

# 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  $\pm 2$  to  $\pm 50g$  and offers a signal conditioned and amplified output. Featuring gas damped MEMS sensing element, the model 201 provides a flat frequency response to 100Hz over an operating temperature range of  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

## FEATURES

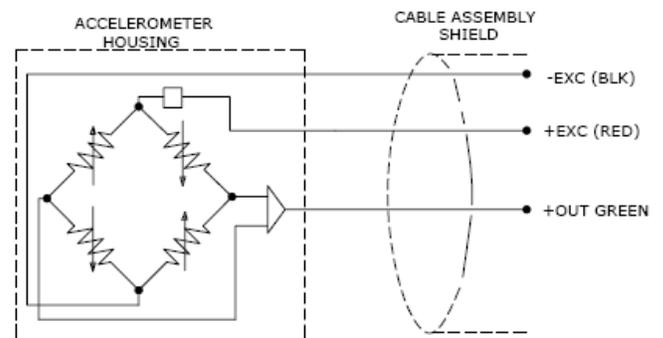
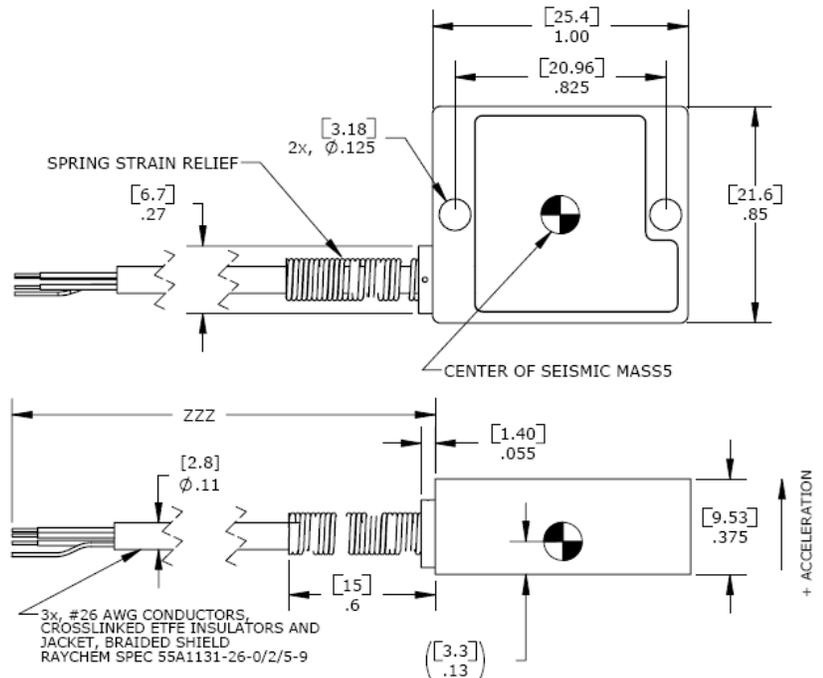
- $\pm 2g$  to  $\pm 50g$  Dynamic Range
- Amplified Output
- Low Power Consumption
- Gas Damping
- #26 AWG Teflon Cable
- DC, Low Frequency Response
- 5 to 30Vdc Excitation Voltage

## 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.

### Parameters

#### DYNAMIC

	±2	±5	±10	±20	±30	±50	Notes
Range (g)	±2	±5	±10	±20	±30	±50	
Sensitivity (mV/g)	1000	400	200	100	67	40	
-3dB Cutoff Frequency (Hz)	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	
Rolloff Above Cutoff Frequency (dB/dec)	-40	-40	-40	-40	-40	-40	
Natural Frequency (Hz)	700	800	1000	1500	1500	4000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<2 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	

#### ELECTRICAL

Zero Acceleration Output (V)	2.5 ±0.1	2.5 ±0.1	2.5 ±0.1	2.5 ±0.1	2.5 ±0.1	2.5 ±0.1	
Excitation Voltage (Vdc)	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30	
Excitation Current (mA)	<5	<5	<5	<5	<5	<5	
Full Scale Output Voltage Swing (Vdc)	0.5 to 4.5	0.5 to 4.5	0.5 to 4.5	0.5 to 4.5	0.5 to 4.5	0.5 to 4.5	
Output Resistance (Ω)	<100	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	@100Vdc
Turn On Time (msec)	<100	<100	<100	<100	<100	<100	
Residual Noise (µV RMS)	45	45	45	45	45	45	Passband
Ground Isolation	Isolated from Mounting Surface						

#### ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.012	±0.012	±0.012	±0.012	±0.012	±0.012	
Thermal Sensitivity Shift (%/°C)	±0.020	±0.020	±0.020	±0.020	±0.020	±0.020	
Operating Temperature (°C)	-40 to 125						
Compensated Temperature (°C)	0 to 85						
Storage Temperature (°C)	-40 to 125						

#### PHYSICAL

Case Material	Anodized Aluminum
Cable	Teflon Insulated Leads, Braided Shield, Teflon Jacket
Weight (grams)	10
Mounting	2x #4 or M3 Screws
Mounting Torque	6 lb-in (0.7 N-m)
AWG	#26

**Wiring color code:** +Excitation = Red; -Excitation = Blk; +Output = Grn

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

**Optional accessories:** AC-D02669 Triaxial Mounting Block  
101 Three Channel DC Signal Conditioner Amplifier

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## ordering info

PART NUMBERING Model Number+Range+Cable Length

201-XX--CCC  
 | |  
 | | Cable (060 is 60 inches)  
 | Range (05 is ±5g)

Example: 201-05-060  
 Model 201, 5g, 60" (5ft) Cable

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