

Model 1202 Accelerometer

- DC Response**
- Durable Cable**
- Reliable Performance**
- Self Test**



Since the mass actually moves, the self-test is both a mechanical test of the unit's functioning and an electrical test. This ensures significant time and costs savings for quality personnel in determining performance during in-coming inspections and for test engineers trouble-checking instrumentation channels before and after auto safety tests.



DESCRIPTION

The **Model 1202** 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 50 g to 1000g and frequency response to 3000 Hz, this sensor is easily mounted in hard to get places on vehicles under test.

By applying a voltage to the self-test lead, an electrostatic force is created that attracts the seismic mass towards the top cap, simulating an acceleration and allowing proper sensor function to be verified.

FEATURES

- ◆ 2nd GEN MEMS Sensing Element
- ◆ 1000 g Full Scale Range
- ◆ 2-10 VDC Excitation
- ◆ ±40 mV Zero Measurand Output
- ◆ Gas Damping
- ◆ Connector Options
- ◆ Mechanical Overload Stops
- ◆ Designed for Adhesive Mounting
- ◆ Self Test U.S. Patent Numbers

5,103,667

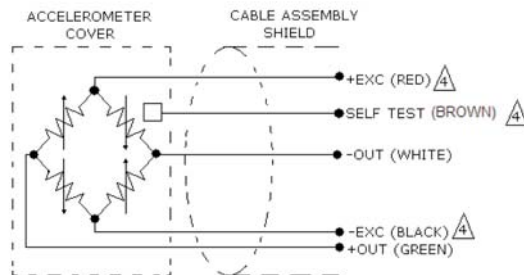
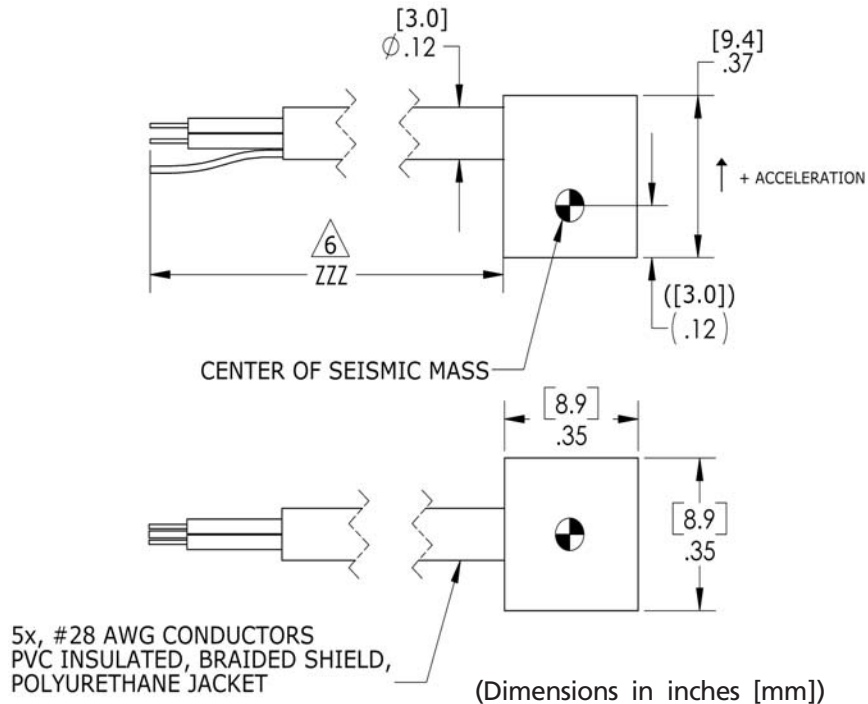
5,253,510

5,445,006

APPLICATIONS

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

dimensions



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performance specifications

All values are typical at 24 °C, 100 Hz and 10 Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

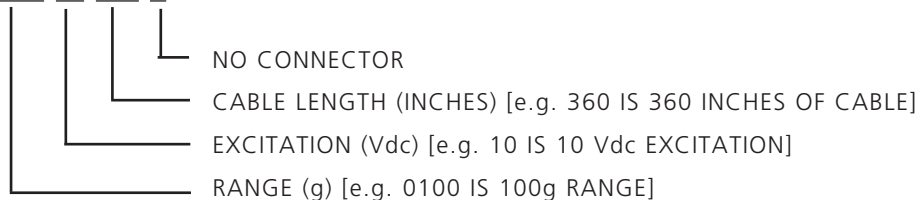
PARAMETERS

DYNAMIC						Units	Notes
Range	±50	±100	±200	±500	±1000	g	
Sensitivity	2.0	0.9	0.9	0.4	0.15	mV/g	
Frequency Response	0-800	0-1500	0-1800	0-2700	0-3000	Hz	±1 dB
Resonant Frequency	2000	3000	4000	6000	7000	Hz	Gas Damped
Non-Linearity	±1.0	±1.0	±1.0	±1.0	±1.0	% FSO	
Transverse Sensitivity	3					%	Typical
Zero Acceleration Output	<±40					mV	
Thermal Zero Shift	±0.05(±0.03)					%FSO/°C(%FSO/°F)	
Thermal Sensitivity Shift	±0.2(±0.11)					%/°C(%/°F)	
ELECTRICAL							
Voltage Excitation	2 to 10					Vdc	
Input Impedance	3500 to 4800					Ω	Typical
Output Impedance	2700 to 4800					Ω	Typical
Insulation Resistance	100					MΩ	@50 Vdc
Ground Isolation	Isolated						
Cable Output Connections	30 Feet Integral, Tinned Leads or Customer Specified						
ELECTRICAL							
+ EXC						RED	28 AWG, PVC insulated
- EXC						BLACK	28 AWG, PVC insulated
+ OUT						GREEN	28 AWG, PVC insulated
- OUT						WHITE	28 AWG, PVC insulated
SELF TEST						BROWN	28 AWG, PVC insulated
CABLE SHIELD						N/A	Braided Wires
CABLE JACKET						BLACK	POLYURETHANE
PHYSICAL							
Case Material	Anodized Aluminum						Black
Weight	3					grams	Without Cable
Mounting	Adhesive						
ENVIRONMENTAL							
Shock Limit	3000	3000	4000	5000	5000	g's	
Operating Temperature				-20 to +85		°C	
Humidly							Epoxy sealed

To utilize the accelerometer in normal sensing mode, the +EXC (Red) and Self Test (Brown) leads must be electrically shorted together. In self test mode, the -EXC (Black) and Self Test (Brown) leads must be electrically shorted together. Application of 10 Vdc Between +EXC (Red) and -EXC (Black) / Self Test (Brown) will result in a corresponding mV output, less the offset, between +Out (Green) and -Out (White) [e.g. 50g-2mV, 100g-1mV, 200g-1mV, 500g-0.5mV, 1000g-0.3mV].

ordering information

1202-ZZZZ-ZZ-ZZZ X



Supplied Materials:
 Mounting Screws (PN AC-D02024)x4
 Calibration Certificate

CUSTOM CONNECTOR OPTIONS ARE AVAILABLE. CONTACT MEASUREMENT SPECIALTIES, INC. FOR APPLICABLE MODEL NUMBER.

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