

G100Z Gyro



- G100Z NON-ITAR *Ultra* Low Noise MEMS Single Axis Gyro
- Same Form Factor as G50Z Gyro
- Low Noise $0.003\%/sec/\sqrt{Hz} 1\sigma$
- Short Term Bias $\leq 0.002\%/sec 2\sigma$
- Bias Over Temperature $\leq 0.1\%/sec 2\sigma$
- G-Sensitivity $\leq 0.01\%/sec/g 2\sigma$
- Axis Alignment $< 4mrad 1\sigma$
- Low Power $< 72mA$ Typical
- Bipolar "VSG" Compatible Signal
- Light Weight < 34 grams
- Low Voltage $+5V$ (single sided power)
- Bandwidth 140 Hz (or $500Hz -100$)
- Voltage Output
- Internal Temperature Sensor
- Self Test / Built-In-Test (BIT)
- Shock Resistant $500g$
- Vibration $6 gRMS$
- High MTBF

Export Classification:
Commerce ECCN7A994 (NLR)



Applications

Airborne Platform Stabilization
Antenna Stabilization & Pointing
EO/IR Stabilization
LIDAR Stabilization
Navigation
Flight Testing
Racing Yacht Marine Compass

**Ultra Low Noise MEMS Gyro
Excellent Bias & G-Sensitivity**



Gladiator Technologies
Division of LKD Aerospace
High Performance Inertial MEMS

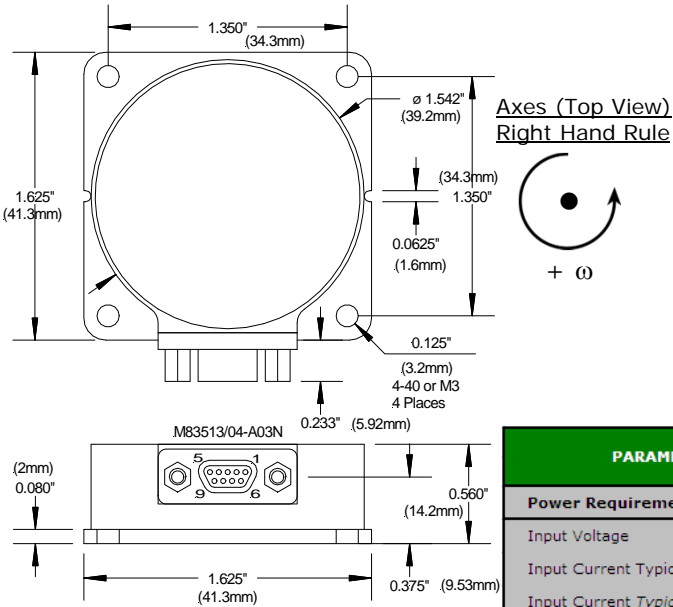
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Rev. 15Feb02
SN: 219

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Mating Connector: M83513/01-AN

G100Z GYRO Standard Part Numbers			
Part Number	-100	-200	Output
Bandwidth			
G100Z-025-100	500Hz	N/A	Bipolar
G100Z-100-X00	500Hz	140Hz	Bipolar
G100Z-175-X00	500Hz	140Hz	Bipolar
G100Z-300-X00	500Hz	140Hz	Bipolar

Specification

Pin No.	Pin Assignment
1	Gyro Rate Output Voltage 0V Nominal
2	Gyro Temperature +2.5V @ 20°C
3	Power Ground
4	Gyro +2.5V Reference Voltage
5	+4.75V to +5.25V DC Input
6	Signal Ground
7	Self Test Input
8	BIT Output (5V logic level = pass)
9	Case

Rate output is Pin 1 with respect to Pin 6. Temperature is Pin 2 with respect to Pin 6. Vref on Pin 4 has a 1.25k Ohm source impedance. Self Test On is 4V to 5V on Pin 7. Self Test Off is open or < 1V.

BIT Conditions	Self Test Input	BIT Output
Normal	0 or open	1
Fail (during operation)	0 or open	0
Fail (during Self Test)	1	1
Pass	1	0

PARAMETER	G100Z Part Numbers			
	G100Z-025-100	G100Z-100-XXX	G100Z-175-XXX	G100Z-300-XXX
Power Requirements				
Input Voltage	+5V DC (±5%)			
Input Current Typical (Max) -100	115mA (120mA)			
Input Current Typical (Max) -200	N/A	72mA (75mA)		
Performance				
Standard Full Scale Ranges	±25°/sec (-100 only)	±100°/sec	±175°/sec	±300°/sec
Full Scale Output (Nominal)	0V ±4.9V DC			
Scale Factor Nominal	180mV/°/sec	45mV/°/sec	29mV/°/sec	17mV/°/sec
Scale Factor Over Temperature	± 5%			
Temperature Sensor	2.5V ±0.05V DC Nominal at 20°C			
Temperature Sensor Scale Factor	8.4mV/°C Nominal			
Bias Factory Set 2σ	≤0.1°/sec	≤0.1°/sec	≤0.1°/sec	≤0.2°/sec
Bias Variation Over Temperature 1σ	≤0.05°/sec	≤0.1°/sec	≤0.15°/sec	≤0.25°/sec
Short Term Bias Stability 1σ (150 sec at constant temp.)	≤0.0015°/sec	≤0.002°/sec	≤0.003°/sec	≤0.004°/sec
Long Term Bias Stability (1 Year)	5°/hr	7°/hr	10°/hr	15°/hr
G-Sensitivity 2σ	≤0.005°/sec/g	≤0.02°/sec/g	≤0.04°/sec/g	≤0.06°/sec/g
Axis Alignment 1σ	<4mrad			
Start-Up Time	<0.05 sec			
Bandwidth (-3 dB)	500 Hz (-100) 140Hz (-200)			
Non-Linearity (of Full Range)	≤0.5%			
Threshold/Resolution	≤0.001°/sec	≤0.001°/sec	≤0.0015°/sec	≤0.002°/sec
Output Noise 1σ -100 Model	0.003°/sec/√Hz	0.0035°/sec/√Hz	0.0055°/sec/√Hz	0.0075°/sec/√Hz
Output Noise 1σ -200 Model	N/A	0.003°/sec/√Hz	0.0035°/sec/√Hz	0.004°/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	< 34 grams			

Specification subject to change without notice



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