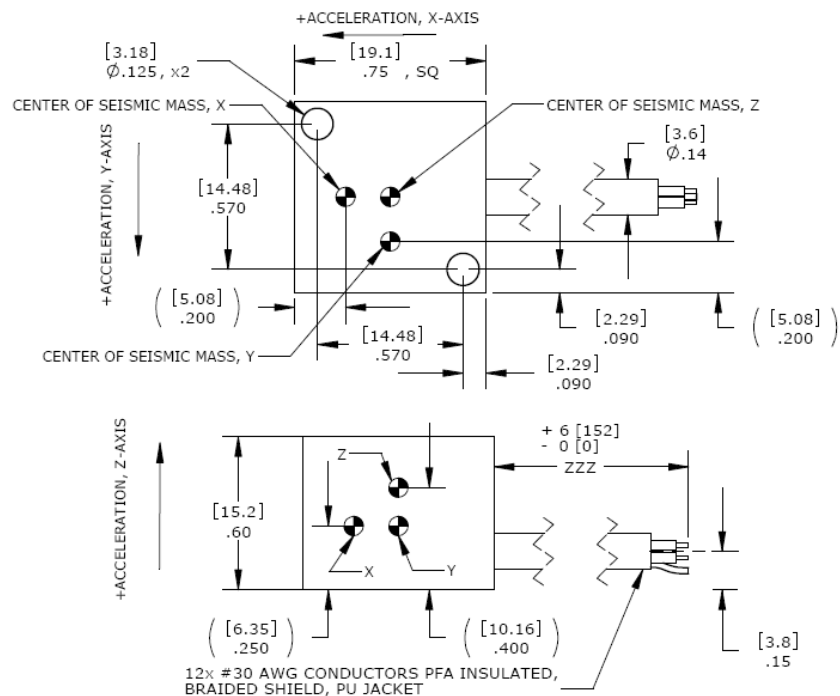
## FEATURES

- Advanced MEMS Sensing Element
- $\pm 50g$  to  $\pm 1000g$  Dynamic Range
- 2-10 Vdc Excitation
- 0-50 °C Temperature Range
- $\pm 40$  mV Zero Measurand Output
- Gas Damping
- Mechanical Overload Stops
- Designed for Screw Mounting

## APPLICATIONS

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

## dimensions



# Model 1203 Accelerometer

## 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	-0050	-0100	-0200	-0500	-1000	Notes
<b>DYNAMIC</b>						
Range(g)	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$	$\pm 1000$	
Sensitivity (mV/g) <sup>1</sup>	2.0	0.9	0.9	0.40	0.15	@ 10Vdc excitation $\pm 5\%$
Frequency Response (Hz)	0-600	0-800	0-1000	0-1200	0-1500	
Natural Frequency (Hz)	2000	3000	4000	6000	7000	
Non-Linearity (% FS)	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	$\pm 1$	
Damping Ratio	0.7	0.7	0.7	0.6	0.5	Typical
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	
Shock Limit (g)	3000	3000	4000	5000	5000	
<b>ELECTRICAL</b>						
Zero Acceleration Output (mV)	< $\pm 40$					
Excitation (Vdc)	2 to 10					
Input Resistance ( $\Omega$ )	2400-6000					
Output Resistance ( $\Omega$ )	2400-6000					
Insulation Resistance (M $\Omega$ )	>100					@50Vdc
Ground Isolation	Isolated from mounting surface.					
<b>ENVIRONMENTAL</b>						
Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ )	$\pm 0.05$					From 0 to $+50^{\circ}\text{C}$
Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ )	$\pm 0.2$					From 0 to $+50^{\circ}\text{C}$
Operating Temperature ( $^{\circ}\text{C}$ )	-20 to +85					
Humidity	Epoxy Sealed, IP65					
<b>PHYSICAL</b>						
Case Material	Anodized Aluminum					
Cable	12x #30 AWG Conductors, PFA Insulated, Braided Shield, PU Jacket					
Weight (grams)	20					Cable Not Included
Mounting	2x #4 or M3 socket head cap screws					Torque 8 lb-in (1 N-m)

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

**Calibration supplied:** CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to  $\pm 5\%$  Frequency Limit

**Optional accessories:** 101 Three Channel DC Signal Conditioner Amplifier  
140 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 info

PART NUMBERING Model Number+Range+Cable Length+Options

1203-GGGG-ZZZ-XXX

| | | Options (otherwise leave blank)  
| | Cable (360 is 360 inches)  
| Range (0100 is 100 g)

Optional Dash Numbers

-001 5Vdc Calibration  
-002 2Vdc Calibration  
-007 Lemo FGG.1B.307 and Dallas DS2401 Installed

Example: 1203-1000-072

Standard Configuration: 1000g, 72" (30ft) cable, No Options