

Model 4801A Accelerometer



Amplified, Signal Conditioned
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 ± 2 to $\pm 500g$. 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.

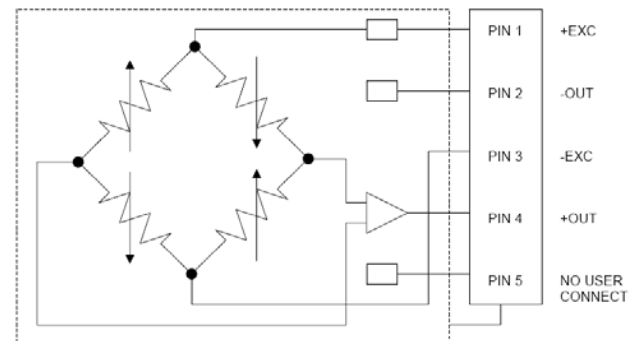
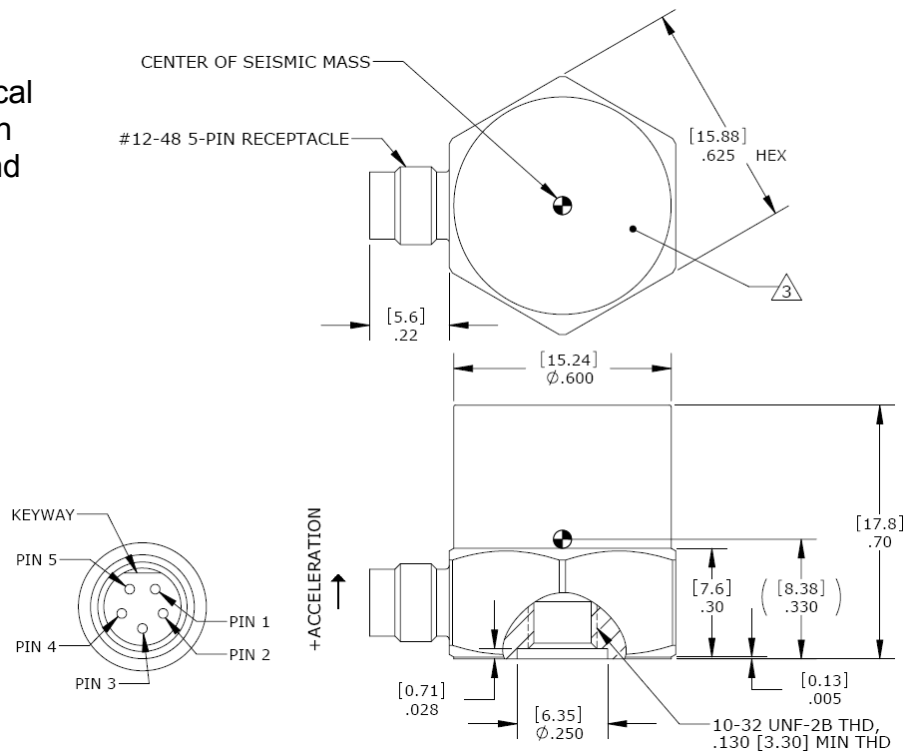
FEATURES

- $\pm 2g$ to $\pm 500g$ Dynamic Range
- Amplified Output
- 8-36Vdc Excitation Voltage
- Gas Damped MEMS Element
- Detachable Cable
- DC to 2000Hz Response
- Stud Mounting

APPLICATIONS

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

dimensions



Model 4801A 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)	0-100	0-200	0-300	0-400	0-800	0-1300	0-1500	0-1500	±5%
Frequency Response (Hz)	0-200	0-300	0-400	0-500	0-1000	0-1500	0-1800	0-1800	±1dB
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	10000	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	
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)	5000	5000	5000	5000	5000	5000	5000	5000	
Residual Noise (µV RMS)	500	300	300	350	400	400	400	400	Passband
Spectral Noise (µg/√Hz)	35	38	75	132	316	516	1033	2582	Passband

ELECTRICAL

Zero Acceleration Output (mV)	±50								Differential
Excitation Voltage (Vdc)	8 to 36								
Excitation Current (mA)	<5								
Bias Voltage (Vdc)	2.5								
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)	±0.008								Typical
Thermal Sensitivity Shift (%/°C)	±0.010								Typical
Operating Temperature (°C)	-55 to 125								
Compensated Temperature (°C)	-55 to 125								
Storage Temperature (°C)	-55 to 125								
Humidity	Hermetically Sealed, IP67 ¹								

PHYSICAL

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)

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 Limit¹

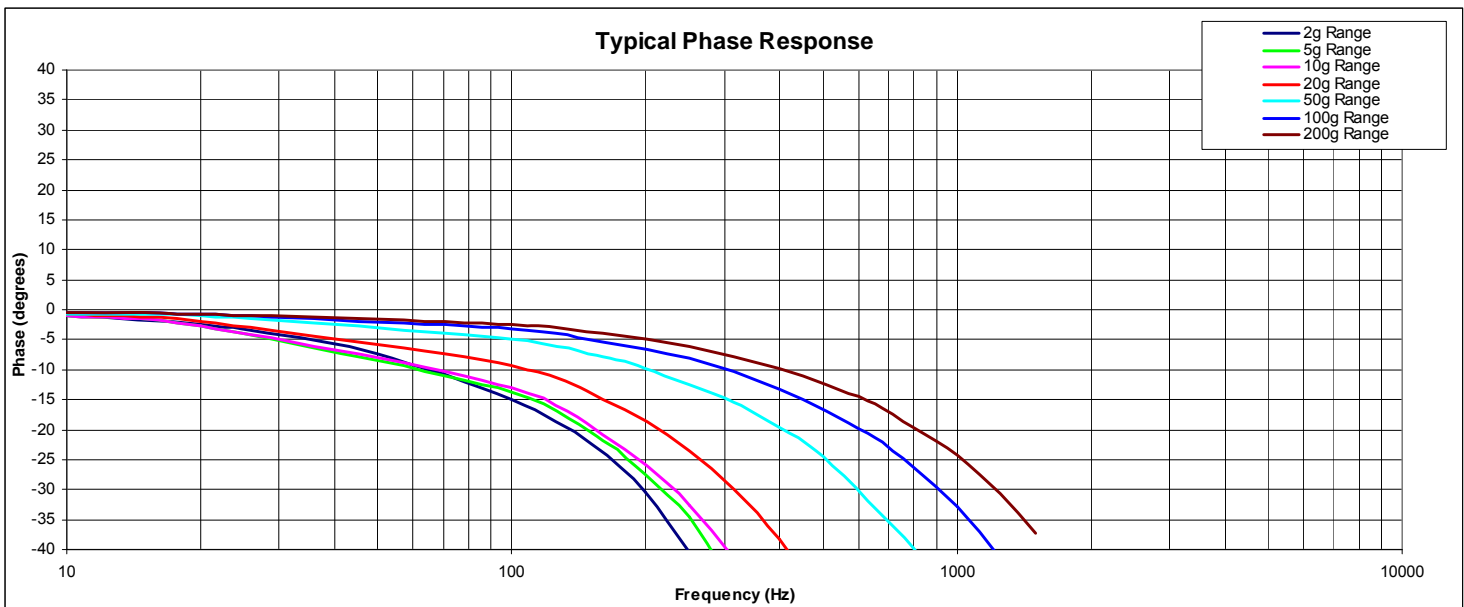
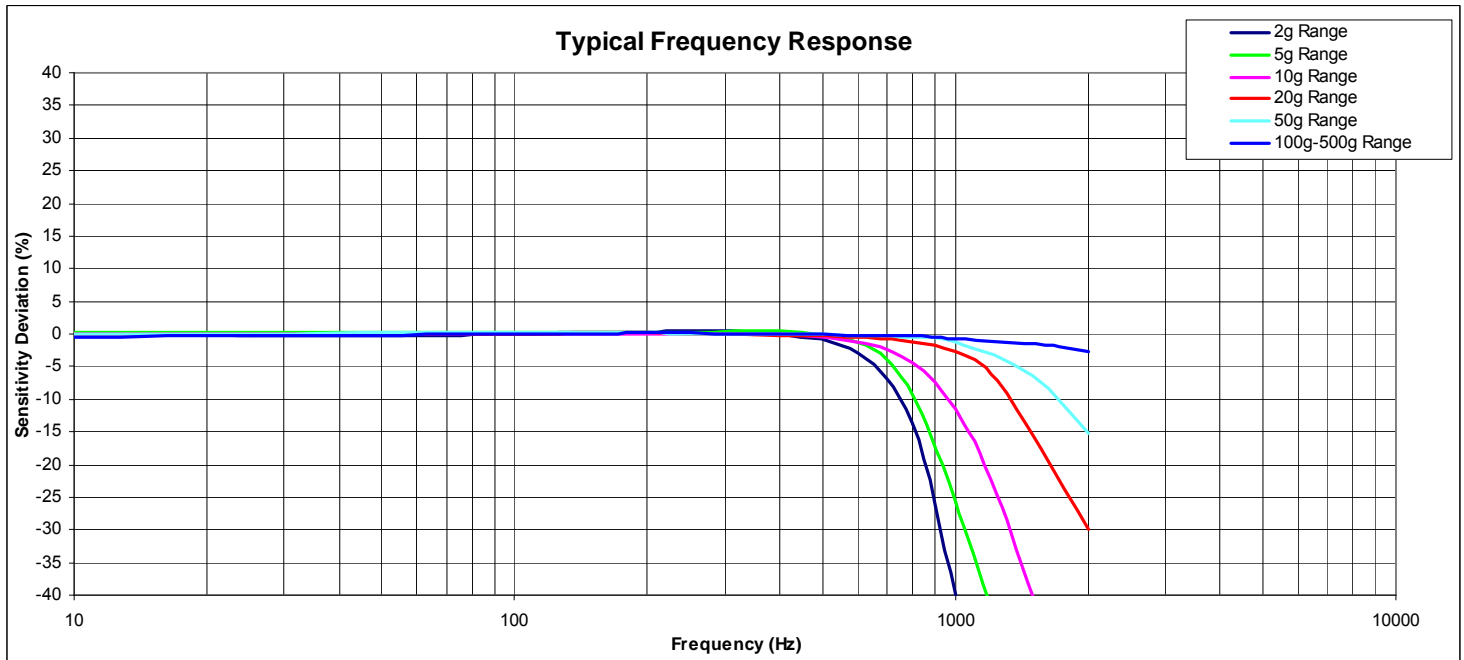
Supplied accessories: AC-D02298 10-32 to 10-32 mounting stud

Optional accessories: 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)
 101 Three Channel DC Signal Conditioner Amplifier
 AC-D02741 Adhesive Mounting Adaptor

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Model 4801A Accelerometer

performance specifications



ordering info

PART NUMBERING Model Number+Range

4801A-GGGG

|
| _____ Range (0010 is 10g)

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