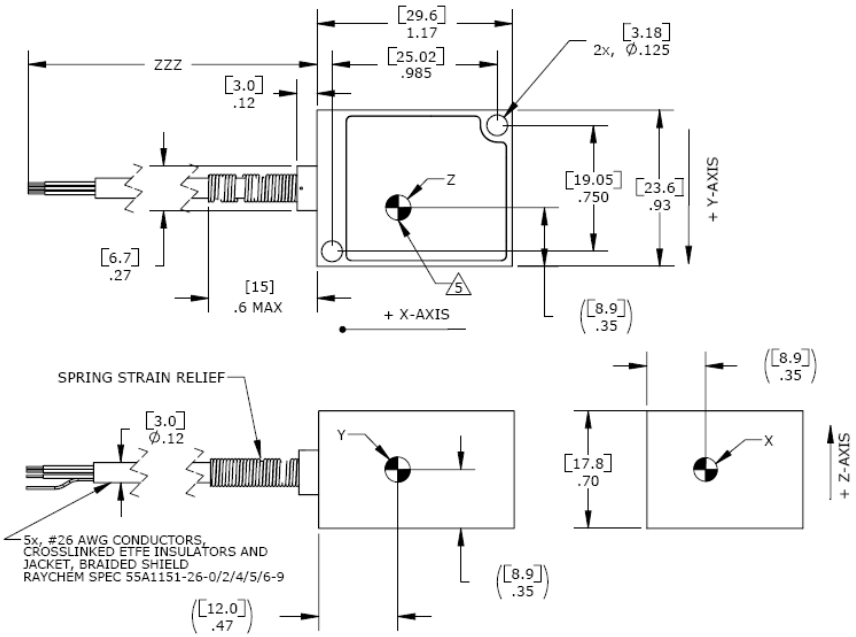
Model 203 Accelerometer

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 ±2g to ±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°C.

dimensions

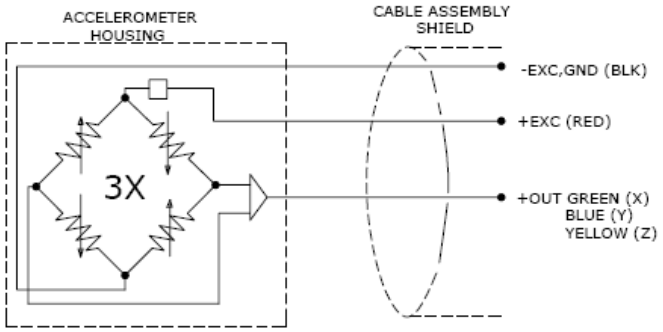


FEATURES

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

APPLICATIONS

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



32 Journey Ste. 150 Aliso Viejo, CA 92656 949-716-5377 enduser@meas-spec.com

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							
DYNAMIC							**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

ordering info

PART NUMBERING Model Number+Range+Cable Length

203-XX-YY-ZZ-CCC
- ZZ: Range (05-05-20 is ±5g X & Y axes, ±20g Z axis)
- CCC: Cable (060 is 60 inches)

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

32 Journey Ste. 150 Aliso Viejo, CA 92656 949-716-5377 enduser@meas-spec.com