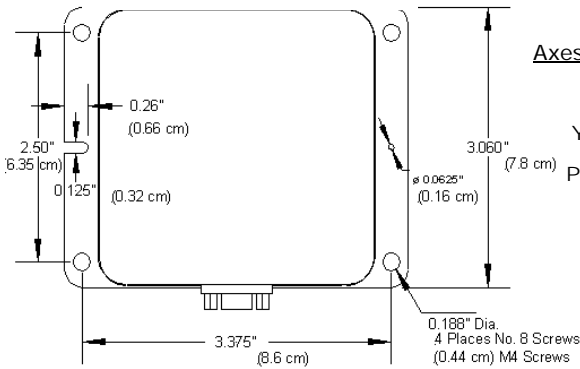
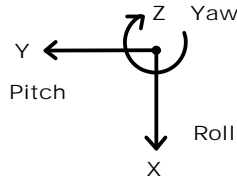


LandMark™ 30 AHRS



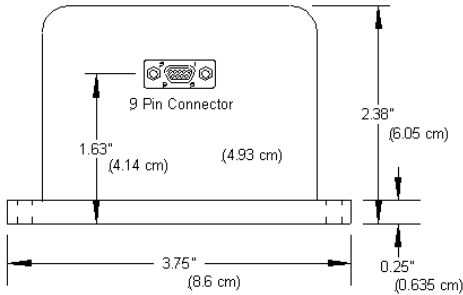
Axes (Top View) Right Hand Rule



Standard LandMark™ 30 AHRS

LMRK30AHRS-100-02-200 or -06 or -10
 LMRK30AHRS-175-02-200 or -06 or -10
 LMRK30AHRS-300-02-200 or -06 or -10

Specification



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)
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 100Hz
1, 2, 3	Gyros: Roll (X), Pitch (Y), Yaw (Z)
4, 5, 6	Accelerometers: (X), (Y), (Z)
7	IMU Temperature
8, 9, 10	Magnetometers: (X), (Y), (Z)
11	Pressure
12, 13, 14	Angles: Roll, Pitch, Yaw
15, 16, 17	AC Velocities: (X), (Y) & Vertical Velocity: (Z)
18, 19, 20	Altitude, Temp, Forward Velocity

User to provide either analog or external velocity for velocity functions to be enabled (pin 4).

PARAMETER	LandMark™ 30 AHRS					
	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
Temp Range	Logic 1 = 3V to 5V at Pin 9					
Operating:	-40° C to +85° C					
Non-Operating:	-55° C to +85° C					
Heading	± 0.5° stationary					
Pitch & Roll	± 0.25° stationary					
Altitude	± 3m 1σ					
Update Rate	100 Hz or 10Hz (user selectable)					
Temp Sensors	6 Internal Temperature Sensors					
Start-up Time	< 0.65 sec					
Input Power	+6.0V to +36V Max. Input (single sided)					
Power Consumption	2300 mW at +12V typical 2450 mW at +12V maximum					
Size	U.S.:	3.0 x 3.06 x 2.38 = 21.8 in ³				
	Metric:	7.62 x 7.8 x 6.05 = 358cm ³				
Weight	≤ 405 grams					
Mounting	4ea No.8 or M4 Screws					
Shock	500g's ½ sine 30 msec powered					
Vibration	6gRMS (20 Hz to 2 KHz ~ 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

Rev. 15Feb02
 SN: 152