

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 ± 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

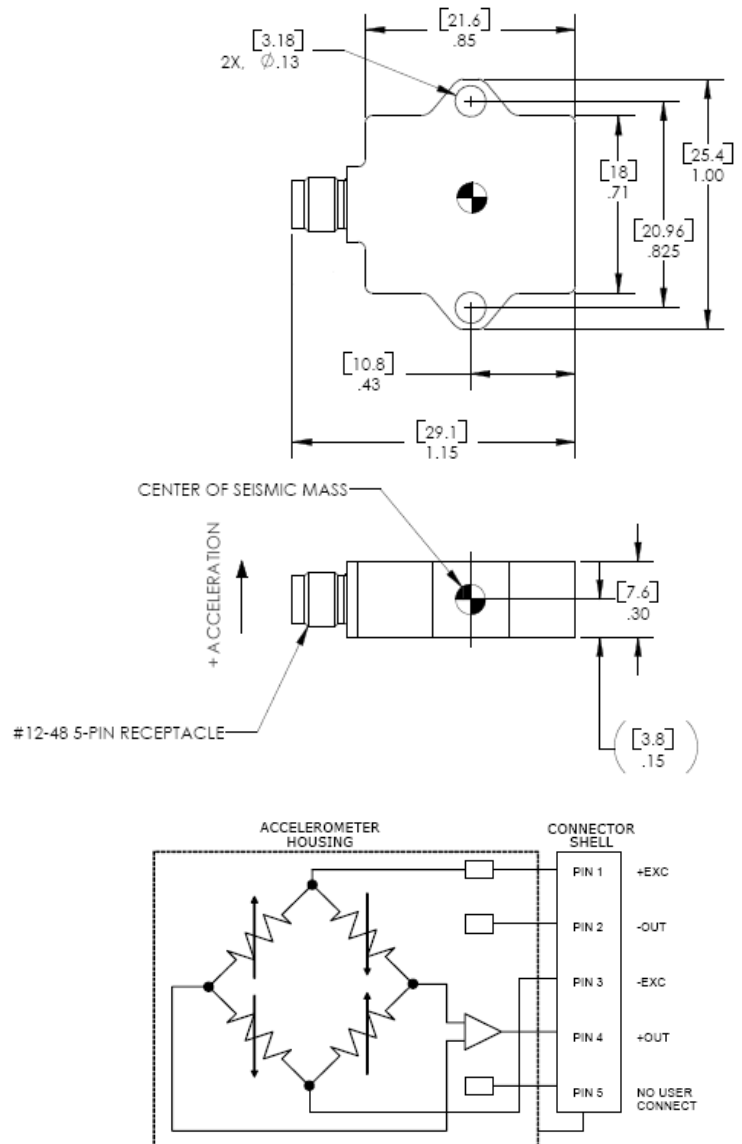
- $\pm 2g$ to $\pm 500g$ Dynamic Range
- Amplified Output
- 8-36Vdc Excitation Voltage
- Hermetically Sealed
- Gas Damped MEMS Element
- Detachable Cable
- Temperature Compensated

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

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

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ordering info

PART NUMBERING Model Number+Range

4810A-GGGG

|
| _____ Range (0010 is 10g)

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