



4001A Connector Attachment



## MODEL 4000A & 4001A ACCELEROMETER

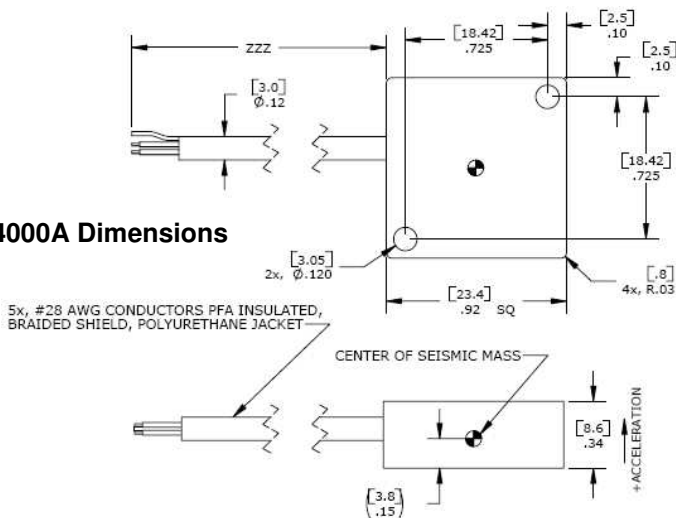
### SPECIFICATIONS

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

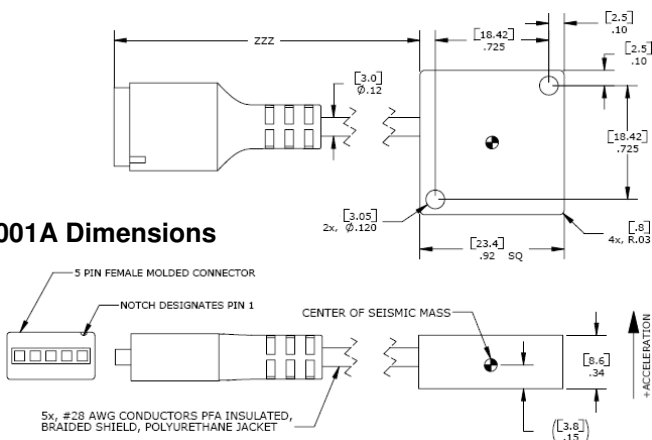
The Model 4000A & 4001A are economical signal conditioned accelerometers with integral temperature compensation. The accelerometers incorporate a 3rd generation silicon MEMS sensor providing outstanding performance. The accelerometers are packaged in a rugged aluminum housing ideal for transportation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

### dimensions

#### 4000A Dimensions



#### 4001A Dimensions



### FEATURES

- ◆  $\pm 2g$  to  $\pm 200g$  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**

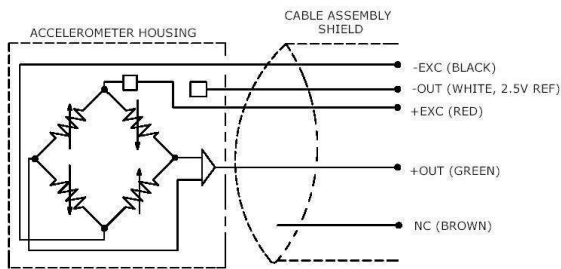
All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters								Notes
<b>DYNAMIC</b>								
Range (g)	±2	±5	±10	±20	±50	±100	±200	
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	
<b>ELECTRICAL</b>								
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							
<b>ENVIRONMENTAL</b>								
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							
<b>PHYSICAL</b>								
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							
<b>Supplied accessories:</b>	AC-D02295	Mating Pins (for model 4001A)						
<b>Optional accessories:</b>	AC-D02652	Triaxial Mounting Block						
	121	3-Channel Precision Low Noise DC Amplifier						

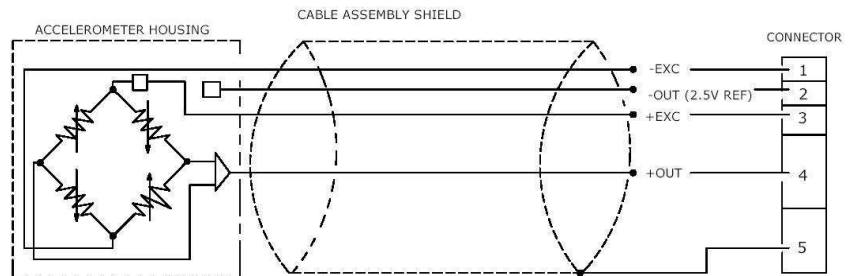
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**SCHEMATIC**

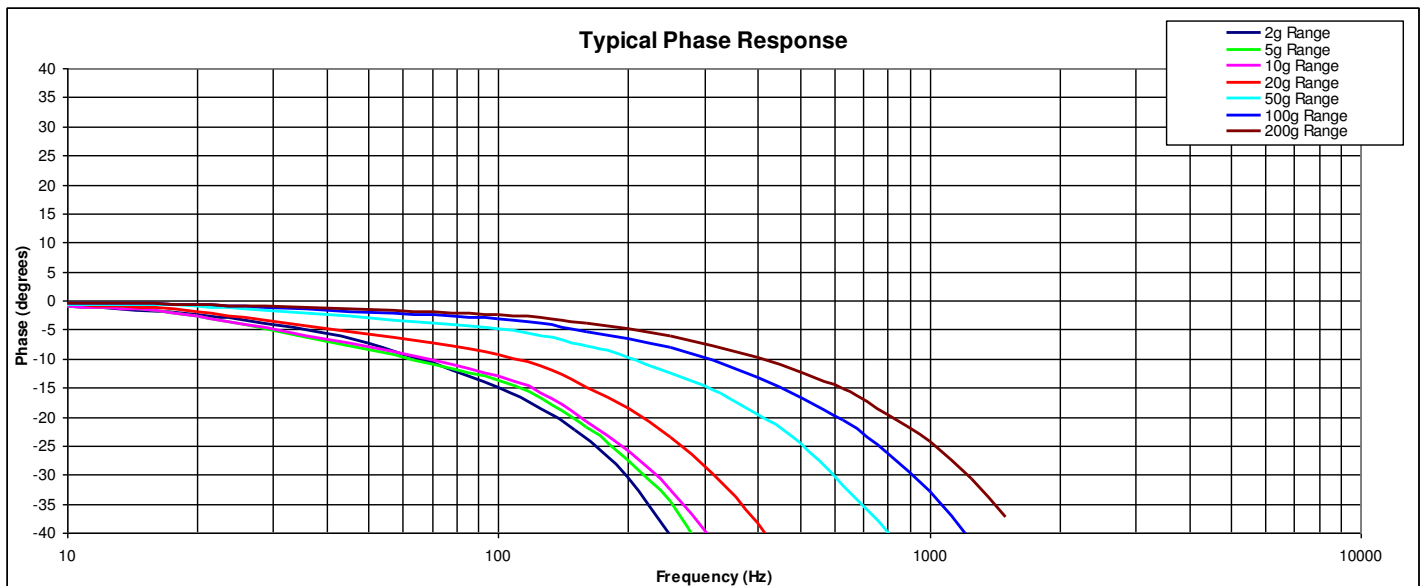
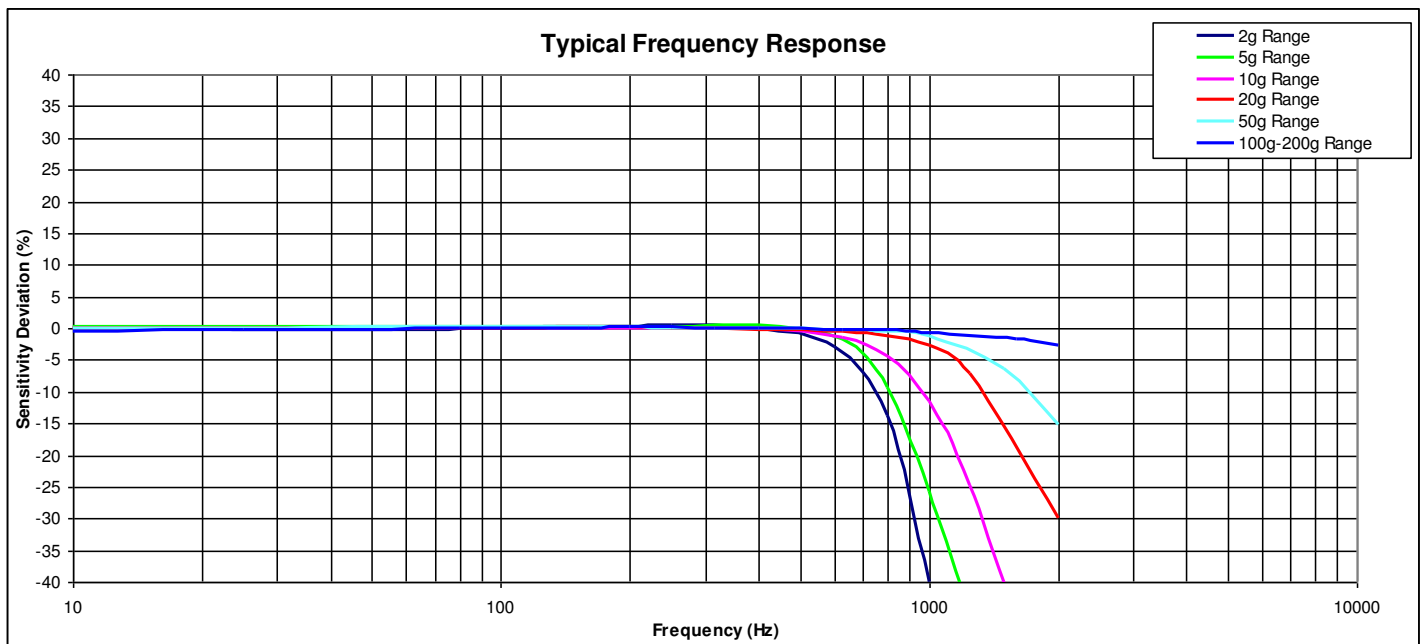
**4000A Schematic**



**4001A Schematic**



**PERFORMANCE SPECIFICATIONS**



## ORDERING INFORMATION

4000A & 4001A	GGG	ZZZ
<b>Series Type</b>		
<b>Range</b>		
002=2g		
005=5g		
010=10g		
020=20g		
050=50g		
100=100g		
200=200g		
<b>Cable length</b>		
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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