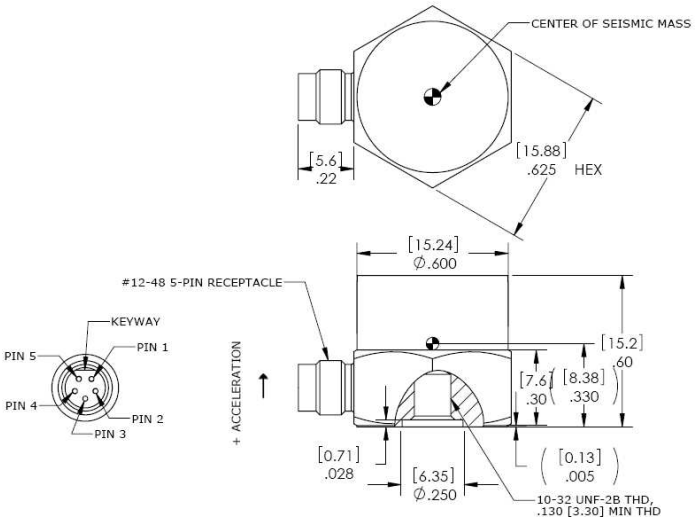
MODEL 3801A ACCELEROMETER

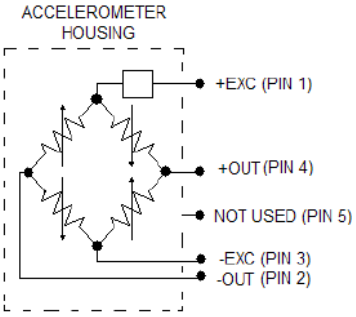
SPECIFICATIONS

- **Gas Damped, DC Response**
- **Hermetically Sealed**
- **mV Output, Silicon MEMS**
- **10,000g Over-Range Protection**

The Model 3801A is a mV output piezoresistive MEMS accelerometer in a rugged welded hermetic package. The accelerometer incorporates mechanical stops for over-range protection up to greater than 10,000g. The model 3801A is offered in ranges from ±2 to ±2000g and is gas damped to provide a wide frequency response. The accelerometer is temperature compensated to provide a stable output over the operating environment.

dimensions





FEATURES

- **±2g to ±2000g Dynamic Range**
- **10,000g Shock Protection**
- **Hermetically Sealed**
- **Gas Damping**
- **mV Output**
- **DC Response**
- **Stud Mounting**

APPLICATIONS

- **Impact Testing**
- **Structural Testing**
- **Test and Instrumentation**
- **Environmental Testing**
- **Vehicle Testing**

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters									
DYNAMIC									**Notes**
Range (g)	±2	±10	±20	±50	±100	±200	±500	±2000	
Sensitivity (mV/g)	12	6	3	1.5	0.7	0.7	0.3	0.1	@10Vdc Exc.
Frequency Response (Hz)	0-100	0-300	0-400	0-800	0-1200	0-1300	0-1800	0-4000	±5% [1]
Frequency Response (Hz)	0-200	0-400	0-500	0-1000	0-1500	0-1600	0-2300	0-5000	±1dB
Natural Frequency (Hz)	700	1000	1500	4000	6000	7000	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	
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.3	
Shock Limit (g)	5000	5000	5000	10000	10000	10000	10000	10000	

ELECTRICAL		
Zero Acceleration Output (mV)	±25	Differential
Excitation Voltage (Vdc)	5 to 10	
Input Resistance (kΩ)	4 to 10	
Output Resistance (kΩ)	2.4 to 4.8	
Insulation Resistance (MΩ)	>100	@100Vdc
Residual Noise (µV RMS)	10	Maximum
Ground Isolation	Isolated from Mounting Surface	

ENVIRONMENTAL	
Thermal Zero Shift (%FSO/°C)	±0.04
Thermal Sensitivity Shift (%/°C)	±0.05
Operating Temperature (°C)	-55 to +125
Compensated Temperature (°C)	-20 to +85
Storage Temperature (°C)	-55 to +125
Humidity	Hermetically Sealed, IP67

PHYSICAL	
Case Material	Stainless Steel
Weight (grams)	20
Mounting	#10-32 to #10-32 Mounting Stud (included)
Mounting Torque	18 lb-in (2.0 N-m)

Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit[1]
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)
	121	3-Channel Precision Low Noise DC Amplifier
	140A	Auto-zero Inline Amplifier

ORDERING INFO

PART NUMBERING Model Number+Range+Options

3801A-GGGG-XX

Optional Dash Numbers
-01 5Vdc Calibration

- XX Options (otherwise leave blank)
- GGGG Range (0100 is 100g)
- A Electrical Interface (A; Connector, B; Integral Cable)

Example: 3801A-0100
Model 3801A, 100g, Connector, No Options

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