

Model 1202F 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 incoming inspections and for test engineers trouble-checking instrumentation channels before and after auto safety tests.



DESCRIPTION

The **Model 1202F** 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 Screw Mounting
- ◆ Self Test U.S. Patent Numbers

5,103,667

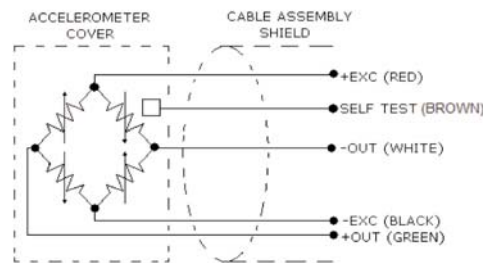
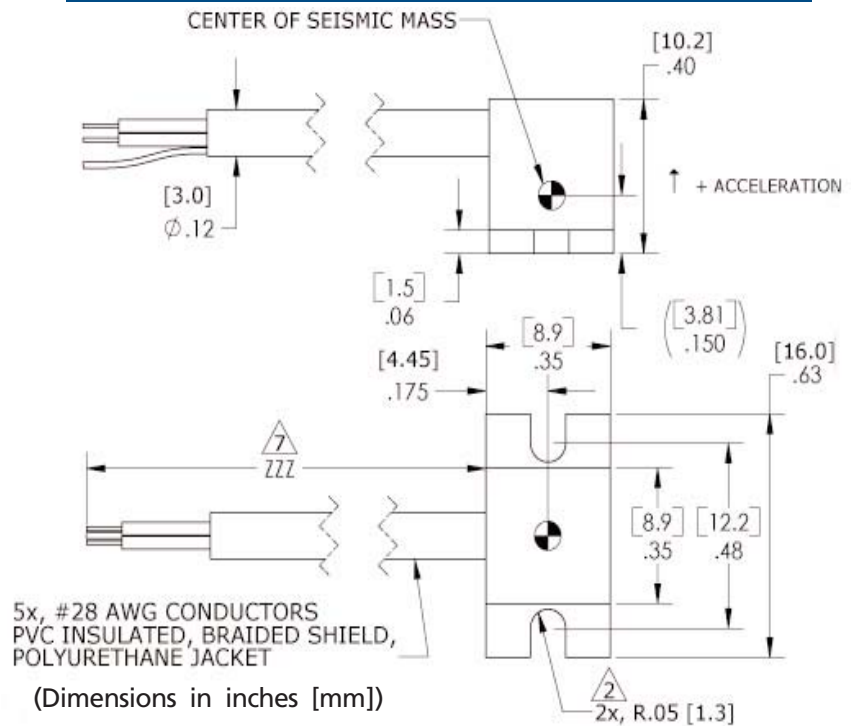
5,253,510

5,445,006

APPLICATIONS

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

dimensions



www.meas-spec.com
 Tel: 949-716-5377
 Fax: 949-916-5677
 Email: vibration@meas-spec.com



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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

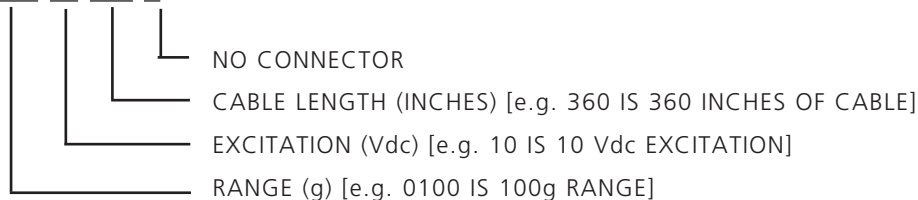
DYNAMIC						Units	Notes
Range	±50	±100	±200	±500	±1000	g	
Sensitivity	2.0	0.9	0.9	0.4	0.15	mV/g	
Frequency Response	0-800	0-1500	0-1800	0-2700	0-3000	Hz	±1 dB
Resonant Frequency	2000	3000	4000	6000	7000	Hz	Gas Damped
Non-Linearity	±1.0	±1.0	±1.0	±1.0	±1.0	% FSO	
Transverse Sensitivity	3					%	Typical
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
Bracket Material	Anodized Aluminum						Black
Weight	3					grams	Without Cable
Mounting	Adhesive/Screw Mount (Mounting Torque 3 lb-in or 0.3 Nm)						
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

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

1202F-ZZZZ-ZZ-ZZZ X



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

www.meas-spec.com
 Tel: 949-716-5377
 Fax: 949-916-5677
 Email: vibration@meas-spec.com



CONTATO

Endereço

Rua Sete de Setembro, 2671 - Centro
13560-181 - São Carlos - SP - Brasil

Telefone

+ 55 (16) 3371-0112

Fax

+ 55 (16) 3372-7800

Internet

www.metrolog.net
metrolog@metrolog.net



Metrolog Controles de Medição