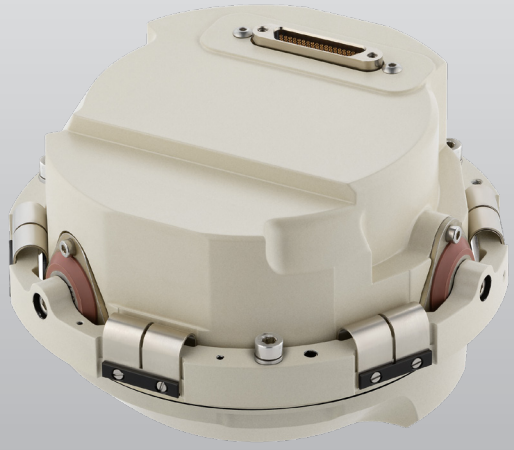
Inertial Measurement Unit
IMU 32 Family

Kearfott
a subsidiary of Astronautics



Proven IMUs for Harsh Vibration Environments

The Kearfott Inertial Measurement Unit (IMU) 32 family employs the latest closed-loop, fiber optic gyro (FOG) and linear accelerometer technology. These IMUs are small, lightweight, high-performance, strap-down units that are suited for reference, control, and navigation solutions for both defense and commercial applications. The IMU 32 family complements Kearfott Ring Laser Gyro navigation-grade IMUs and are available in multiple configurations to meet different price and performance requirements.

The IMU 32 is suitable for harsh vibration environments on a wide range of applications, including vehicle navigation, missiles, and guided munitions. Over the past 15 years, these IMUs have been tested and combat proven on a variety of operational applications that include rocket systems, accurate munitions, payloads, UAVs, and civilian aircraft protection systems.

Features & Benefits

- Extended Performance Option: 0.1°/hr.
- ARW: 0.02 – 0.008°/rt. hr.
- Scalable Bias: 0.5 – 0.1°/hr.
- Improved LOS Stabilization
- Reduced Jitter
- Improved CEP

IMU 32 Product Specifications

System Characteristics		
Size	39.66 in^3 (650 cm^3)	
Weight	2.16 lbs (0.98 kg)	
Power	15 W	
Operational Ranges		
Temperature	-40° to 160°F (-40° to 71°C)	
Temperature Gradient	5.4°F/min (3°C/min)	
Input/Output		
Power Input	+5, ±15 VDC	
Shock	11 msec, ± 20g	
Vibrations	20-2000Hz, 5.6 gRMS	
Interface	SDLC, RS-422	
Data Rates (Hz)	100 to 4800 Hz	
Sync	External or Internal	
Performance Characteristics	*IMU 32*	*IMU 32-XP (Enhanced Performance)*
Gyro Bias Stability	<0.5°/hr	<0.1°/hr
Gyro Angular Random Walk	0.02°/√hr	0.008°/√hr
Gyro Scale Factor	<150 PPM	<150 PPM
Gyro Dynamic Range	±1000°/sec	±1000°/sec
Accelerometer Bias	<300 µg	<300 µg
Accelerometer Threshold	10 µg	10 µg
Accelerometer Scale Factor	300 PPM	300 PPM
Accelerometer VRE	20 µg/g^2	20 µg/g^2
Accelerometer Range	±50g	±50g

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