

MODEL 4810A ACCELEROMETER

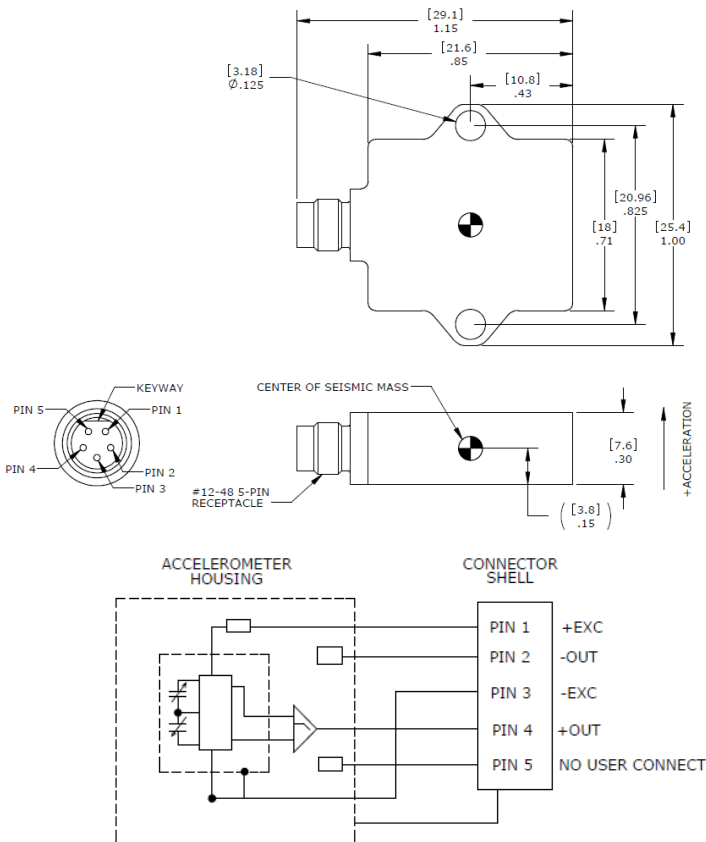


SPECIFICATIONS

- ◆ High Performance DC Response
- ◆ Ultra-Stable MEMS Accelerometer
- ◆ Advanced Temp Compensation
- ◆ Hermetically Sealed

The **Model 4810A** is an ultra-stable MEMS accelerometer in a welded stainless steel package. The accelerometer offers an amplified signal conditioned output in ranges from ± 2 to $\pm 200g$. The **model 4810A** incorporates a gas damped silicon MEMS sensing element that incorporates mechanical overload stops for shock protection to 5,000g and a wide bandwidth from DC to 2000Hz.

DIMENSIONS



FEATURES

- ◆ $\pm 2g$ to $\pm 200g$ Dynamic Range
- ◆ 8-36Vdc Excitation Voltage
- ◆ Hermetically Sealed, Detachable Cable
- ◆ Integral Cable Option, Model 4810B
- ◆ Gas Damped MEMS Element
- ◆ Temperature Compensated

APPLICATIONS

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

PERFORMANCE SPECIFICATIONS

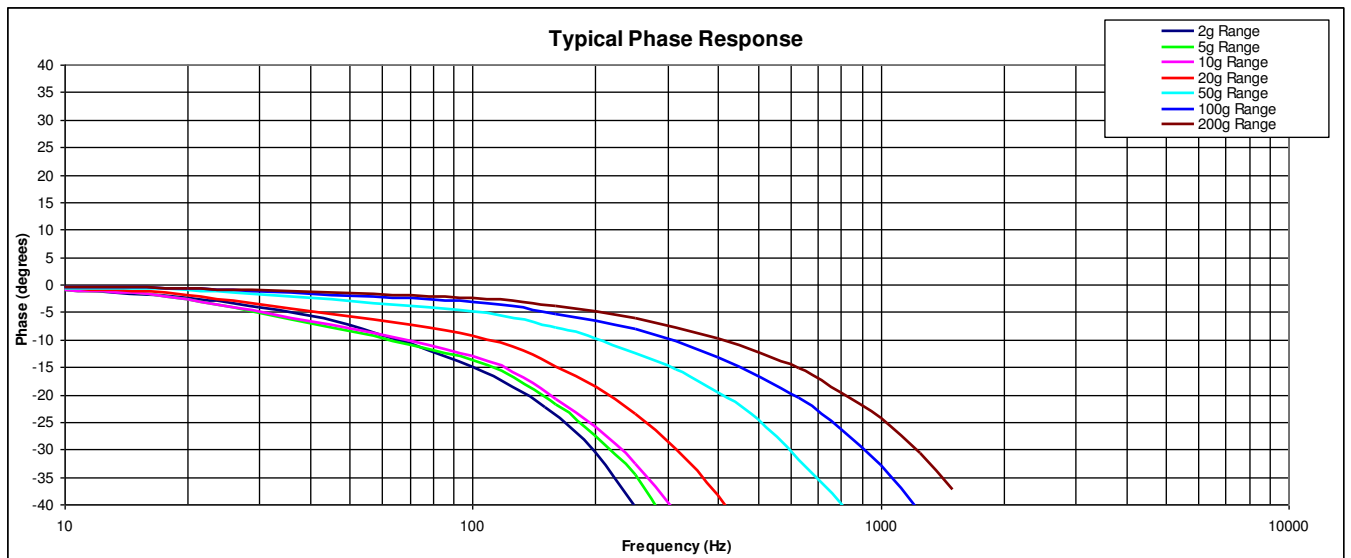
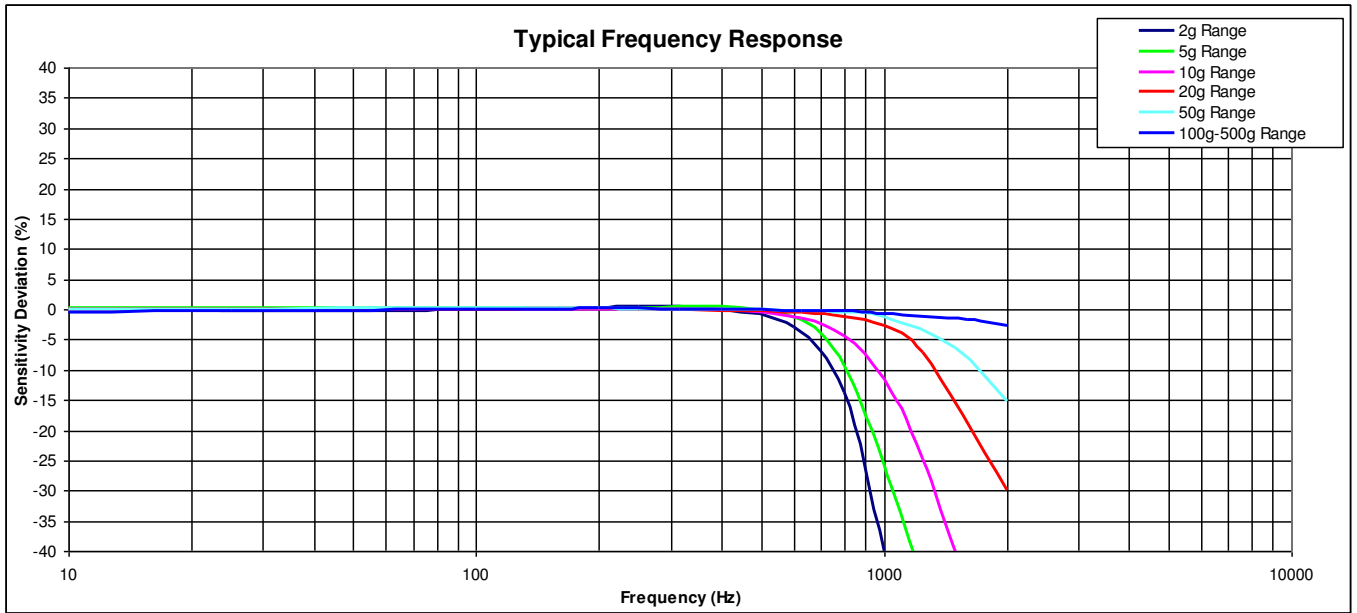
All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters								Notes
DYNAMIC								
Range (g)	±2	±5	±10	±20	±50	±100	±200	
Sensitivity (mV/g)	1000	400	200	100	40	20	10	
Frequency Response (Hz)	0-250	0-700	0-1000	0-1000	0-1000	0-1500	0-1500	±5%
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	
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	
Residual Noise (µV RMS)	600	750	800	800	800	400	400	Passband
Spectral Noise (µg/√Hz)	35	38	75	132	316	516	1033	Passband
ELECTRICAL								
Zero Acceleration Output (mV)	±50							Differential
Excitation Voltage (Vdc)	8 to 36							
Excitation Current (mA)	<5							
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)	16							
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-A02285	2x #4-40 (7/16 length) Socket Head Cap Screw and Washer
Optional accessories:	AC-D02669	Triaxial Mounting Block
	340A-XXX	Cable Assembly, #28 AWG, -54 to +121°C (XXX designates length in inches, 5ft standard)
	343-XXX	Cable Assembly, #28 AWG, -40 to +85°C (XXX designates length in inches, 5ft standard)
	121	3-Channel Precision Low Noise DC Amplifier

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ORDERING INFORMATION

PART NUMBERING Model Number+Range

4810A-GGGG-C

| | Range (0010 is 10g)
| | Electrical Interface (A; Connector, B; Integral Cable)

Example: 4810A-0010-C
Model 4810A, 10g, Connector

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