

Model 203 Accelerometer

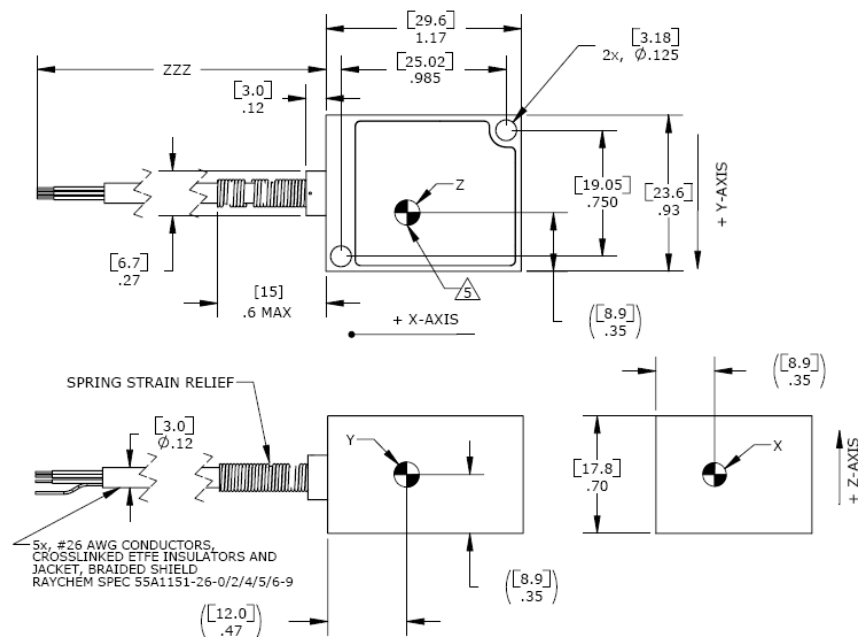


MEMS Triaxial Accelerometer
Temperature Calibrated
Signal Conditioned Output
Low Cost, Low Noise



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°C to $+125^{\circ}\text{C}$.

dimensions

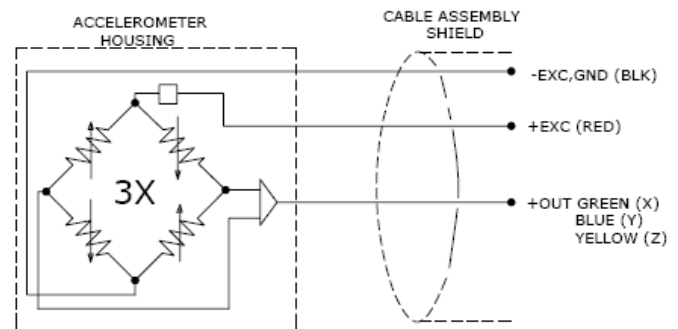


FEATURES

- 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



Model 203 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							Notes
DYNAMIC							
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					

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+Cable Length

203-XX-YY-ZZ-CCC

| |
 | | _____ Cable (060 is 60 inches)
 | _____ | _____ Range (05-05-20 is ±5g X & Y axes, ±20g Z axis)

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