



4001A Connector  
Attachment



# MODEL 4000A & 4001A ACCELEROMETER

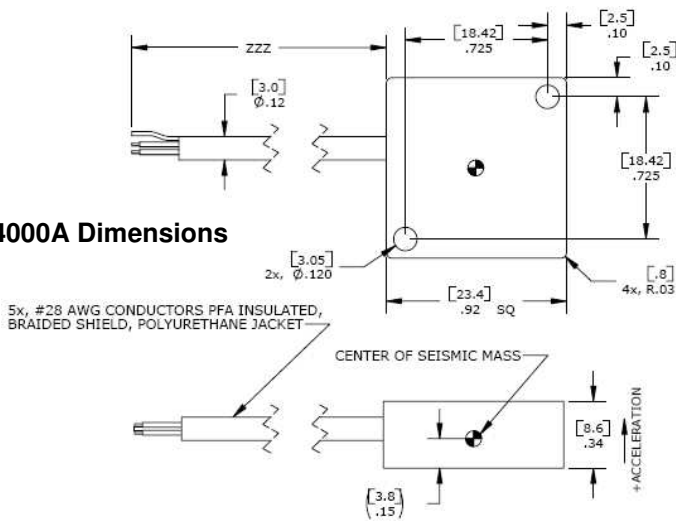
## SPECIFICATIONS

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

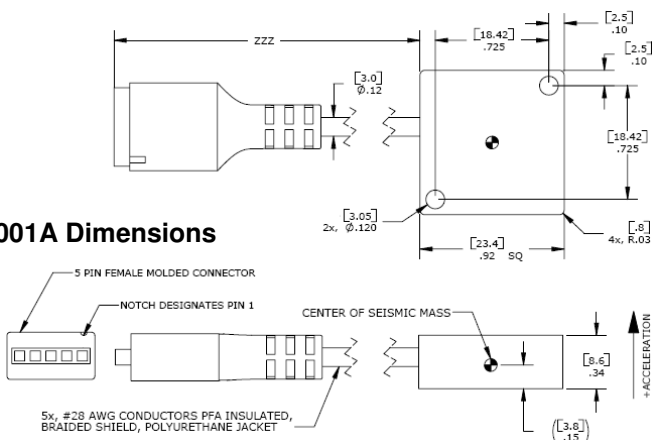
The Model 4000A & 4001A are economical signal conditioned accelerometers with integral temperature compensation. The accelerometers incorporate a 3rd generation silicon MEMS sensor providing outstanding performance. The accelerometers are packaged in a rugged aluminum housing ideal for transportation 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**

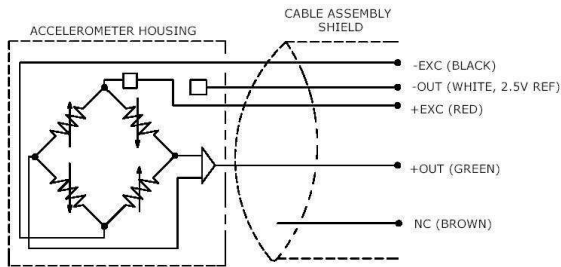
All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

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						

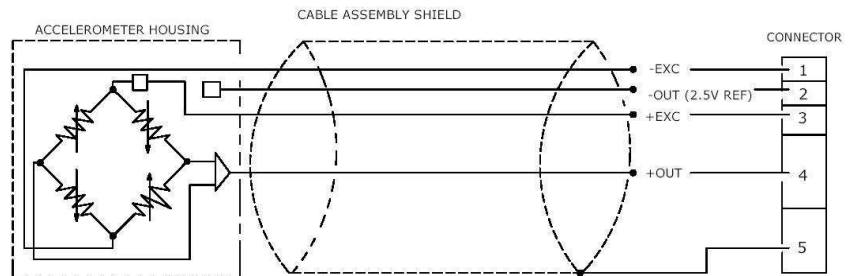
The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

**SCHEMATIC**

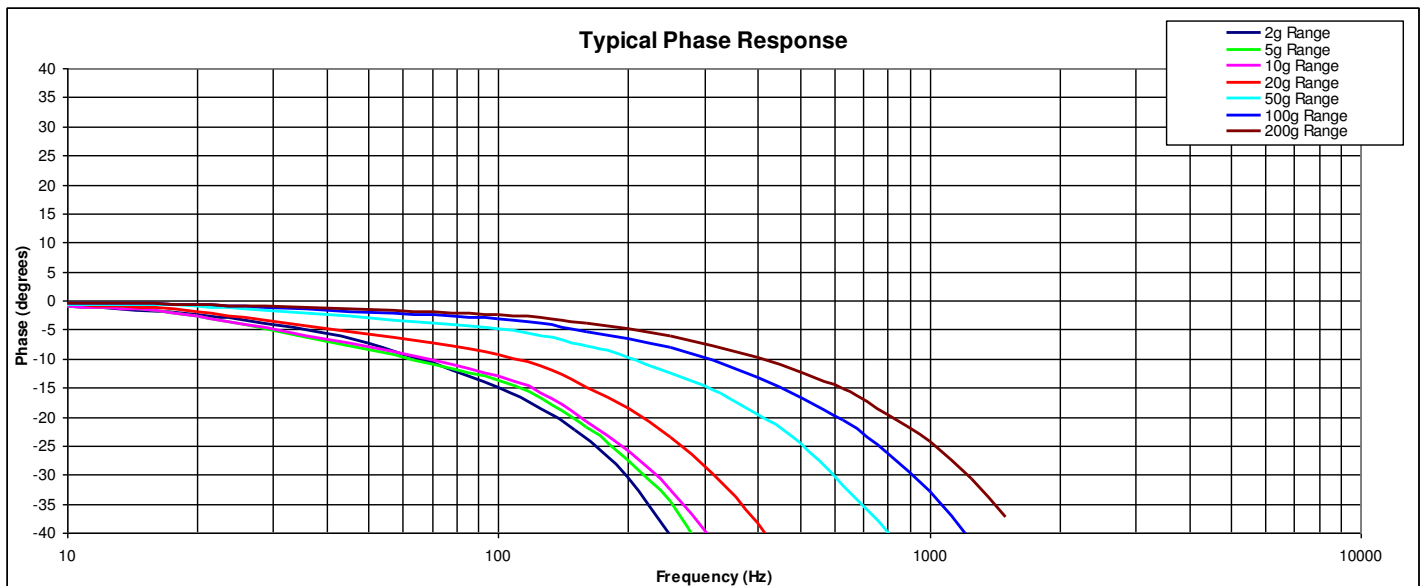
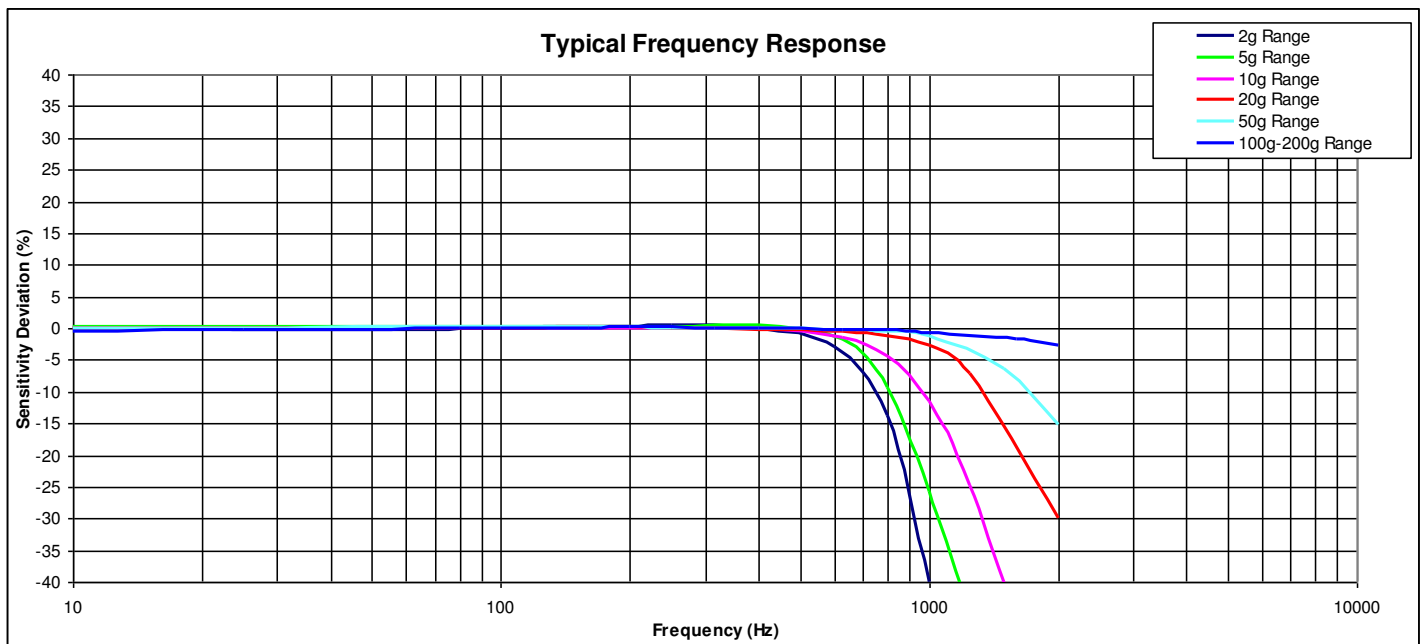
**4000A Schematic**



**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

### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
Phone: 800-522-6752  
Email: [customercare.hmpt@te.com](mailto:customercare.hmpt@te.com)

### EUROPE

MEAS France SAS  
a TE Connectivity Company  
Phone: 800-440-5100  
Email: [customercare.lcsb@te.com](mailto:customercare.lcsb@te.com)

### ASIA

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
Phone: 0400-820-6015  
Email: [customercare.shzn@te.com](mailto:customercare.shzn@te.com)

### TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.