

# Model 203 Accelerometer

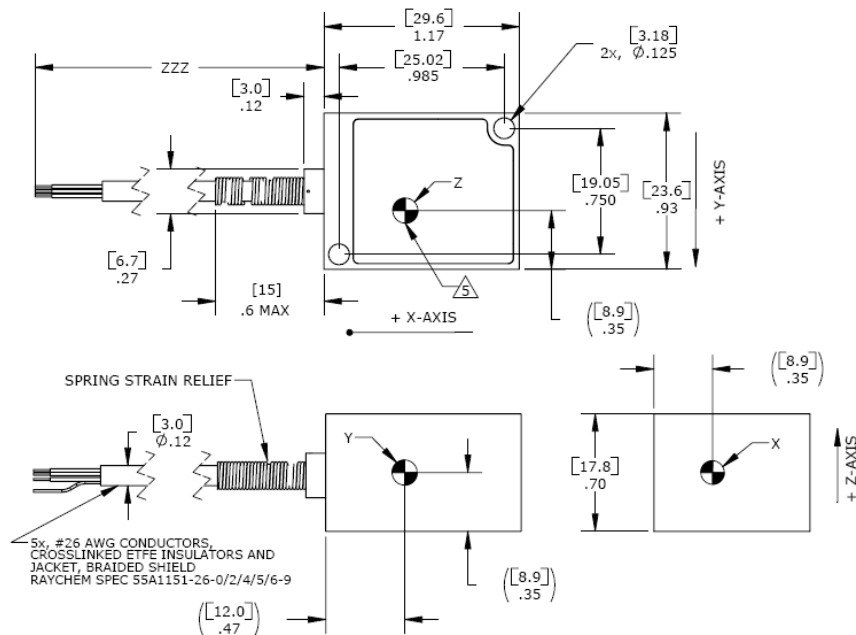


MEMS Triaxial Accelerometer  
 Temperature Calibrated  
 Signal Conditioned Output  
 Low Cost, Low Noise



**The Model 203** is a low noise triaxial accelerometer offering both static and dynamic response. The accelerometer is packaged in an anodized aluminum housing with an integral cable. It is offered in ranges from  $\pm 2g$  to  $\pm 50g$ . Featuring gas damped MEMS sensing elements, the model 203 provides a flat frequency response to 100Hz over an operating temperature range of  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

## dimensions

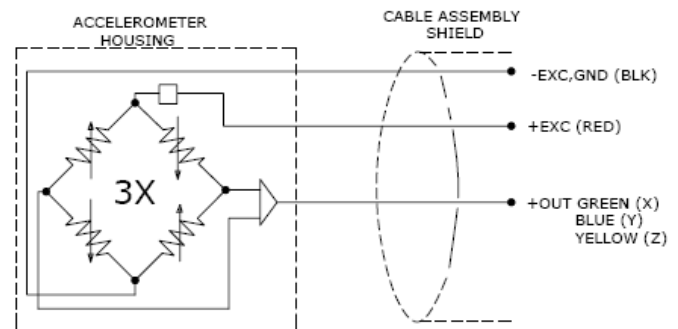


## FEATURES

- Low Noise, High Signal-to-Noise
- Three Independent Circuits
- Low Current Consumption
- Ranges:  $\pm 2g$  to  $\pm 50g$
- DC to 100Hz Frequency Response
- High Over-Range Protection
- Temperature Compensation

## APPLICATIONS

- Motorsports
- Vibration & Shock Monitoring
- Road Vehicle Testing
- Low Frequency Applications
- Seismic



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## 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	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)	<15	<15	<15	<15	<15	<15	
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)	25
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, X-axis; Blue, Y-axis; Yel, Z-axis

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

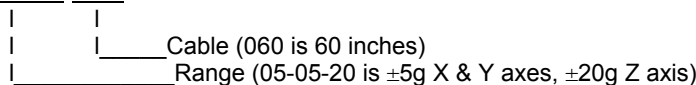
**Optional accessories:** 101 Three Channel DC Signal Conditioner Amplifier

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## ordering info

PART NUMBERING Model Number+Range+Cable Length

203-XX-YY-ZZ-CCC



Example: 203-05-05-20-060  
Model 203, 5g X & Y axes, 20g Z axis, 60" (5ft) Cable