



**Gladiator Technologies**

Division of LKD Aerospace

Low Noise Inertial MEMS



## QMS & CERTS

AS9100C

ISO9001:2008

Cage Code: 47L11

Division of

LKD Aerospace

SAM Registered

JCP certified

## G300D Gyro

NON-ITAR Digital Triaxial Gyro (0.6" Cube)

**Low Noise Inertial MEMS**  
**Rugged Low Cost Sensors & Systems**

### Automated Testing

Comprehensive ERP  
Environmental Test Lab:

- Shock
- Vibration
- Temperature Calibration
- G-Sensitivity
- Axis Alignment
- Centrifuge
- GPS Simulation

### Products:

Gyros  
Accelerometers  
IMU  
VG  
AHRS  
VG/GPS  
GPS/AHRS  
INS/GPS

- Non-ITAR MEMS Digital Triaxial Gyro (0.6" Cube)
- Smallest Gyro Triax in its Performance Class
- Low Noise  $< 0.0028\%/sec/\sqrt{Hz}$
- Wide Sensor Bandwidth 250Hz, Low Latency
- In-Run Gyro Bias  $5^\circ/hour$   $1\sigma$
- Bias Over Temperature  $\leq 0.05\%/sec$   $1\sigma$
- Compensated Misalignment  $\leq 1/2$  mrad  $1\sigma$
- G-Sensitivity  $\leq 0.001\%/sec/g$   $2\sigma$
- Full Temperature Calibration (Bias & SF)
- RS422/485 Serial Data to 2.5kHz (selectable)
- External Sync Input (2.5kHz)
- Ultra Low Power  $< 60$  mA typical
- Low Voltage +3.8V to +5.5 V
- Light Weight  $\leq 18$  grams
- Self-Test
- Shock Resistant 500g

### Applications

Platform Stabilization  
Antenna Stabilization  
Antenna Pointing  
EO/IR Stabilization  
LIDAR Stabilization  
Low Cost Navigation  
Flight Testing

**Export Classification:**  
Commerce  
ECCN7A994 (NLR)



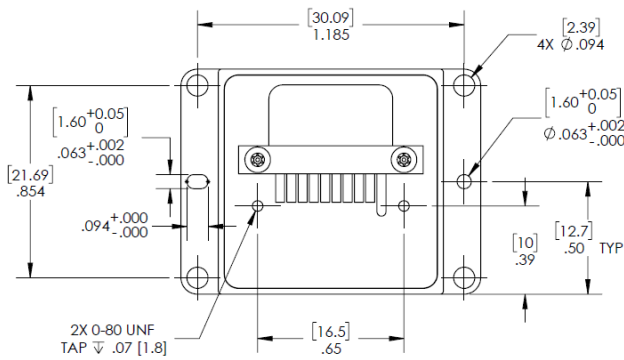
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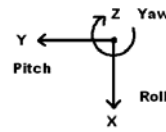


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# G300D Digital Triaxial Gyro



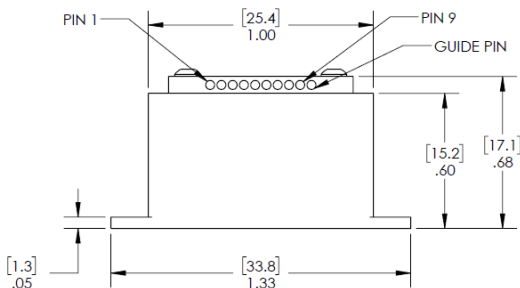
Axes (Top View)  
Right Hand Rule



**G300D Gyro**

G300D-250-100  
G300D-490-100

## Specification



PARAMETER	RATE AXES	
Range	±250°/sec	±490°/sec
Angle Random Walk	0.0028°	0.003°
	/sec/√Hz 1σ	
Bias In-Run Stability	0.12°	0.127°
	/√hour 1σ	
Bias Over Temp.	5°/hour	5°/hour
Scale Factor Error %	< 0.05°/sec 1σ	
Scale Factor Error %	≤0.05% (over temperature) 1σ	
Sensor Resolution	0.0014°/sec	0.0015°/sec
Alignment	0.5 mrad 1σ	
G-Sensitivity	< 0.001°/sec/g 1σ	
Self Test On	Δ 45±5°/s X & Y	
	Δ 0±5°/s Z	
	Logic 1 = 3.3V at Pin 8	
Temp Range	Operating: -40°C to +85°C	
	Non-Operating: -55°C to +85°C	
Update Rate	2.5k Hz (user selectable)	
Start-up Time	< 0.3 sec	
Input Power	<b>+3.8V to +5.5V Max. Input</b> <b>(single sided)</b>	
Power Consumption	300 mW at 5V Typical	
	375 mW at 5V Maximum	
Size	U.S.:	1.0 x 1.0 x 0.6 = 0.6 in <sup>3</sup>
	Metric:	2.54 x 2.54 x 1.52 = 9.8 cm <sup>3</sup>
Weight	≤ 18 grams	
Mounting	4ea No.2-56 Screws	
Shock	500g's ½ sine 1 msec	
Vibration	6gRMS (20Hz to 2KHz)	
MTBF	93,636 hrs (per MIL-STD-217F, Notice 2 and ANSI/VITA 51.1-2008 with environment: ACI at 40°C Ambient)	

Pin No.	Assignment
1	RS-422/485 A (+) (Twisted Pair)
2	RS-422/485 B (-) (Twisted Pair)
3	Power Ground
4	N C
5	<b>+3.8V to +5.5V Max Input Power</b>
6	External Sync Input (2.5kHz)
7	NC
8	Signal Ground
9	NC

If pin 6 is not used connect to pin 8.

Output s	Serial Sequence at 1kHz
1	Roll Gyro (X)
2	Pitch Gyro (Y)
3	Yaw Gyro (Z) (Triax Only)
4	Temperature ± 0.5° C typical

Specification subject to change without notice



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