

Model 201 Accelerometer



MEMS DC Accelerometer
Temperature Calibrated
Robust Cable and Strain Relief
Amplified Output

The Model 201 is a rugged, low-profile MEMS accelerometer designed for both static and dynamic applications. The accelerometer is available in ranges from ± 2 to $\pm 100g$ and offers a signal conditioned and amplified output. Featuring gas damped MEMS sensing element and a LP filtering circuit, the model 201 provides a flat frequency response to 100Hz over an operating temperature range of -40°C to $+125^{\circ}\text{C}$.

FEATURES

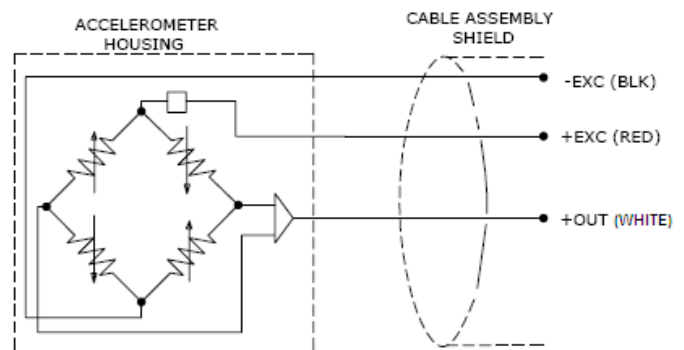
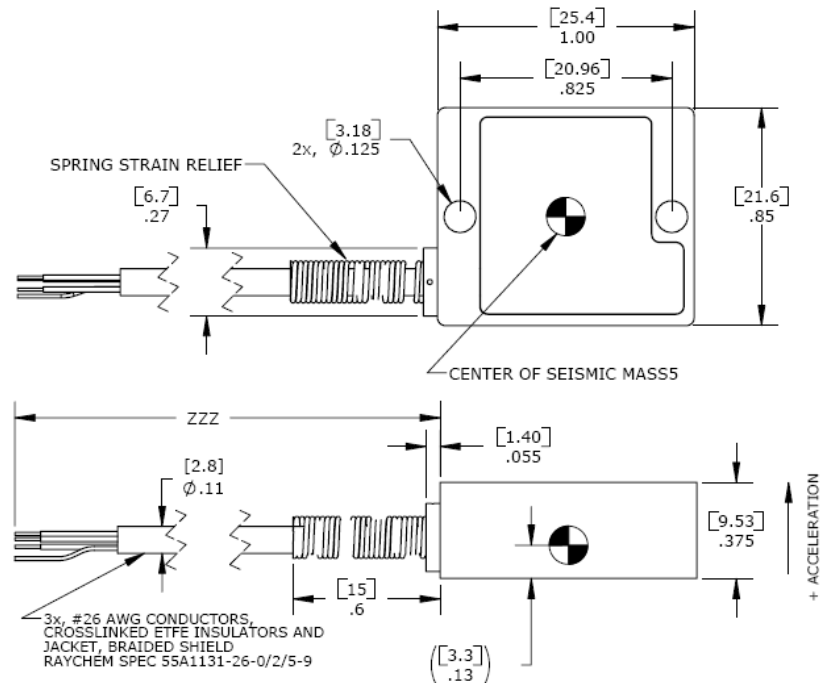
- $\pm 2g$ to $\pm 100g$ Dynamic Range
- Amplified Output
- Low Power Consumption
- Gas Damping
- #26 AWG Rugged Cable
- DC, Low Frequency Response
- 5 to 30Vdc Excitation Voltage

APPLICATIONS

- Transportation Measurements
- Vibration & Shock Monitoring
- Road Vehicle Testing
- Low Frequency Applications
- Motion Analysis



dimensions



Model 201 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	±30	±50	±100	Notes
Range (g)	1000	400	200	100	67	40	20	
Sensitivity (mV/g)	1000	400	200	100	67	40	20	
-3dB Cutoff Frequency (Hz)	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	
Rolloff Above Cutoff Frequency (dB/dec)	-40	-40	-40	-40	-40	-40	-40	
Natural Frequency (Hz)	700	800	1000	1500	1500	4000	6000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	<2 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)	80	50	50	60	50	60	60	Passband
Residual Noise (µg/√Hz RMS)	8	13	25	60	75	150	300	Spectral

ELECTRICAL

Zero Acceleration Output (V)	2.5 ±0.1	
Excitation Voltage (Vdc)	5 to 30	
Excitation Current (mA)	<5	
Full Scale Output Voltage Swing (Vdc)	0.5 to 4.5	
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)	±0.012
Thermal Sensitivity Shift (%/°C)	±0.020
Operating Temperature (°C)	-40 to 125
Compensated Temperature (°C)	0 to 85
Storage Temperature (°C)	-40 to 125
Humidity	Epoxy Encapsulated, IP65

PHYSICAL

Case Material	Anodized Aluminum
Cable	ETFE Insulated Leads, Braided Shield, Crosslinked ETFE Jacket
Weight (grams)	10
Mounting	2x #4 or M3 Screws
Mounting Torque	6 lb-in (0.7 N-m)

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to 100Hz

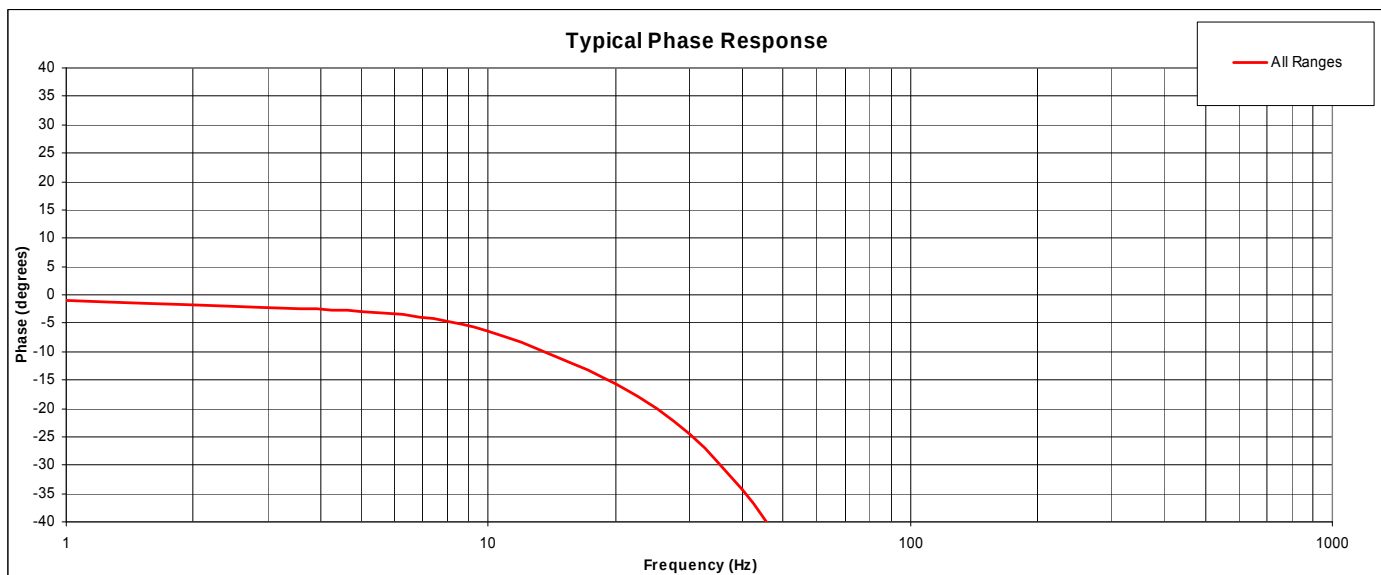
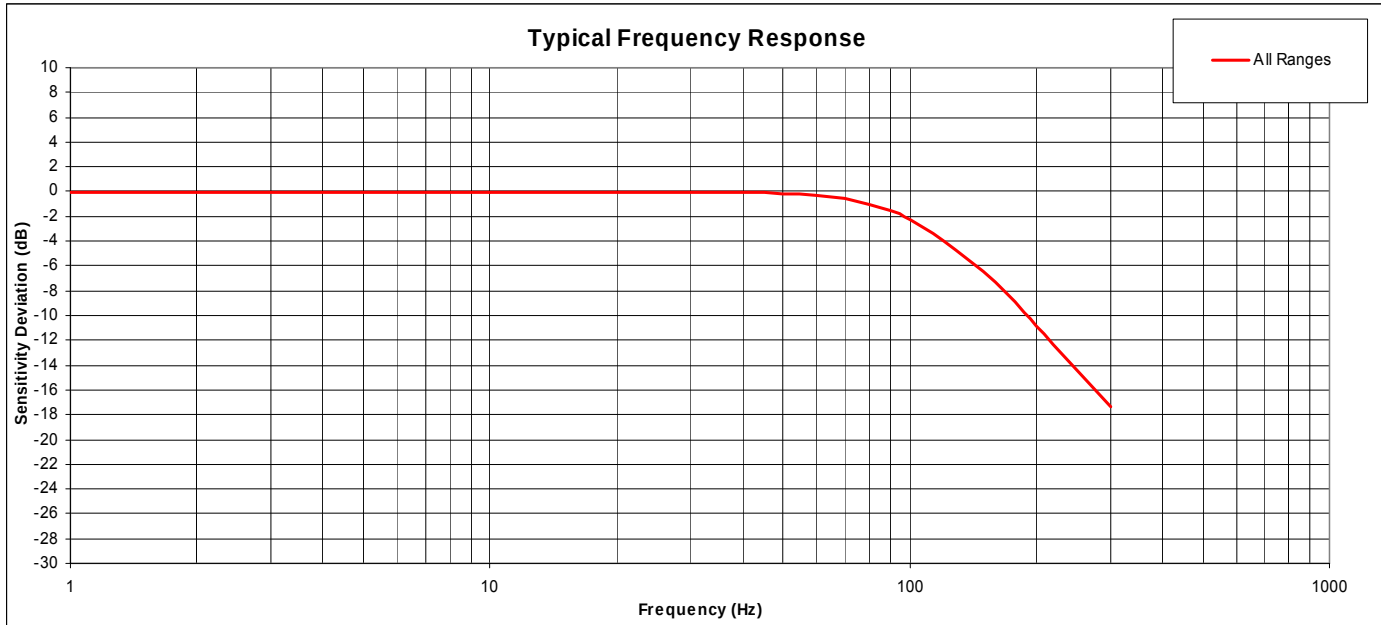
Supplied accessories: AC-A03654 2x #4-40 (1/2" length) Socket Head Cap Screw and Washer

Optional accessories: AC-D02669 101 Triaxial Mounting Block
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.

Model 201 Accelerometer

performance specifications



ordering info

PART NUMBERING Model Number+Range+Cable Length

201-XX-CCC

____ Cable (060 is 60 inches)

____ Range (05 is $\pm 5g$, 100 is $\pm 100g$)

Example: 201-05-060

Model 201, 5g, 60" (5ft) Cable