

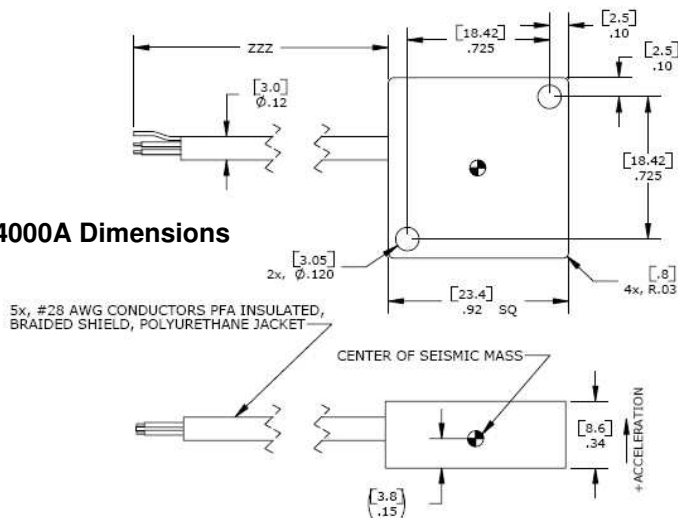


4001A Connector
Attachment

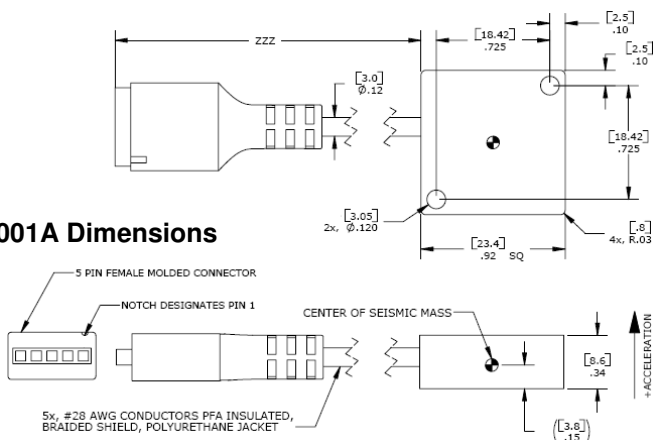


dimensions

4000A Dimensions



4001A Dimensions



MODEL 4000A & 4001A ACCELEROMETER

SPECIFICATIONS

- ◆ **Silicone MEMS Accelerometer**
- ◆ **Signal Conditioned Output**
- ◆ **Temperature Calibrated**
- ◆ **Low Cost, Lightweight**

The Model 4000A & 4001A are economical signal conditioned accelerometers with integral temperature compensation. The accelerometers incorporate a 3rd generation silicon MEMS sensor providing outstanding performance. The accelerometers are packaged in a rugged aluminum housing ideal for transportation and instrumentation testing. The signal conditioned output incorporates a 2.5V reference that offers the user a differential or single-ended output.

FEATURES

- ◆ **±2g to ±200g Dynamic Range**
- ◆ **High Over-Range Protection**
- ◆ **Signal Conditioned Output**
- ◆ **Low Power Consumption**
- ◆ **Lightweight**
- ◆ **Gas Damping**
- ◆ **8 to 36Vdc Excitation Voltage**

APPLICATIONS

- ◆ **Low Frequency Monitoring**
- ◆ **Transportation**
- ◆ **Vibration Sensing**
- ◆ **Test & Instrumentation**
- ◆ **Machine Control**
- ◆ **Motion Analysis**
- ◆ **Tilt**

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters

DYNAMIC

	±2	±5	±10	±20	±50	±100	±200	Notes
Range (g)								
Sensitivity (mV/g)	1000	400	200	100	40	20	10	
Frequency Response (Hz)	0-200	0-300	0-350	0-600	0-800	0-1300	0-1500	±5%
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.6	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	5000	

ELECTRICAL

Zero Acceleration Output (mV)	±100	±100	±100	±100	±100	±100	±100	Differential
Excitation Voltage (Vdc)	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	
Excitation Current (mA)	<5	<5	<5	<5	<5	<5	<5	
Bias Voltage (Vdc)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Output Resistance (Ω)	<100	<100	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	>100	@100Vdc
Turn On Time (msec)	<100	<100	<100	<100	<100	<100	<100	
Residual Noise (μV RMS)	500	300	300	350	400	350	400	Passband
Spectral Noise (μg/√Hz)	35	38	75	132	316	516	1033	Passband
Ground Isolation	Isolated from Mounting Surface							

ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.014	±0.014	±0.014	±0.014	±0.014	±0.014	±0.014	Typical
Thermal Sensitivity Shift (%/°C)	±0.028	±0.028	±0.028	±0.028	±0.028	±0.028	±0.028	Typical
Operating Temperature (°C)	-20 to 85							
Compensated Temperature (°C)	-20 to 85							
Storage Temperature (°C)	-40 to 90							

PHYSICAL

Case Material	Anodized Aluminum
Cable	PFA Insulated Leads, Braided Shield, PU Jacket
Weight (grams)	7
Mounting	2x #4 or M3 Screws
Mounting Torque	3 lb-in (0.3 N-m)
AWG	#28

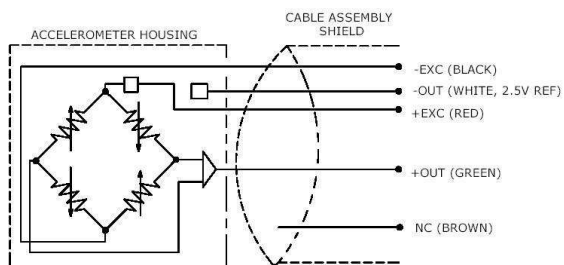
Supplied accessories: AC-D02295 Mating Pins (for model 4001A)

Optional accessories: AC-D02652 Triaxial Mounting Block
121 3-Channel Precision Low Noise DC Amplifier

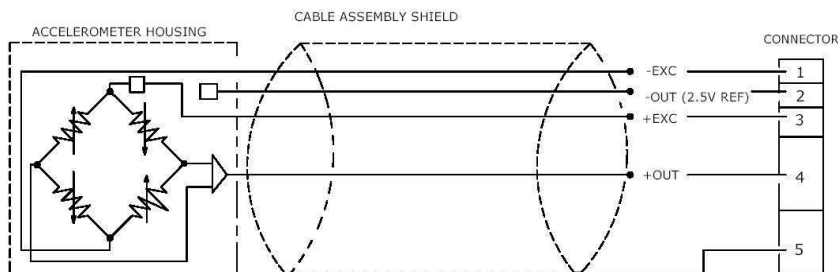
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SCHEMATIC

4000A Schematic

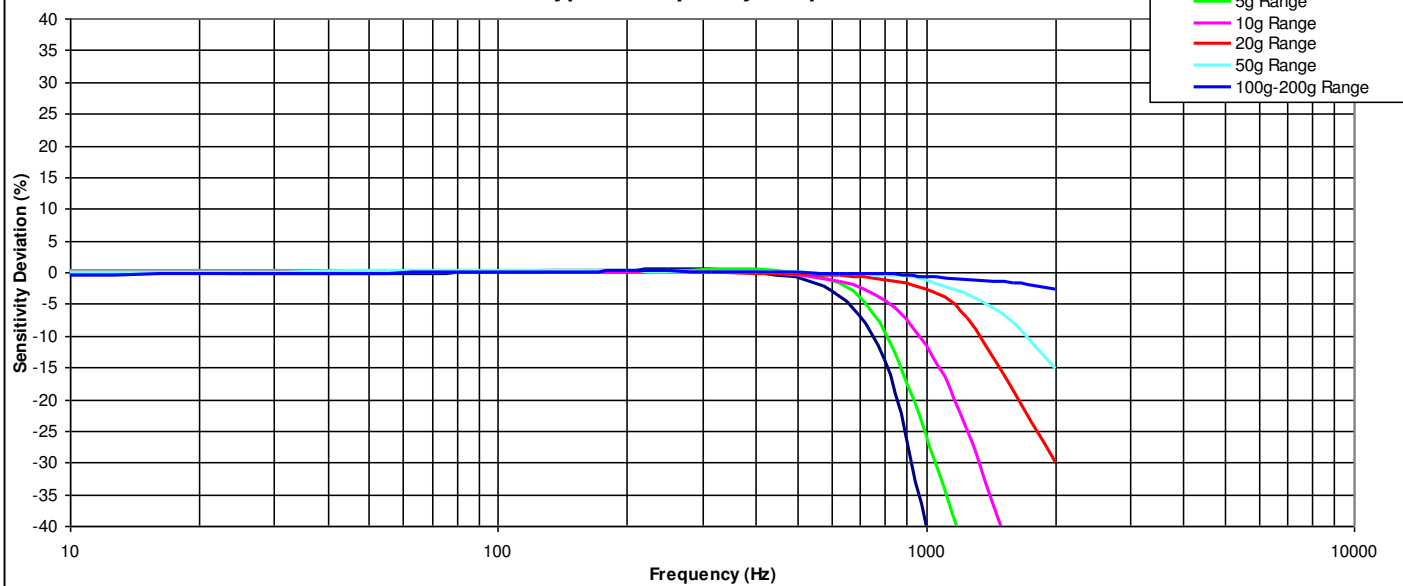


4001A Schematic

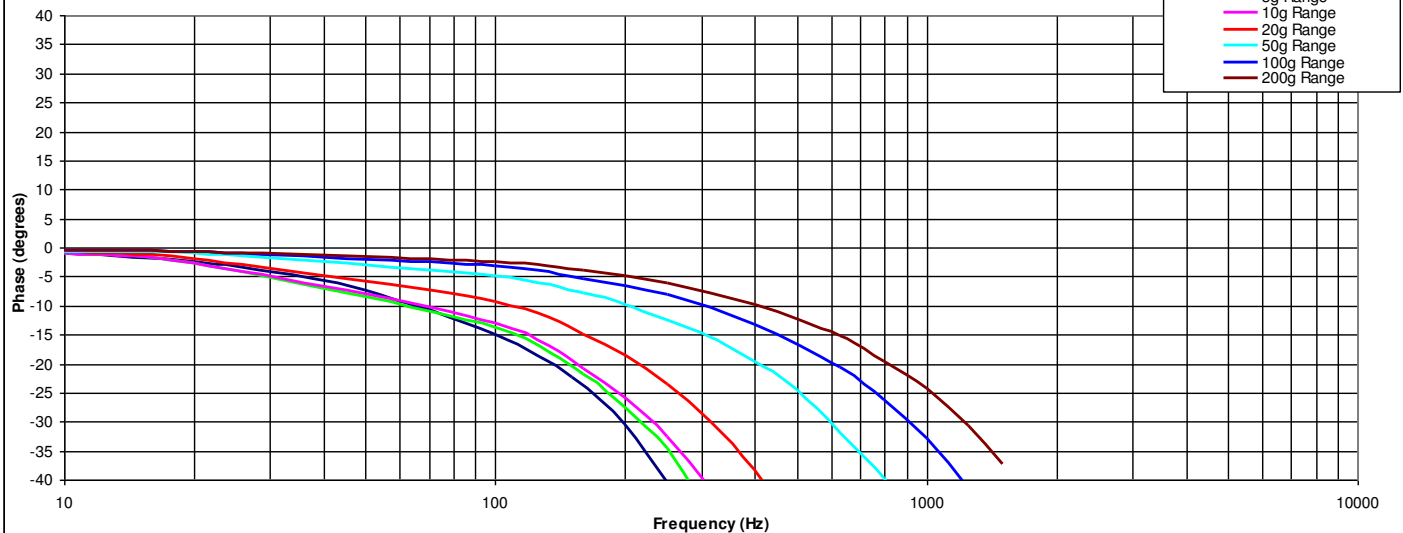


PERFORMANCE SPECIFICATIONS

Typical Frequency Response



Typical Phase Response



ORDERING INFORMATION

4000A & 4001A	GGG	ZZZ
Series Type		
Range		
002=2g		
005=5g		
010=10g		
020=20g		
050=50g		
100=100g		
200=200g		
Cable length		
060=60 inches		
120=120 inches		
180=180 inches		
240=240 inches		
300=300 inches		
360=360 inches		
480=480 inches		
600=600 inches		
197=197 inches, 5 meters		
394=394 inches, 10 meters		

Example; 4000A-010-060
Model 4000A, 10g range, 60inch cable length

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