

Model 3801A Accelerometer

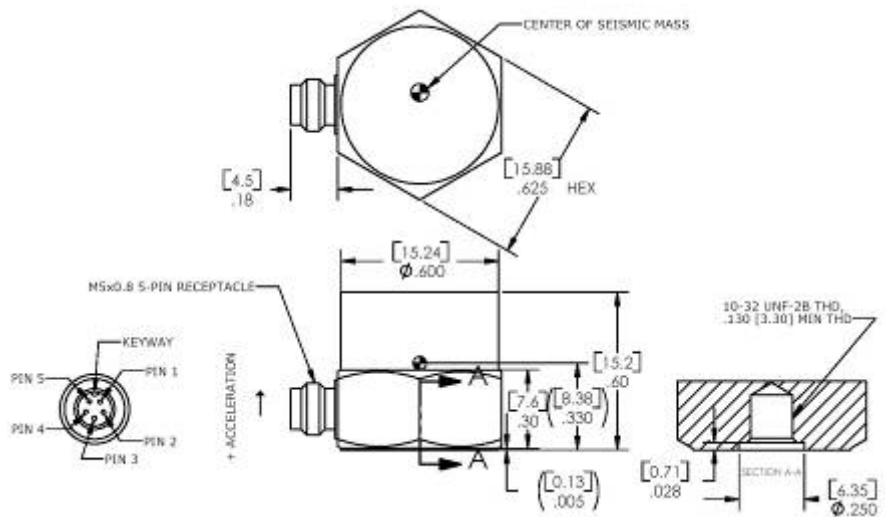


Gas Damped, DC Response
Hermetically Sealed
mV Output
10,000g Over-Range Protection

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 $\pm 2000g$ 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

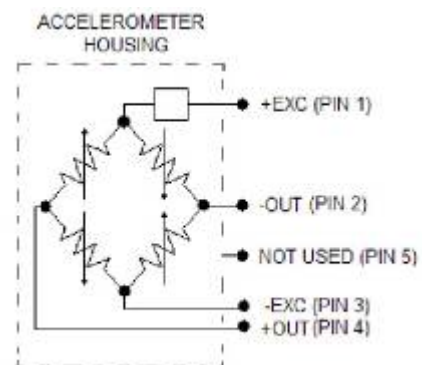


FEATURES

- $\pm 2g$ to $\pm 2000g$ 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



Model 3801A Accelerometer

performance specifications

All values are typical at +24°C, 100Hz and 10Vdc 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	±10	±20	±50	±100	±200	±500	±2000	Notes
Range (g)									
Sensitivity (mV/g)	12	6	3	1.5	0.7	0.7	0.3	0.1	@10Vdc Excitation
Frequency Response (Hz)	0-100	0-300	0-400	0-800	0-1300	0-1500	0-2500	0-4000	±5%
Natural Frequency (Hz)	700	1000	1500	4000	6000	7000	8000	10000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±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)	10000	10000	10000	10000	10000	10000	10000	10000	

ELECTRICAL

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

ENVIRONMENTAL

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

PHYSICAL

Case Material	Stainless Steel
Cable	Not applicable
Weight (grams)	20
Mounting	#10-32 to #10-32 Mounting Stud (included)
Mounting Torque	18 lb-in (2.0 N-m)
AWG	Not applicable

Wiring color code: +Excitation = Pin 1; -Excitation = Pin 3; +Output = Pin 4; -Output = Pin 2 (Pin 5 is not used)

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

Optional accessories: 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

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

ordering info

PART NUMBERING Model Number+Range

3801A-GGGG

|
| _____ Range (0100 is 100 g)

Example: 3801A-0100
Model 3801A, 100g