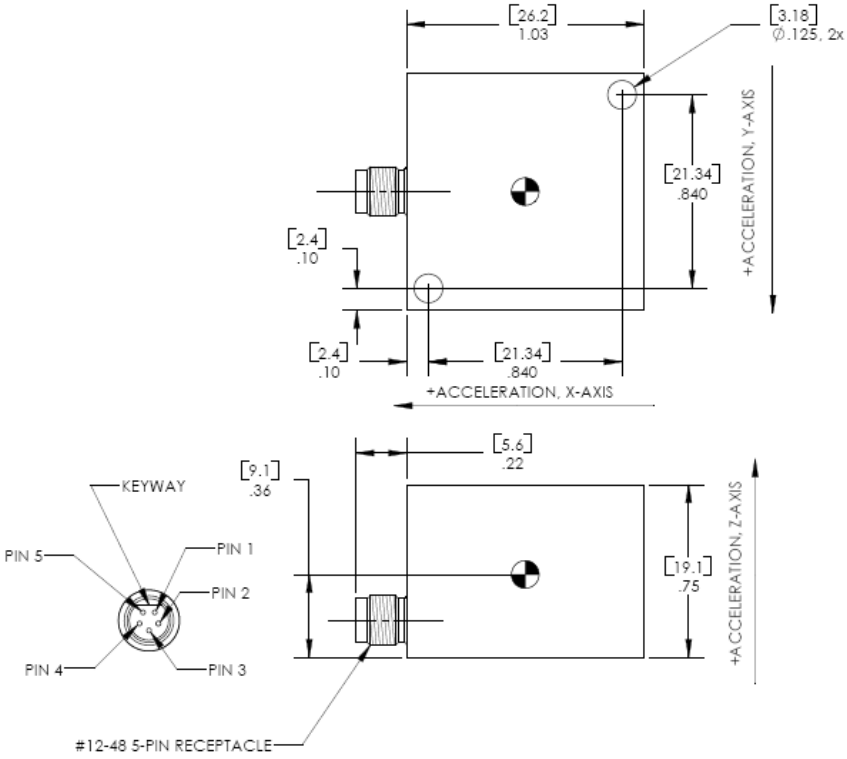
Model 4803A Accelerometer

MEMS Triaxial Accelerometer
Hermetically Sealed
Signal Conditioned Output
Advanced Temp Compensation

The Model 4803A is a low noise 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.

dimensions

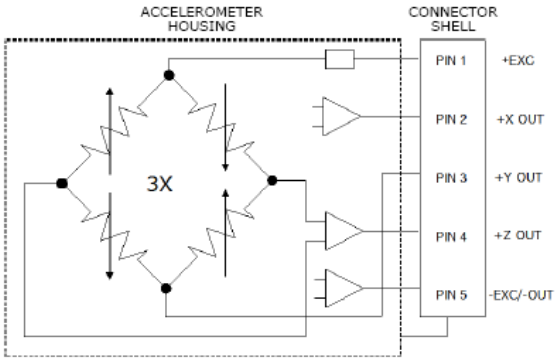


FEATURES

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

APPLICATIONS

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



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Model 4803A 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. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

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)	0-150	0-250	0-400	0-600	0-800	0-1000	0-1000	0-1200	±5%[1]
Frequency Response (Hz)	0-400	0-500	0-600	0-1000	0-1400	0-1600	0-2000	0-2000	±1dB
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	10000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
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	
ELECTRICAL									
Zero Acceleration Output (mV)	±50	±50	±50	±50	±50	±50	±50	±50	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	8 to 36	
Excitation Current (mA)	<5	<5	<5	<5	<5	<5	<5	<5	
Bias Voltage (Vdc)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Output Resistance (Ω)	<100	<100	<100	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	>100	>100	@100Vdc
Turn On Time (msec)	<100	<100	<100	<100	<100	<100	<100	<100	
Residual Noise (μV RMS)	500	300	300	350	400	400	400	400	Passband
Spectral Noise (μg/√Hz)	35	38	75	132	316	516	1033	2582	Passband
Ground Isolation	Isolated from Mounting Surface								
ENVIRONMENTAL									
Thermal Zero Shift (%FSO/°C)	±0.008	±0.008	±0.008	±0.008	±0.008	±0.008	±0.008	±0.008	Typical
Thermal Sensitivity Shift (%/°C)	±0.010	±0.010	±0.010	±0.010	±0.010	±0.010	±0.010	±0.010	Typical
Operating Temperature (°C)	-55 to 125								
Compensated Temperature (°C)	-40 to 100								
Storage Temperature (°C)	-55 to 125								
PHYSICAL									
Case Material	Stainless Steel								
Weight (grams)	56								
Mounting	2x #4 or M3 Screws								
Mounting Torque	6 lb-in (0.7 N-m)								

Wiring color code: +Excitation = Pin 1; -Excitation/-Output = Pin 5; +X Output = Pin 2; +Y Output = Pin 3; +Z Output = Pin 4

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit[1]
Supplied accessories:	AC-D02995	2x #4-40 (7/8" length) Socket Head Cap Screw and Washer
Optional accessories:	350-XXX	Cable Assembly, #32 AWG, -54 to +121°C (XXX designates length in inches, 5ft standard)
	101	Three Channel DC Signal Conditioner Amplifier

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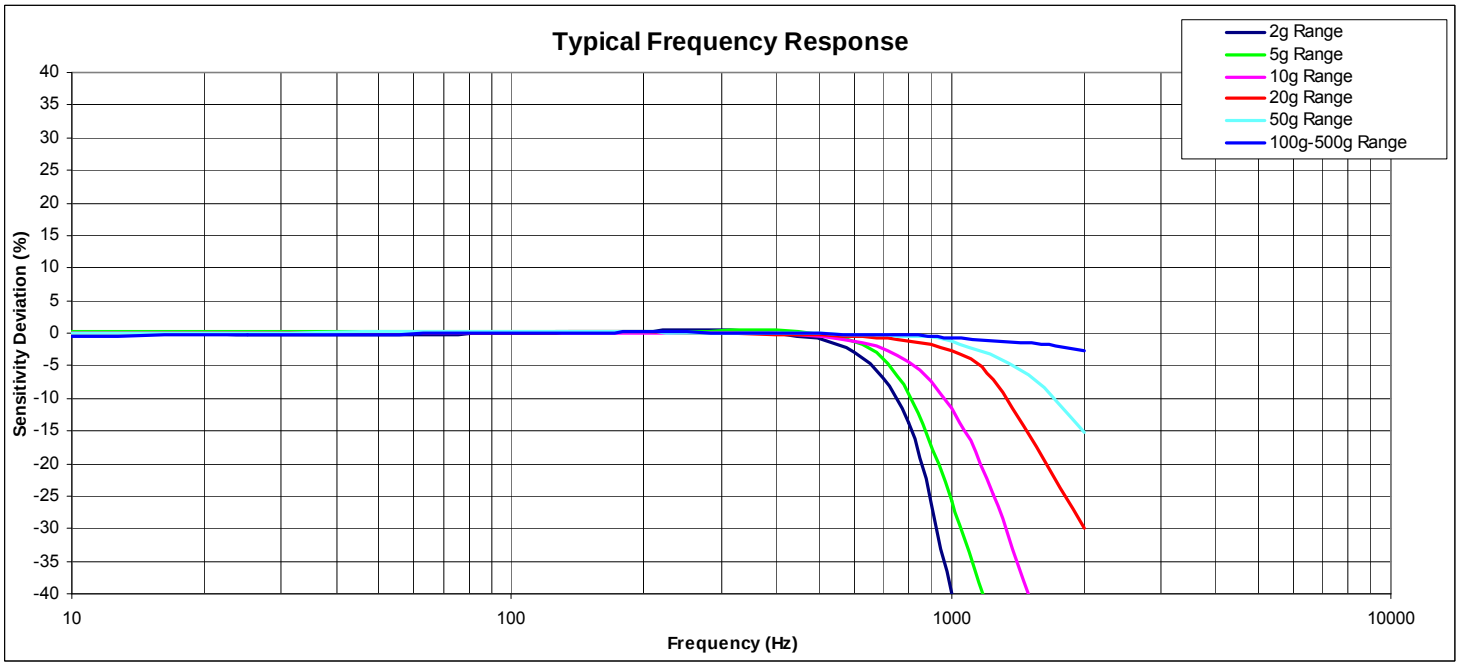

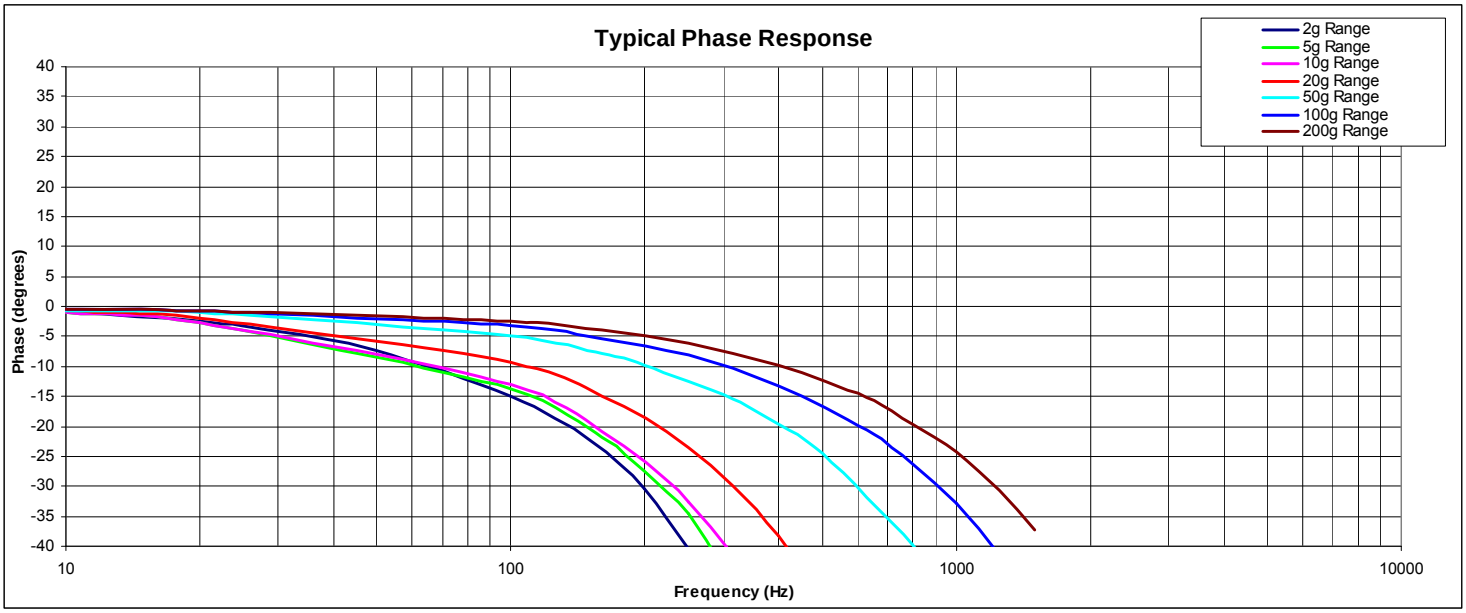

ordering info

PART NUMBERING Model Number+Range

4803A-GGGG
|
|_____Range (0010 is 10g)

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