

# Model 4810A Accelerometer



High Performance DC Response  
Low Noise, Signal Conditioned  
Advanced Temp Compensation  
Hermetically Sealed



The **Model 4810A** is a low noise signal conditioned accelerometer in a welded stainless steel package. The accelerometer offers an amplified signal conditioned output in ranges from  $\pm 2$  to  $\pm 500g$ . The model 4810A incorporates a gas damped silicon MEMS sensing element that incorporates mechanical overload stops for shock protection to 10,000g and a wide bandwidth from DC to 2000Hz.

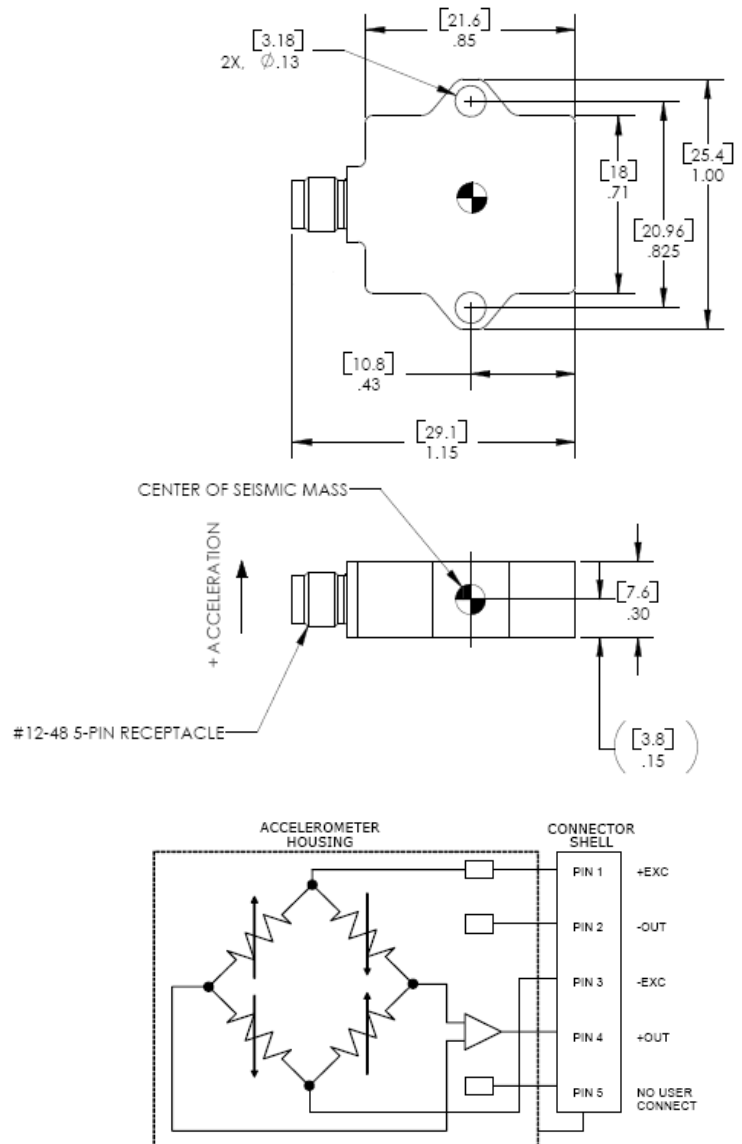
## FEATURES

- $\pm 2g$  to  $\pm 500g$  Dynamic Range
- Amplified Output
- 8-36Vdc Excitation Voltage
- Hermetically Sealed
- Gas Damped MEMS Element
- Detachable Cable
- Temperature Compensated

## APPLICATIONS

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

## dimensions



# Model 4810A 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.

### Parameters

#### DYNAMIC

	±2	±5	±10	±20	±50	±100	±200	±500	Notes
Range (g)									
Sensitivity (mV/g)	1000	400	200	100	40	20	10	4	
Frequency Response (Hz)	0-200	0-300	0-400	0-700	0-1000	0-1500	0-1500	0-1500	±5%
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 (%)	<2	<2	<2	<2	<2	<2	<2	<2	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.5	
Shock Limit (g)	10000	10000	10000	10000	10000	10000	10000	10000	

#### 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
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	±0.008	Typical
Thermal Sensitivity Shift (%/°C)	±0.010	±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)	16
Mounting	2x #4 or M3 Screws
Mounting Torque	6 lb-in (0.7 N-m)

**Wiring color code:** +Excitation = Pin 1; -Excitation = Pin 3; +Output = Pin 4; -Output = Pin 2; Programming = Pin 5 (Pin 5 is used for programming and is not to be connected)

**Supplied accessories:** AC-A02285 2x #4-40 (7/16 length) Socket Head Cap Screw and Washer

**Optional accessories:** AC-D02669 Triaxial Mounting Block  
 340-XXX Cable Assembly, #32 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)  
 101 Three Channel DC Signal Conditioner 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.

## ordering info

PART NUMBERING Model Number+Range

4810A-GGGG

|  
| \_\_\_\_\_ Range (0010 is 10g)

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