

Model 4203 Accelerometer



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 $\pm 6g$ to $\pm 50g$, the model 4203 will provide reliable measurements from -40°C to $+85^{\circ}\text{C}$.

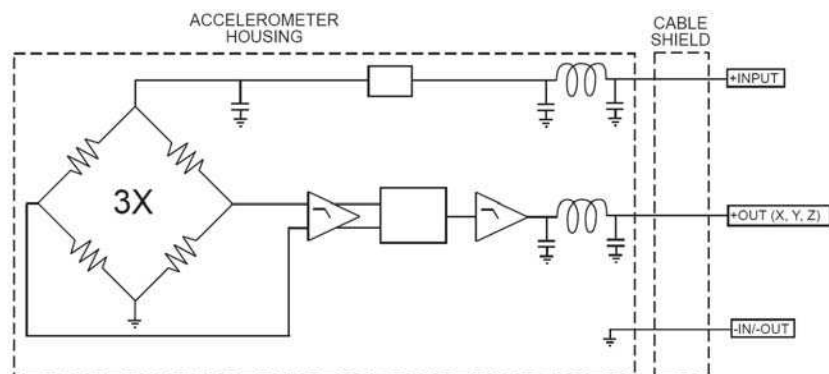
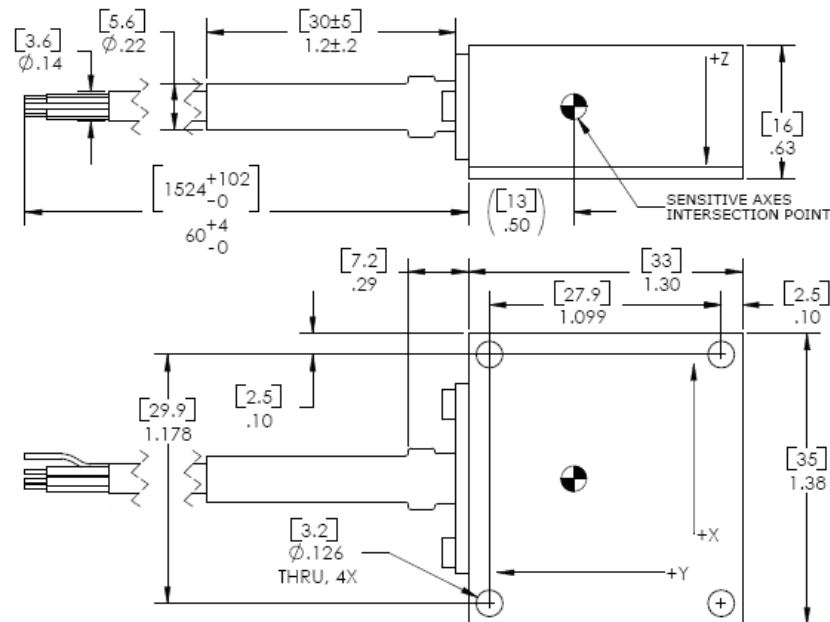
FEATURES

- 8-16 Vdc Excitation
- Ranges up to $\pm 50 g$'s full scale
- Measures static & dynamic acceleration
- Over shock protection to $\pm 5,000 g$'s
- Operating range from -40 to $+85^{\circ}\text{C}$
- Built-in 8-pole low-pass filter
- EMI/RFI protection
- Transverse sensitivity $< 1.5\%$ available

APPLICATIONS

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

dimensions



Model 4203 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)	±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 +85						
Storage Temperature (°C)	-40 to +85						
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:	101	Three Channel DC Signal Conditioner Amplifier					

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ordering info

PART NUMBERING Model Number+Range+Filter Option

4203-XX-YY-ZZ-WW

_____ Filter Option (A1 Standard)
 _____ Range (06-06-10 is $\pm 6g-X$, $\pm 6g-Y$, $\pm 10g-Z$)

Example: 4203-06-06-10-A1

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