

# Model 1203 Accelerometer

DC Response  
Durable Cable  
Reliable Performance  
Low Cost



## 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 50 g to 1000 g and frequency response to 3000 Hz, this sensor is easily mounted in hard to reach places on vehicles under test.

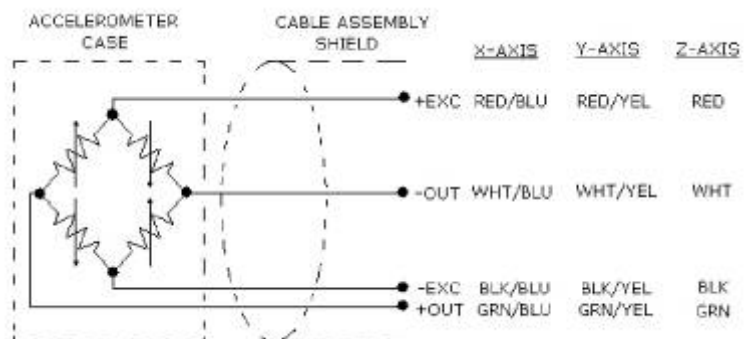
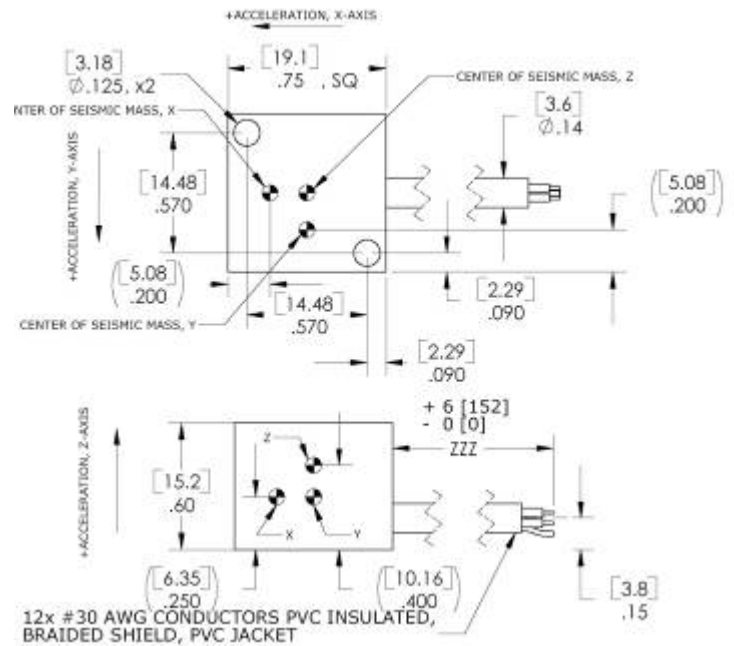
## FEATURES

- 2nd Generation MEMS Sensing Element
- 1000 g Full Scale 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
- Impact Testing
- Off-Road Testing
- Road 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   |            |            |              |            |            | Notes                                       |
|--|------------|------------|--------------|------------|------------|---|
| <b>DYNAMIC</b>                                     |            |            |              |            |            |   |
| Range(g)   | $\pm 50$   | $\pm 100$  | $\pm 200$    | $\pm 500$  | $\pm 1000$ |   |
| Sensitivity (mV/g)                                 | 2          | .9         | .9           | .4         | .15        |   |
| Frequency Response (Hz)                            | 0-600      | 0-800      | 0-1000       | 0-1200     | 0-1500     | $\pm 10\%$                                  |
| Natural Frequency (Hz)                             | 2000       | 3000       | 4000         | 6000       | 7000       |   |
| Non-Linearity (% of reading)                       | $\pm 1$    | $\pm 1$    | $\pm 1$      | $\pm 1$    | $\pm 1$    |   |
| Transverse Sensitivity (%)                         | 3%         | 3%         | 3%           | 3%         | 3%         |   |
| Thermal Zero Shift (%FSO/ $^{\circ}\text{C}$ )     | $\pm 0.05$ | $\pm 0.05$ | $\pm 0.05$   | $\pm 0.05$ | $\pm 0.05$ | From 0 to $+50^{\circ}\text{C}$             |
| Thermal Sensitivity Shift (%/ $^{\circ}\text{C}$ ) | $\pm 0.2$  | $\pm 0.2$  | $\pm 0.2$    | $\pm 0.2$  | $\pm 0.2$  | From 0 to $+50^{\circ}\text{C}$             |
| <b>ELECTRICAL</b>                                  |            |            |              |            |            |   |
| Zero Acceleration Output (mV)                      | $<\pm 40$  | $<\pm 40$  | $<\pm 40$    | $<\pm 40$  | $<\pm 40$  |   |
| Excitation (Vdc)                                   | 2 to 10    | 2 to 10    | 2 to 10      | 2 to 10    | 2 to 10    |   |
| Input Resistance                                   | 3500-4800  | 3500-4800  | 3500-4800    | 3500-4800  | 3500-4800  |   |
| Output Resistance ( $\Omega$ )                     | 2700-4800  | 2700-4800  | 2700-4800    | 2700-4800  | 2700-4800  |   |
| Insulation Resistance ( $M\Omega$ )                | $>100$     | $>100$     | $>100$       | $>100$     | $>100$     | @50Vdc<br>Isolated from<br>Mounting Surface |
| Ground Isolation                                   |            |            |              |            |            |   |
| <b>ENVIRONMENTAL</b>                               |            |            |              |            |            |   |
| Shock Limit (g)                                    | 3000       | 3000       | 4000         | 5000       | 5000       |   |
| Operating Temperature (C)                          |            |            | -20 to +85   |            |            |   |
| Humidity   |            |            | Epoxy Sealed |            |            |   |
| <b>PHYSICAL</b>                                    |            |            |              |            |            |   |
| Case Material                                      |            |            | Aluminum     |            |            |   |
| Cable (Integral 6 Ft.)                             |            |            |              |            |            | 12x30 AWG                                   |
| Cable (PVC Jacket)                                 |            |            |              |            |            | Braided Shield                              |
| Weight (grams)                                     |            |            | 20           |            |            | Cable Not Included                          |
| Mounting   |            |            | Screw        |            |            | Torque 8 lb-in                              |

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## ordering info

PART NUMBERING Model Number+Range+Excitation+Cable Length+Options

1203-GGGG-VV-CCCX

| | | | Options  
 | | | Cable (072 is 72 inches)  
 | | Excitation (10 is 10 Vdc)  
 | Range (0100 is 100 g)

Options:

X = None  
 D = Deutsch Connector (P/N TBDJ)  
 L = Lemo Connector (P/N FGG.18.307.CYCD42)  
 T = Tajimi Connector (P/N R05PB5M)

Example: 1203-1000-10-072X

Standard Configuration: 1000g, 10V Excitation, 72" (6 ft) cable, No Options