



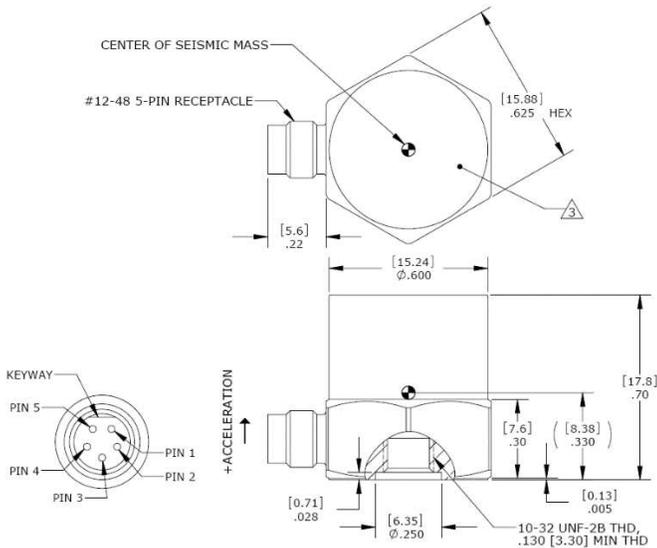
# MODEL 4801A ACCELEROMETER

## SPECIFICATIONS

- ◆ Amplified, Signal Conditioned
- ◆ MEMS DC Response
- ◆ Hermetically Sealed, Detachable Cable
- ◆ -55°C to +125°C Operating Range

The **Model 4801A** is a true hermetically sealed accelerometer in a rugged stainless steel package. The offers an amplified signal conditioned output in ranges from  $\pm 2$  to  $\pm 200g$ . The **model 4801A** incorporates enhanced temperature compensation and a gas damped MEMS sensing element for optimum frequency response. Mechanical over-range stops offers shock protection up to 5,000g designed for both static and dynamic measurements in critical applications.

## DIMENSIONS

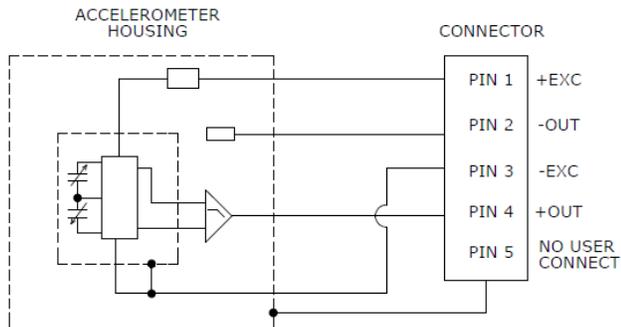


## FEATURES

- ◆  $\pm 2g$  to  $\pm 200g$  Dynamic Range
- ◆ Amplified Output
- ◆ 8-36Vdc Excitation Voltage
- ◆ Gas Damped MEMS Element
- ◆ Detachable Cable
- ◆ DC to 1500Hz Response
- ◆ Stud Mounting

## APPLICATIONS

- ◆ Vehicle Testing
- ◆ Structural Testing
- ◆ Test & Instrumentation
- ◆ Transportation Measurements
- ◆ Environmental Testing



**PERFORMANCE SPECIFICATIONS**

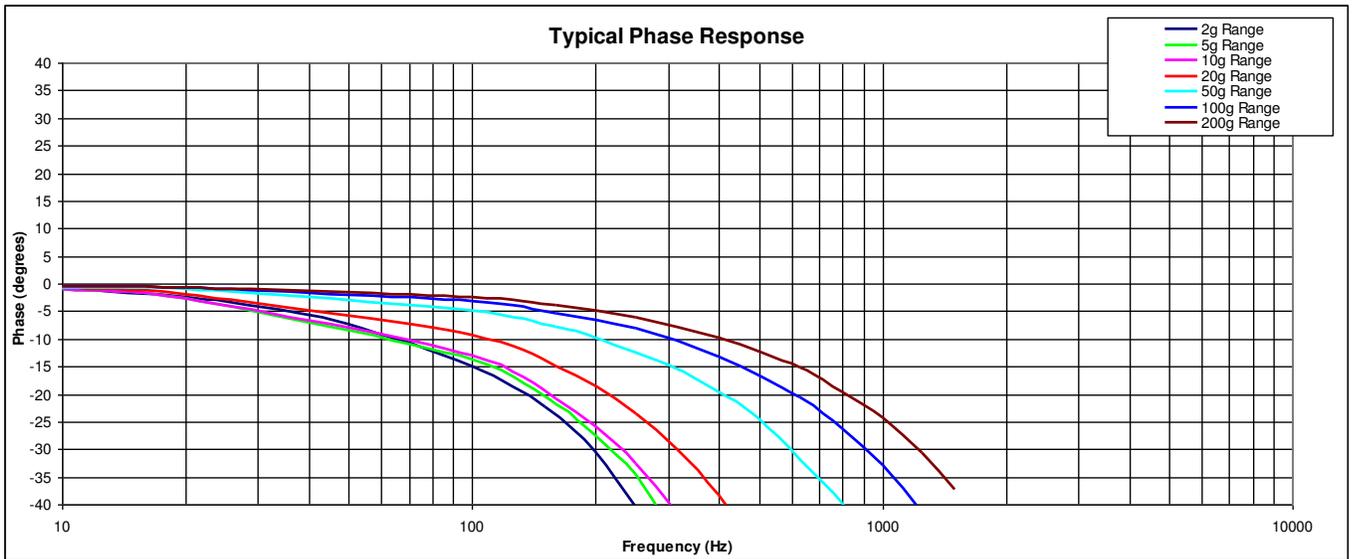
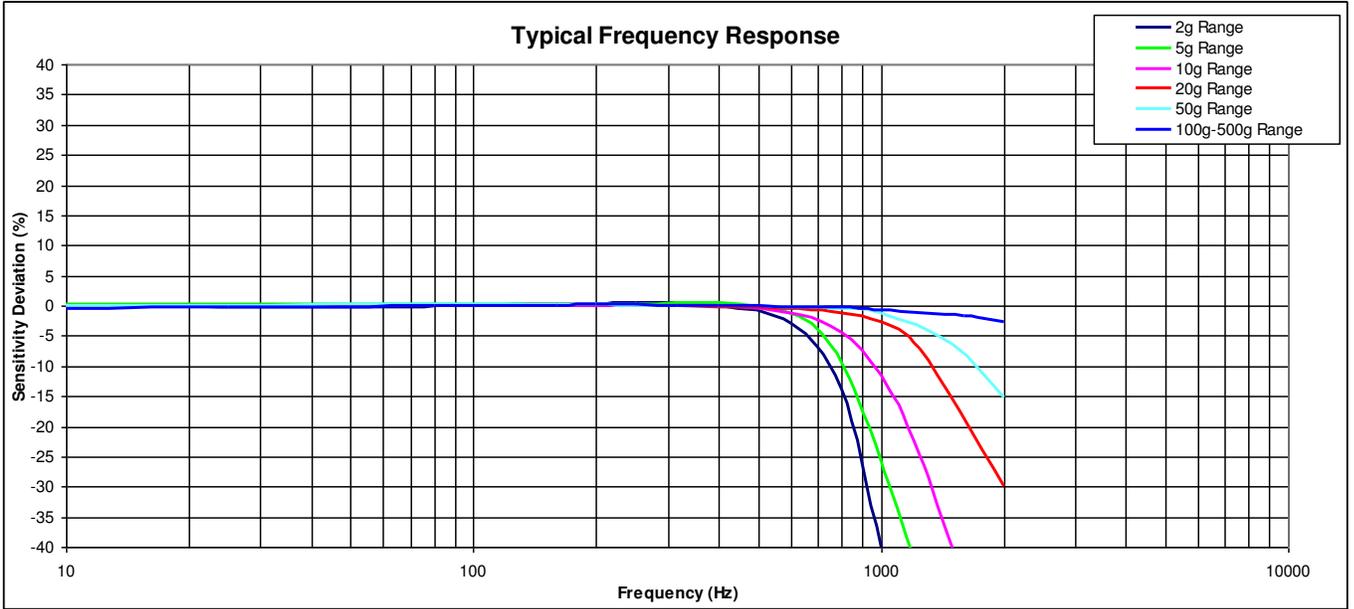
All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters								Notes
<b>DYNAMIC</b>								
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	0-1000	0-1000	±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
<b>ELECTRICAL</b>								
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							
<b>ENVIRONMENTAL</b>								
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 <sup>1</sup>							
<b>PHYSICAL</b>								
Case Material	Stainless Steel							
Weight (grams)	22							
Mounting	#10-32 to #10-32 Mounting Stud (included)							
Mounting Torque	18 lb-in (2.0 N-m)							

<sup>1</sup> Mating cable needs to also have minimum IP67 rating and be properly sealed to accel connector in accordance with IEC 60529.

<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit <sup>1</sup>
<b>Supplied accessories:</b>	AC-D02298	10-32 to 10-32 mounting stud
<b>Optional accessories:</b>	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
	AC-D02741	Adhesive Mounting Adaptor
	AC-D04716	Triaxial Mounting Block

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**ORDERING INFORMATION**

PART NUMBERING    Model Number+Range

4801A-GGGG-C  
|  
| \_\_\_\_\_ Range (0010 is 10g)

Example: 4801A-0010-C  
          Model 4801A, 10g

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