Model 1202 Accelerometer

DC Response
Durable Cable
Reliable Performance
Self Test

RoHS Compliant

Self-Test Function with patent-pending technology

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.

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.

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

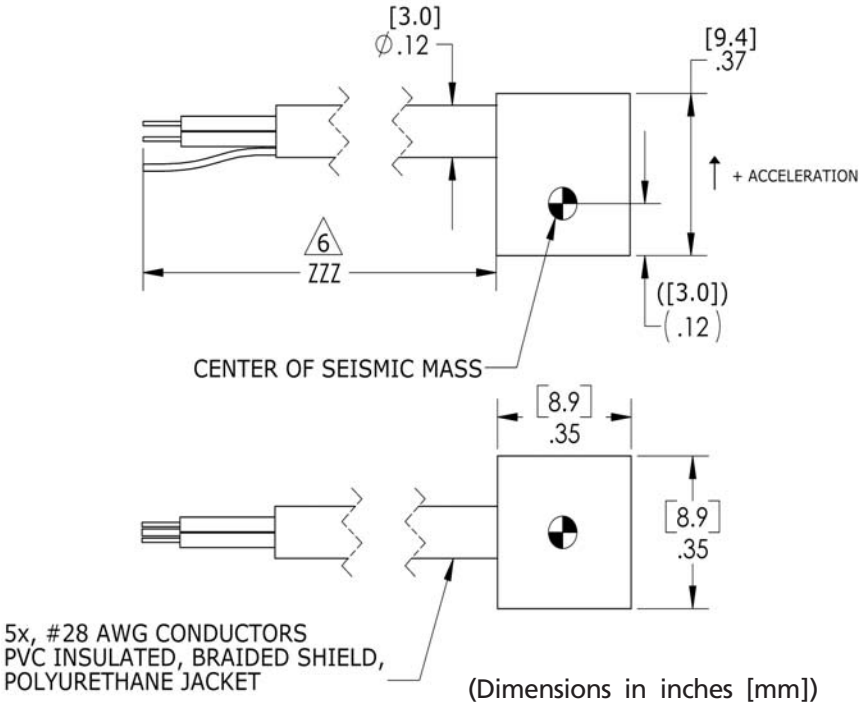
  5,253,510

  5,445,006

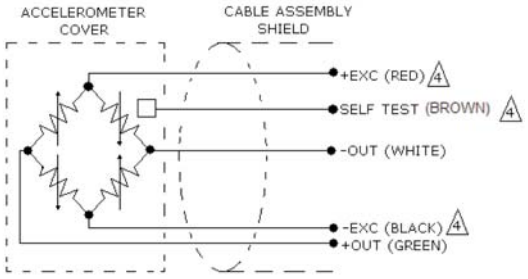
APPLICATIONS

- Crash Testing
- Impact Testing
- Off-Road Testing

dimensions



(Dimensions in inches [mm])



www.meas-spec.com
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measurement SPECIALTIES

Model 1202 Accelerometer

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-0.5mV, 500g-0.3mV, 1000g-0.3mV].

ordering information

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

1202-ZZZZ-ZZ-ZZZ X

- NO CONNECTOR
- CABLE LENGTH (INCHES) [e.g. 360 IS 360 INCHES OF CABLE]
- EXCITATION (Vdc) [e.g. 10 IS 10 Vdc EXCITATION]
- RANGE (g) [e.g. 0100 IS 100g RANGE]

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

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