

G200 Dual Axis Gyro

G200 Dual Axis MEMS Gyro

Ultra Low Noise 0.002°/sec/√Hz



Small, Light Weight & Low Power

- **G200 Dual Axis MEMS Gyro**
- **Ultra Low Noise** $<0.002^\circ/\text{sec}/\sqrt{\text{Hz}}$ (100 °/s)
- **Short Term Bias** $5^\circ/\text{hour}$ 1σ
- **Bias Over Temperature** $\leq 0.1^\circ/\text{sec}$ 1σ
- **G-Sensitivity** $\leq 0.005^\circ/\text{sec}/g$ 2σ
- **Axis Alignment** $<8\text{mrad}$ 1σ
- **Ultra Low Power** $< 10 \text{ mA}$ Typical
- **Bipolar Output Signal**
- **Light Weight** 18 grams
- **Low Voltage** +5V (single sided power)
- **Bandwidth** 200Hz
- **Environmentally Sealed**
- **Voltage Output**
- **Internal Temperature Sensor**
- **Self Test**
- **Shock Resistant** 500g
- **Vibration** 6 gRMS
- **High MTBF**

**Small Ultra Low Noise
Dual Axis MEMS Gyro**

Export Classification: Commerce ECCN7A994

The all new G200 Dual Axis MEMS Gyro represents Gladiator's breakthrough gyro technology enabling an ultra low noise two axis MEMS gyro and bandwidth of 200Hz that has performance commensurate with much more expensive **small Dynamically Tuned Gyros**. It also features industry leading bias in-run and bias over temperature. Designed for commercial stabilization and aircraft applications, the gyro has a bipolar signal

outputting balanced $0V \pm 5V$. The **signature features of the G200** are **ultra low noise gyros of $0.002^\circ/\text{sec}/\sqrt{\text{Hz}}$, bandwidth of 200Hz,** short term bias of $0.0014^\circ/\text{sec}$ as well as impressive bias over temperature, low power, light weight, as well as excellent g-sensitivity and misalignment. The unit is highly durable and can withstand environmental vibration and shock typically associated with commercial stabilization and aerospace requirements. The MEMS G200 gyro is offered at $100^\circ/\text{s}$ or $300^\circ/\text{s}$ rate range. The gyro is designed for platform and antenna stabilization and pointing, commercial aircraft applications, automotive testing, general aviation and laboratory use. The G200 is ideal where very low noise, excellent bias over temperature performance, low power consumption, low g-sensitivity, light weight and rugged durability are desired for commercial environments and applications. Thermal model available - consult factory.



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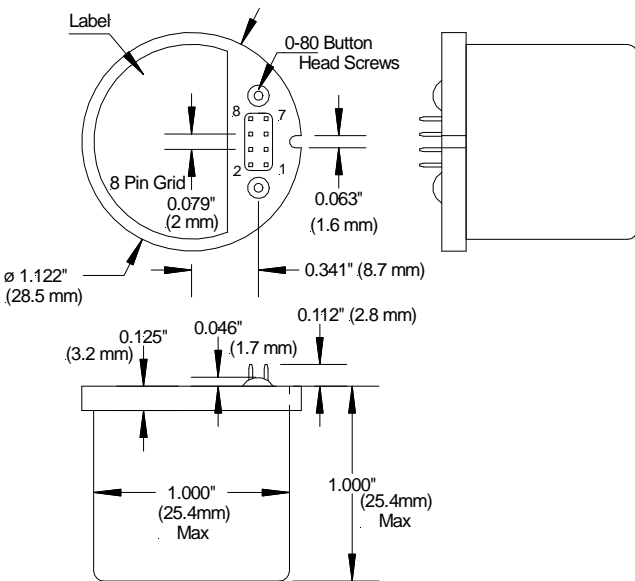


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Rev. Nov2311
SN: 100

G200 Dual Axis Gyro


 Axes (Top View) Right Hand Rule



G200 Dual Axis Gyro
 G200-100-100
 G200-300-100

Specification

PARAMETER	G200 Dual Axis Gyro	
	G200-100-100	G200-300-100
Power Requirements		
Input Voltage	+5V DC (±0.25V)	
Input Current <i>Typical (Max)</i>	10mA (14mA)	
Performance		
Standard Full Scale Ranges	±100°/sec	±300°/sec
Full Scale Output (<i>Nominal</i>)	0V ±4.9V DC	
Scale Factor <i>Nominal</i>	40mV/°/sec	12mV/°/sec
Scale Factor Over Temperature	±0.05%	
Temperature Sensor	0.75V ±0.05V DC Nominal at 25°C	
Temperature Sensor Scale Factor	10mV/°C Nominal	
Bias Factory Set 1σ	≤0.05°/sec	≤0.15°/sec
Bias Variation Over Temperature 1σ	≤0.1°/sec	≤0.3°/sec
Short Term Bias Stability 1σ (150 sec at constant temp.)	≤0.0014°/sec	≤0.002°/sec
Long Term Bias Stability (1 Year)	5°/hr	15°/hr
G-Sensitivity 2σ	≤0.005°/sec/g	
Axis Alignment 1σ	<8mrad	
Start-Up Time	<0.5 sec	
Bandwidth (-3 dB)	200 Hz	
Non-Linearity (<i>of Full Range</i>)	≤0.25%	
Threshold/Resolution	≤0.001°/sec	
Output Noise 1σ	0.002°/sec/√Hz	0.003°/sec/√Hz
Environments		
Operating Temperature	-40°C to +85°C	
Storage Temperature	-55°C to +100°C	
Vibration Operating	6 gRMS (20Hz to 2KHz)	
Shock	500g, any axis 30msec 1/2 sine	
Weight	18 grams	

Specification subject to change without notice

Pin No.	Pin Assignment
1	X Gyro Rate Output Voltage 0V <i>Nominal</i>
2	Gyro Temp +0.75V @ 25°C 10mV/°C
3	Power Ground
4	Y Gyro Rate Output Voltage 0V <i>Nominal</i>
5	+4.75V to +5.25V DC Input
6	Signal Ground
7	Self Test Input 3.3V nominal
8	Case

Rate output X Axis is Pin 1 with respect to Pin 6. Rate output Y Axis is Pin 4 with respect to Pin 6. Temperature is Pin 2 with respect to Pin 6. Self Test On is 3.3V on Pin 7. Self Test Off is open or < 1V. Loads <100pf & >5k on pins 1 & 4 and >40k on pin 2



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