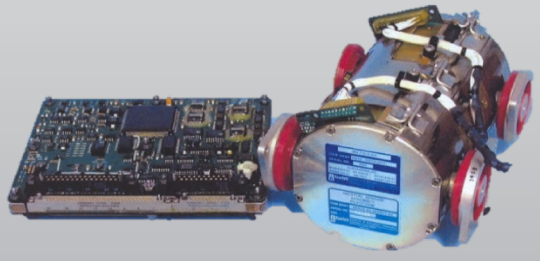
Inertial Measurement Units

Kearfott
a subsidiary of Astronautics

KI-4902

KI-4921



Scalable Performance, Size, & Weight

Kearfott's Inertial Measurement Units (IMUs) incorporate proven sensor technology and innovative packaging for industry-leading size, weight, power, and performance–addressing the navigation needs for a variety of applications from sea, land, air, and space market segments. The monolithic ring laser gyro (MRLG)-based IMUs are ideally suited for applications requiring high performance for navigation, line-of-sight stabilization, and flight control purposes in a compact form factor.

MRLG IMUs are available as a kit consisting of an inertial sensor assembly, an electronics board, and a high-voltage power supply. The MRLG IMU kit allows flexible installation in tight areas to maximize space within the host application. Self-contained MRLG IMU Kit systems can be provided as required.

Features & Benefits

- High-Performance Guidance for Manned, Unmanned, & Missile Platforms
- Compact, Lightweight, & Affordable
- Configurable for Sea, Land, & Air Applications
- Flexible Kit Architecture Supports Weight & Envelope Constraints

IMU Product Specifications

System Characteristics	*KI-4902*	*KI-4921*
Size	136 in^3 (2,229 cm^3)	81 in^3 (1,327 cm^3)
Weight	7.5 lbs (3.4 kg)	4.5 lbs (2.04 kg)
Power	21 W	15 W
Operational Ranges	*KI-4902*	*KI-4921*
Acceleration	> 30 g, all axes	
Attitude (Roll, Pitch, Azimuth)	Unlimited	
Attitute Rate	>300°/s	
Attitude Acceleration	10,000°/s^2	
Temperature	-40° to 160°F (-40° to 71°C)	
Input/Output Power Input	+5, ±15 VDC	
Interface	RS-422, RS-232	
Data Rates (Hz)	Configurable	
Performance Characteristics	*KI-4902*	*KI-4921*
Gyro Bias Stability	0.003°/hr	0.03°/hr
Gyro Random Walk	0.002°/√hr	0.02°/√hr
Gyro Scale Factor	50 PPM	75 PPM
Acceleration Bias Stability	50 µg	50 µg
Acceleration Random Walk	0.010 m/s/√hr	0.020 m/s/√hr
Acceleration Scale Factor	100 PPM	350 PPM
Acceleration Vibration Rectification	15 µg/g^2 RMS	15 µg/g^2 RMS

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