MODEL 4203 ACCELEROMETER

SPECIFICATIONS

- **Triaxial Motorsport Accelerometer**
- **Critically Gas Damped**
- **Temperature Compensation**
- **EMI/RFI Protection**
- **Custom 8-Pole LP Filters**

The Model 4203 is a triaxial motorsport accelerometer designed for harsh installations. The rugged, gas damped accelerometer is ideally tailored for motorsport applications and road vehicle testing. The model 4203 features an 8-pole low-pass filter to ensure no high frequency engine noise will leak into the passband. A heavy-duty shielded cable and an EMI/RFI module protects the accelerometer from the harsh operating environment. Available in ranges from ±6g to ±50g, the model 4203 will provide reliable measurements from -40°C to +125°C.

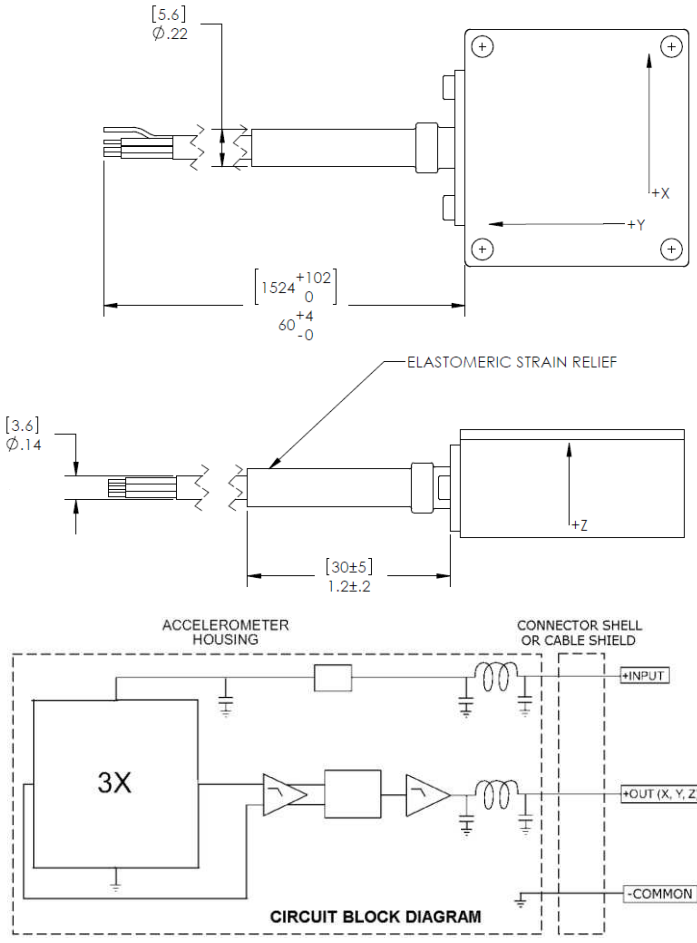
FEATURES

- 8-16 Vdc Excitation
- Ranges up to ±50 g's full scale
- Measures static & dynamic acceleration
- Over shock protection to ±5,000 g's
- Operating range from -40 to +125°C
- Built-in 8-pole low-pass filter
- EMI/RFI protection

APPLICATIONS

- Motorsport Racing
- Engine Testing
- Road Vehicle Testing
- Formula One
- Indy Racing League

DIMENSIONS



PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters							
DYNAMIC							**Notes**
Range (g)	±6	±7.5	±10	±20	±30	±50	
Sensitivity (mV/g)	333	267	200	100	67	40	±10%
-3dB Cutoff Frequency (Hz)	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	100 ±15	See alternate options below
Rolloff Above Cutoff Frequency (dB/dec)	-160	-160	-160	-160	-160	-160	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	±1.0	±1.0	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<1.5% Option
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	
Resolution (mg RMS)	0.5	0.5	0.5	1.0	1.0	3.0	Passband

ELECTRICAL		
Zero Acceleration Output (V)	2.50 ±0.10	Single-ended
Excitation Voltage (Vdc)	8 to 16	
Excitation Current (mA)	<30	
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	
Storage Temperature (°C)	-40 to +125	
Humidity	Epoxy Encapsulated, IP65	
PHYSICAL		
Case Material	Anodized Aluminum	
Cable	5x #24 AWG Conductors, ETFE Insulated, Braided Shield, Crosslinked ETFE Jacket	
Weight (grams)	60 (cable not included)	
Mounting	4x #4 or M3 Screws	
Mounting Torque	6 lb-in (0.7 N-m)	

Calibration supplied:	CS-LFREQ-0010	NIST Traceable Amplitude Calibration from 1Hz to 100Hz
Optional accessories:	121	3-Channel Precision Low Noise DC Amplifier

ORDERING INFORMATION

PART NUMBERING Model Number+Range+Filter Option

4203-XX-YY-ZZ-WW-C
I I
I I_____Filter Option (A1 Standard)
I_____Range (06-06-10 is ±6g-X, ±6g-Y, ±10g-Z)

Example: 4203-06-06-10-A1-C
Model 4203, 6g X-axis, 6g Y-axis, 10g Z-axis, 60Hz Low-pass Filter

Dash Number	Filter Cutoff Frequency
-A1	60 Hz
-A2	40 Hz
-A4	47 Hz
-A5	80 Hz
-A6	50 Hz
-A7	100 Hz