LandMark™ 30 IMU

- *Low Noise* & High Performance Silicon MEMS Digital IMU
- Low Gyro Noise *0.003º/sec/√Hz*
- Low Accel Noise *0.04mg/√Hz*
- In-Run Gyro Bias *8°/hour 1σ*
- Fully Temperature Compensated Bias and Scale Factor
- Compensated Misalignment *1mrad* and g-Sensitivity *<0.01°/sec/g 1σ*
- Input Power *+6V to +36V (single sided)*
- Light Weight *388 grams*
- Small Size *< 321cm³/19.6in³*
- RS485 Data Rate *500 Hz (user selectable)*
- Wide Sensor Bandwidth *140 Hz*
- Bandwidth Filtering Capability
- External Sync *(1 kHz or 1 pps)*
- Precision Alignment
- Internal Vibration Isolation *6 gRMS*
- Shock Resistant *500g's*
- 6 Internal Temperature Sensors
- Self Test & No Wearout Modes

Export Classification:
Commerce ECCN7A994 (NLR)

Applications

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

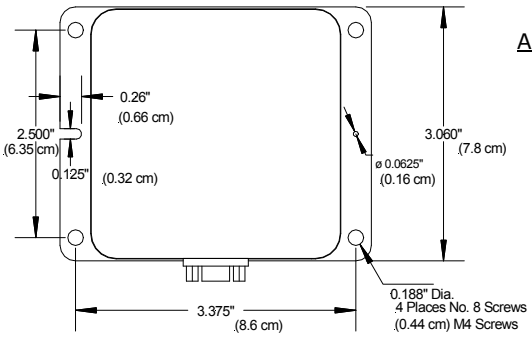
High Performance MEMS IMU With Low Noise & Low Bias Performance

Gladiator Technologies
Division of LKD Aerospace
High Performance Inertial MEMS

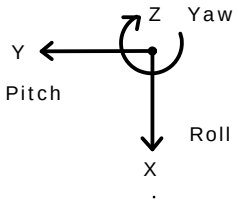
Gladiator Technologies Division
LKD Aerospace, Inc
8020 Bracken Place SE
Snoqualmie, WA 98065 USA

Rev. 15April16
SN: 200

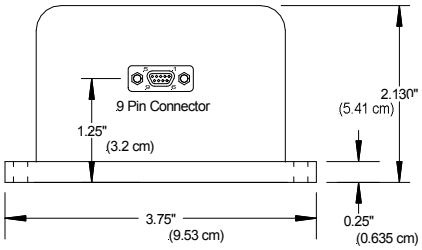
LandMark™ 30 IMU



Axes (Top View) Right Hand Rule



LandMark™ 30 IMU
LMRK30IMU-100-**02**-300 or -**06** or -**10**
LMRK30IMU-175-**02**-300 or -**06** or -**10**
LMRK30IMU-300-**02**-300 or -**06** or -**10**



Mating Connector: M83513/01-AN

Pin No.	Assignment
1	RS-485 A (+)
2	RS-485 B (-)
3	Power Ground
4	Analog/Digital Input (0V to 5V)
5	**+6.0V to +36V Input Power**
6	External Sync Input (1kHz or 1pps)
7	+5V Regulator Out
8	Signal Ground
9	Self Test

Note: Any unused inputs (Pins 4, 6, 9) must be connected to signal ground (Pin 8).

Outputs	Serial Sequence at 200Hz
1	Roll Gyro (X)
2	Pitch Gyro (Y)
3	Yaw Gyro (Z)
4	X Accelerometer
5	Y Accelerometer
6	Z Accelerometer
7	Temperature ± 0.5º C *Typical*

Specification

PARAMETER	*LandMark™ 30 IMU*					
	RATE AXES			ACCEL AXES		
Range	±100°/sec	±175°/sec	±300°/sec	±2 g's	±6 g's	±10 g's
Bias (Over Temp.)	<0.03°/sec *2σ*			<0.5mg	<0.8mg *1σ*	<1.0mg
Bias (In Run Stability)	8°/hour *1σ*			0.02mg	0.06mg *1σ*	0.08mg
Scale Factor Error %	≤ 0.08% *(over temperature) 1σ*					
Resolution	0.0015°	0.0025° /sec	0.003°	0.02mg	0.05mg	0.06mg
Angle Random Walk	0.003°	0.005° /sec/√Hz *1σ*	0.006°	0.04mg	0.1mg /√Hz *1σ*	0.12mg
Alignment	1mrad *1σ*					
G-Sensitivity	<0.01°/sec/g *1σ*					
Self Test On	Δ 8°/s ± 4 °/s	Δ 8°/s ± 4 °/s	Δ 8°/s ± 4 °/s	Δ 1.5 ±0.5g	Δ 0.3 ±0.2g	Δ 0.3 ±0.2g
	Logic 1 = 3V to 5V at Pin 9					
Temp Range Operating: Non-Operating:	 -40˚C to +85˚C -55˚C to +100˚C					
Update Rate	500 Hz, 200 Hz, 100 Hz, or 10 Hz *(user selectable)*					
Temp Sensors	6 Internal Temperature Sensors					
Start-up Time	< 0.3 sec *at 200 Hz*					
Input Power	**+6.0V to +36V Max. Input (*single sided*)** ***(Input Transient Protection to 80V)***					
Power Consumption	2200 mW at +12V *typical* 2350 mW at +12V *maximum*					
Size U.S.: Metric:	3.0 x 3.06 x 2.13 = 19.6 in^3 7.62 x 7.8 x 5.4 = 321cm^3					
Weight	≤ 388 grams					
Mounting	4ea No.8 or M4 Screws					
Shock	500g's ½ sine 1 msec powered					
Vibration	6 gRMS *(20Hz - 2KHz ~ 10g accelerometers)*					
MTBF	No inherent wear out modes for long life.					

Specification subject to change without notice

Gladiator Technologies
Division of LKD Aerospace
High Performance Inertial MEMS

Gladiator Technologies Division
LKD Aerospace, Inc
8020 Bracken Place SE
Snoqualmie, WA 98065 USA

Rev. 15April16
SN: 200