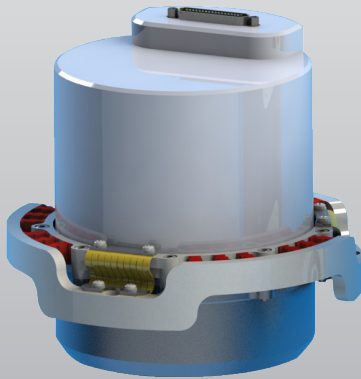
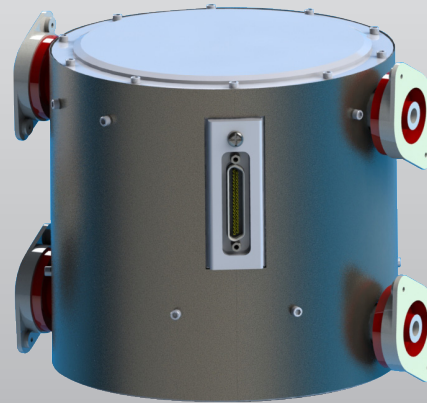


Next-Generation Inertial Measurement Units



Tactical-Grade Inertial Measurement Unit



Navigation-Grade Inertial Measurement Unit

Navigation & Tactical-Grade Compact Inertial Measurement Units

Kearfott's Next-Generation Inertial Measurement Units (NxIMU) incorporate the most advanced sensor technology and innovative packaging for industry-leading size, weight, power, and performance—addressing the navigation needs for a variety of sea, land, air, and space market segment applications. These monolithic ring laser gyro (MRLG) NxIMUs are ideally suited for applications requiring high performance for navigation, line-of-sight stabilization, and flight control in a compact form factor. The NxIMUs are offered in two performance grades: navigational or tactical.

The NxIMUs consist of Kearfott's patented three-axis MRLG, three Kearfott force-rebalanced pendulous accelerometers, and electronics in environmentally sealed housing. Utilizing MRLG reduces the number of piece parts, weight, and volume compared to a system using three single-axis gyros. These NxIMUs meet FAA DO-178C Level A and DO-254 Level A, as well as military standards and/or service airworthiness certification.

Features & Benefits

- ✓ Exceptional Performance for Manned, Unmanned, & Missile Platforms
- ✓ Compact, Lightweight, Low Power
- ✓ Suitable for Sea, Land, Air, & Space Applications
- ✓ Best-in-Class Vibration & Shock Performance

NxIMU Product Specifications

<i>System Characteristics</i>	<i>NxIMU16</i>	<i>NxIMU24</i>
Size	< 67 in ³ (1098 cm ³)	< 85 in ³ (1393 cm ³)
Weight	< 2.5 lbs (1.14 kg)	< 4 lbs (1.82 kg)
Power	< 16 W	< 20 W
<i>Operational Ranges</i>		
Acceleration	< 30 g, all axes	
Attitude (Roll, Pitch, Azimuth)	Unlimited	
Attitude Rate	<300°/s	
Attitude Acceleration	10,000°/s ²	
Operating, Ambient Temperature	-54 to 71°C (-65.2 to 159.8°F)	
<i>Input/Output</i>		
Power Input	+5, ±15 VDC	
Interface	SDLC/UART OVER RS-422	
Data Rates (Hz)	Configurable: 50, 100, 200, 256, 600 Hz	
<i>Sensor Performance Characteristics</i>	<i>NxIMU16</i>	<i>NxIMU24</i>
Gyro Bias Stability	0.08°/hr	0.003°/hr
Gyro Angle Random Walk	0.02°/hr	0.003°/hr
Gyro Scale Factor Error	50 PPM	50 PPM
Acceleration Bias Stability	200 µg	50 µg
Velocity Random Walk	0.04 m/s/√hr	0.01 m/s/√hr
Scale Factor Error	350 PPM	50 PPM
Acceleration Vibration Rectification Coefficient	< 15 µg/g RMS	< 15 µg/g RMS

Mechanical isolation is tailorable for specified applications.