MODEL 4803A ACCELEROMETER

SPECIFICATIONS

- **MEMS Triaxial Accelerometer**
- **Ultra-Stable, DC Response**
- **Hermetically Sealed**
- **Advanced Temp Compensation**

The Model 4803A is an ultra-stable MEMS triaxial accelerometer in a rugged, welded stainless steel package. The silicon MEMS accelerometer incorporates integral temperature compensation that provides a stable output over a wide temperature range from -55°C to +125°C. Offered in ranges from ±2 to ±500g, the model 4803A accelerometer also provides a wide bandwidth from DC to 2000Hz for both static and dynamic measurements.

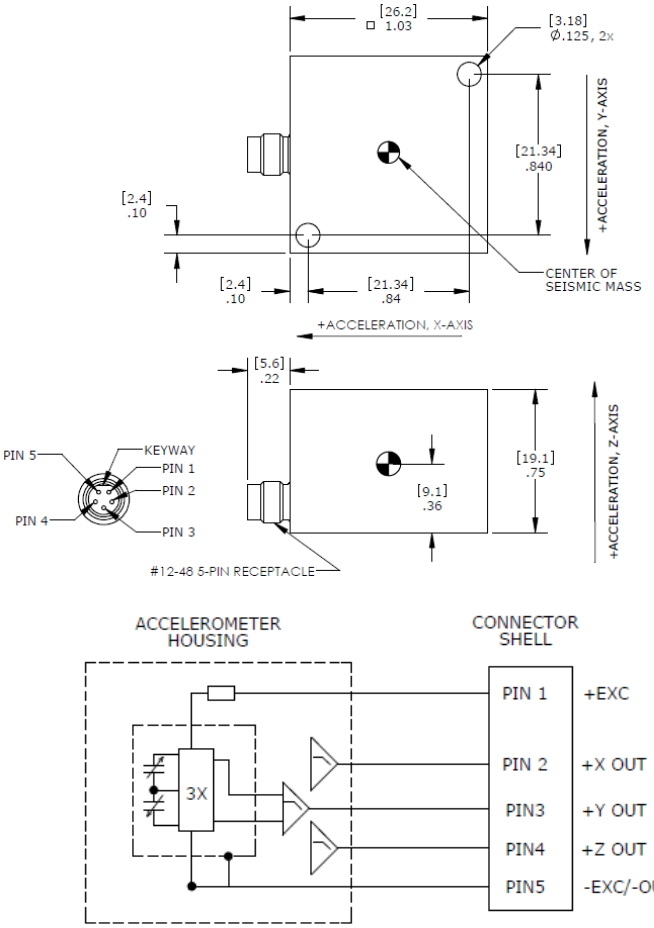
FEATURES

- ±2g to ±500g Dynamic Range
- Amplified Output
- 8-36Vdc Excitation Voltage
- Hermetically Sealed, Detachable Cable
- Gas Damped MEMS Element
- Temperature Compensated
- Low Transverse Sensitivity

APPLICATIONS

- Low Frequency Monitoring
- Transportation
- Flight Testing
- Machine Control
- Road Vehicle Testing
- Trains

DIMENSIONS



PERFORMANCE SPECIFICATIONS

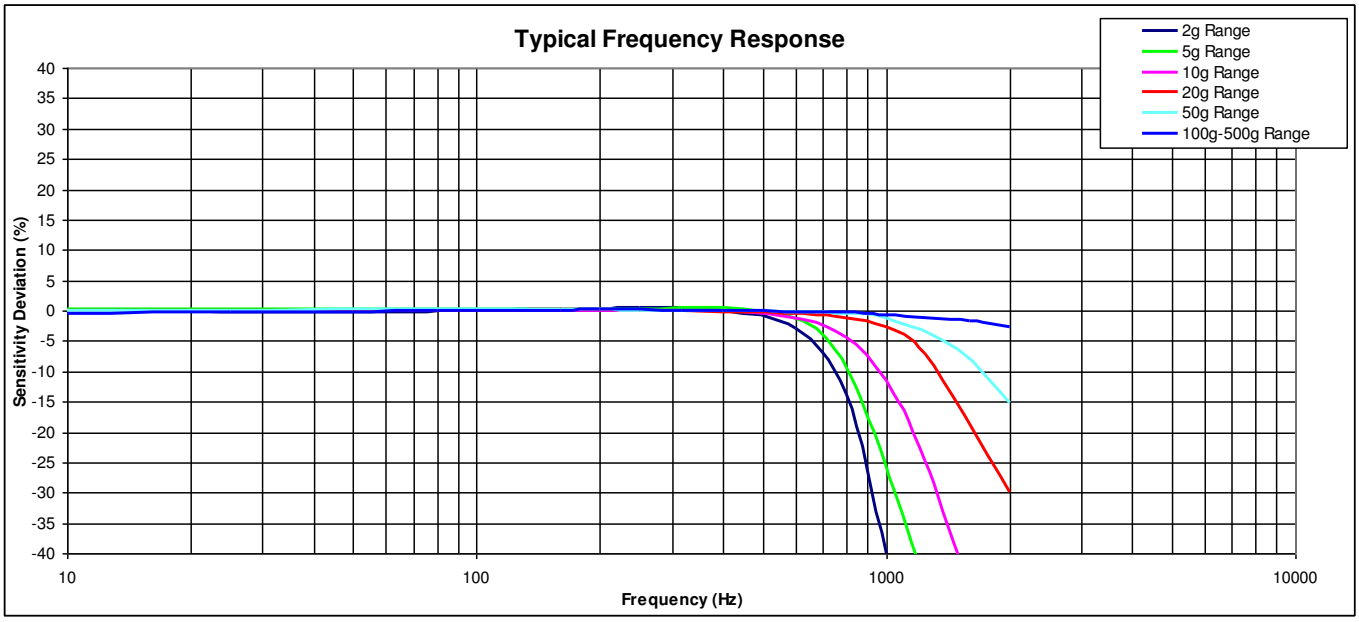
All values are typical at +24°C, 100Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

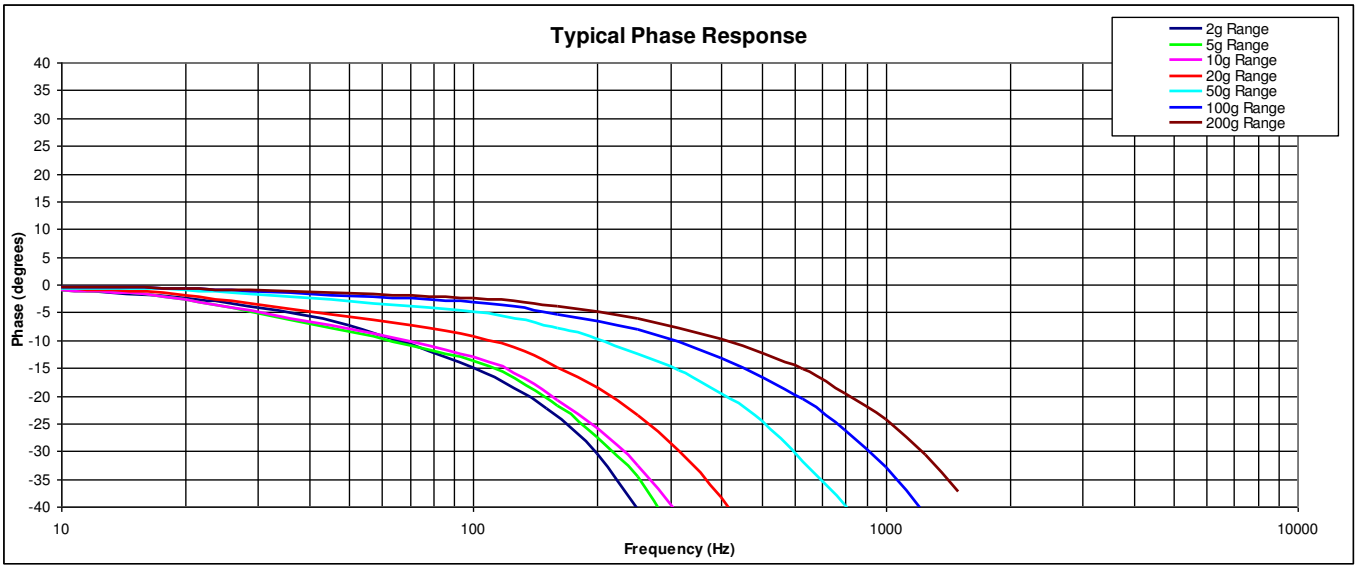
Parameters									
DYNAMIC									**Notes**
Range (g)	±2	±5	±10	±20	±50	±100	±200	±500	
Sensitivity (mV/g)	1000	400	200	100	40	20	10	4	
Frequency Response (Hz)	0-200	0-600	0-800	0-800	0-800	0-1000	0-1000	0-1200	±5%
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	10000	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	
Transverse Sensitivity (%)	<3	<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	0.5	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	5000	5000	
Residual Noise (µV RMS)	600	750	800	800	800	400	400	400	Passband
Spectral Noise (µg/↗Hz)	35	38	75	132	316	516	1033	2582	Passband

ELECTRICAL		
Zero Acceleration Output (mV)	±50	Differential
Excitation Voltage (Vdc)	8 to 36	
Excitation Current (mA)	<15	
Bias Voltage (Vdc)	2.5	
Full Scale Output Voltage (V)	±2	
Output Resistance (Ω)	<100	
Insulation Resistance (MΩ)	>100	@100Vdc
Turn On Time (msec)	<100	
Ground Isolation	Isolated from Mounting Surface	
ENVIRONMENTAL		
Thermal Zero Shift (%FSO/°C)	±0.004	Typical
Thermal Sensitivity Shift (%/°C)	±0.010	Typical
Operating Temperature (°C)	-55 to 125	
Storage Temperature (°C)	-55 to 125	
Humidity	Hermetically Sealed, IP67 [1]	
PHYSICAL		
Case Material	Stainless Steel	
Weight (grams)	56	
Mounting	2x #4 or M3 Screws	
Mounting Torque	6 lb-in (0.7 N-m)	

[1] Mating cable needs to also have minimum IP67 rating and be properly sealed to accel connector in accordance with IEC 60529.

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit
Supplied accessories:	AC-D02995	2x #4-40 (7/8" length) Socket Head Cap Screw and Washer
Optional accessories:	350-XXX	Cable Assembly, #30 AWG, -54 to +121°C (XXX designates length in inches, 5ft standard)
	121	3-Channel Precision Low Noise DC Amplifier
	AC-D02744	Adhesive Mounting Adaptor


Typical Frequency Response
2g Range
5g Range
10g Range
20g Range
50g Range
100g-500g Range
Sensitivity Deviation (%)
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
10
100
1000
10000
Frequency (Hz)


Typical Phase Response
2g Range
5g Range
10g Range
20g Range
50g Range
100g Range
200g Range
Phase (degrees)
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
10
100
1000
10000
Frequency (Hz)

ORDERING INFORMATION

PART NUMBERING Model Number+Range

4803A-GGGG-C
- I I_____Range (0010 is 10g)
- I_____Electrical Interface (A; Connector, B; Integral Cable)

Example: 4803A-0010-C
Model 4803A, 10g, Connector

NORTH AMERICA
Measurement Specialties, Inc.,
a TE Connectivity Company
Tel: 800-522-6752
Email: customercare.hmpt@te.com

EUROPE
MEAS France SAS
a TE Connectivity Company
Tel: 800-440-5100
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ASIA
Measurement Specialties (China), Ltd.,
a TE Connectivity Company
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