Model 4002 Accelerometer

Signal Conditioned, Amplified Output
Optimum Signal to Noise Ratio
Temperature Compensated
Micro-g Resolution

Description

The model 4002 is a low frequency DC response accelerometer with exceptional resolution. The accelerometer is designed for optimum signal-to-noise ratio and offers an amplified signal conditioned output. Offered in ranges from ±2 to ±200g the accelerometer is ideal for low frequency measurements in temperature ranges of -20°C to +85°C. The MEMS sensing element is gas damped with a broad and stable frequency response.

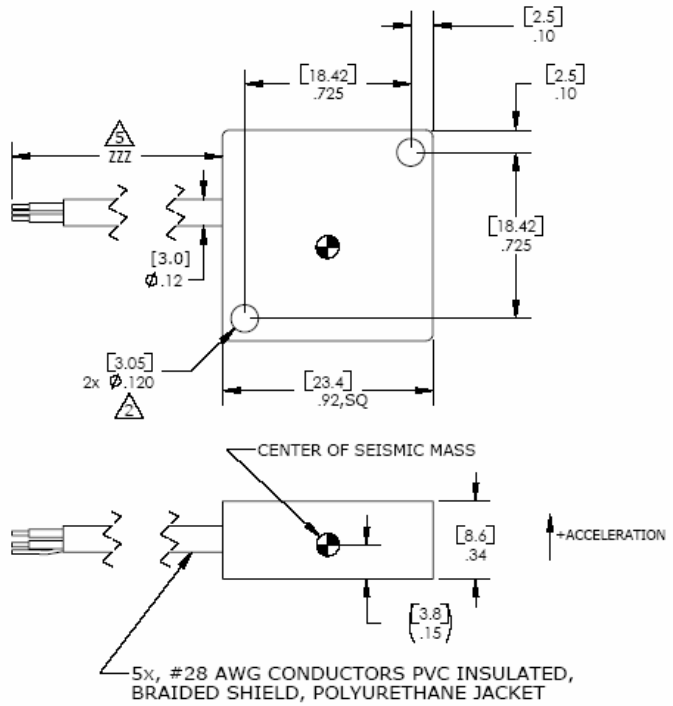
FEATURES

- ±2g to ±200g Dynamic Range
- Amplified, Filtered Output
- 8 to 36Vdc Excitation
- Gas Damped MEMS Element
- Micro-g Resolution
- DC, Low Frequency Response

APPLICATIONS

Low Frequency Testing
Motion Control
Tilt Measurements
Test & Instrumentation
Transportation Measurements

dimensions



Measurement Specialties, Inc.
1000 Lucas Way
Hampton, VA 23666 USA
Tel: +1-757-766-1500
Fax: +1-757-766-4297
www.meas-spec.com

Vibration Sensors Technical Support
Tel: +1-949-716-5377
Fax: +1-949-916-5677
Email: vibration@meas-spec.com

measurement SPECIALTIES

Model 4002 Accelerometer

performance specifications

All values are typical at 24°C, 100Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters

DYNAMIC

Range	±2	±5	±10	±20	Units	Notes
Sensitivity	1000	400	200	100	mV/g	Typical
Frequency Response	0-200	0-300	0-350	0-600	Hz	±5%
Residual Noise	120	100	80	80	µV rms	

Range	±50	±100	±200	Units	Notes
Sensitivity	40	20	10	mV/g	Typical
Frequency Response	0-800	0-1300	0-1500	Hz	±5%
Residual Noise	100	100	100	µV rms	

Non-Linearity	±0.5	% FSO	
Transverse Sensitivity	±3	%	±1% Typical
Zero Acceleration Output	±100	mV	
Thermal Zero Shift (-20 to +85°C)	±.04	% FSO/°C	
Thermal Sensitivity Shift (-20 to +85°C)	±.05	%/°C	
Damping Ratio	0.70		Gas Damped

ELECTRICAL

Excitation Voltage	8 to 36	Vdc	
Excitation Current	5.0	mA	Typical
Bias Voltage	2.5	Vdc	
Output Impedance	100	Ohms	Maximum
Insulation Resistance (@ 50Vdc)	100	MΩ	Minimum
Ground Isolation	Isolated		

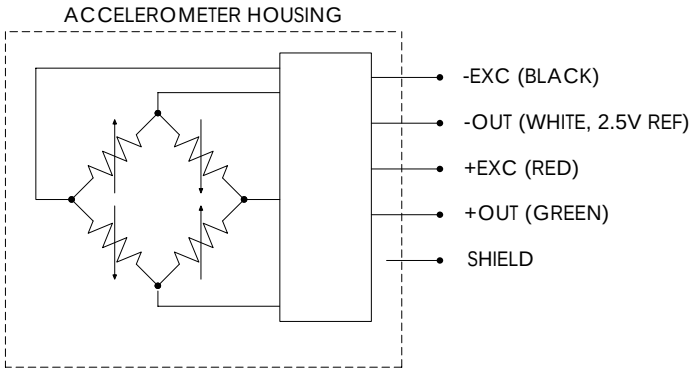
PHYSICAL

Housing	Aluminum		Hard Anodized
Weight (cable not included)	7	grams	
Mounting	2x #4 or 2x M3 Screws		6 lb-in mounting torque

ENVIRONMENTAL

Shock Limit	5,000	g's
Operating Temperature	-20 to +85	°C
Humidity	Epoxy sealed	

electrical schematic



ordering information

4002-002-060

- 060 — Cable Length (in)
- 002 — Range (g)
- 4002 — Model

measurement SPECIALTIES