

# Model 4803A Accelerometer

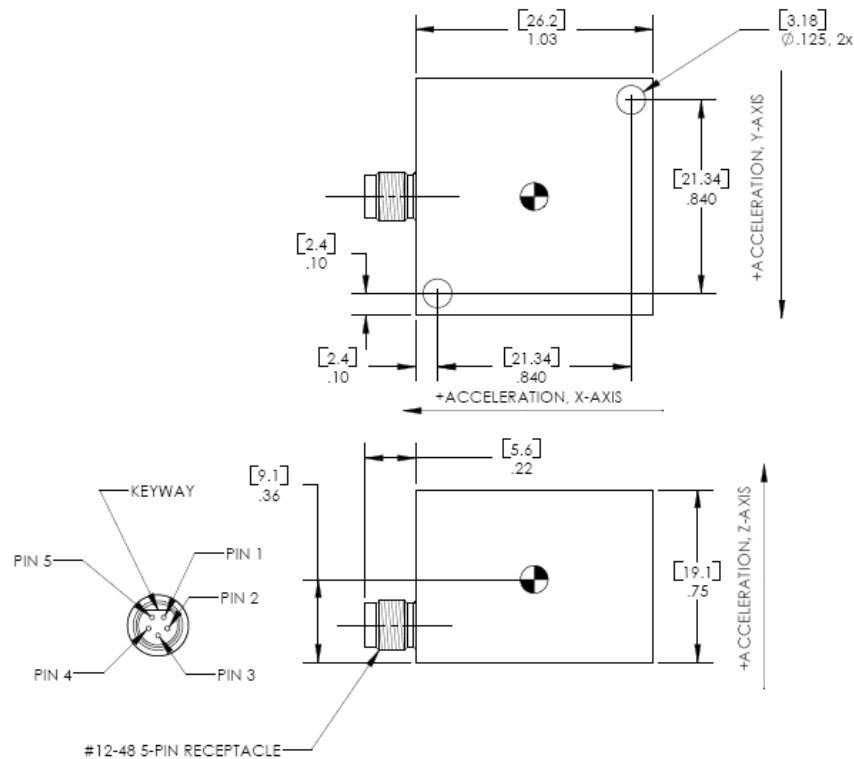


MEMS Triaxial Accelerometer  
 Hermetically Sealed  
 Signal Conditioned Output  
 Advanced Temp Compensation

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  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Offered in ranges from  $\pm 2$  to  $\pm 500\text{g}$ , the model 4803A accelerometer also provides a wide bandwidth from DC to 2000Hz for both static and dynamic measurements.



## dimensions

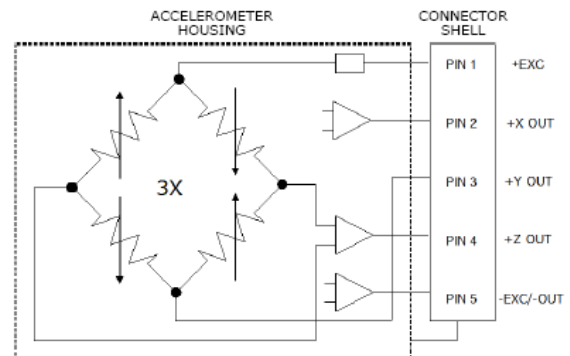


## FEATURES

- $\pm 2\text{g}$  to  $\pm 500\text{g}$  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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## 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)	0-150	0-250	0-400	0-600	0-800	0-1000	0-1000	0-1200	±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 (%)	<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)	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	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

**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