



# INERTIAL MEASUREMENT UNITS

## PRODUCT CATALOG

# PIONEERING PRECISION IN INERTIAL NAVIGATION AND SENSOR FUSION FOR OVER 20 YEARS

## About VIAVI Solutions

VIAVI (NASDAQ: VIAV) is a global provider of network test, monitoring and assurance solutions for telecommunications, cloud, enterprises, first responders, military, aerospace and railway. VIAVI is also a leader in light management technologies for 3D sensing, anti-counterfeiting, consumer electronics, industrial, automotive, government and aerospace applications.

Learn more about VIAVI at [www.viavisolutions.com](http://www.viavisolutions.com).

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## About Inertial Labs, a VIAVI Solutions Company

With over 20 years of industry experience, Inertial Labs, a VIAVI Solutions Company, is a leading designer, integrator, and manufacturer of cutting-edge Inertial Measurement Units (IMUs), GPS-Aided Inertial Navigation Systems (INSs), and Attitude & Heading Reference Systems (AHRSSs), as well as sensor fusion products and solutions ranging from Inertial Sensing, Assured Position Navigation and Timing (APNT) and GNSS Tracking to LiDAR Scanning, Alternative Navigation (ALTNV), Visual Navigation, and Programmable Navigation Solutions.

As experts in sensor fusion, Inertial Labs designs and develops quality products at the best price-performance ratio. Our team provides solutions capable of utilizing data from an array of sources, including air data computers (ADCs), ToF Mesh-Based Software Defined Radios (SDRs), Visual Odometry, Air Speed Sensors, Odometers, Encoders, and Standalone Magnetic Compasses (SAMCs).

# APPLICATIONS



## AEROSPACE

Navigation, Stabilization and Pointing



## LAND

Commercial and Military



## INDUSTRIAL

Small to Large Scale Operations



## MARITIME

Dynamic Position, Heave, Surge and Sway



About Inertial Labs, a VIAVI Solutions Company

**2001**

Founded

**150+**

Highly Technical Staff

**400+**

Customers WorldWide

**100,000+**

Devices in Operation

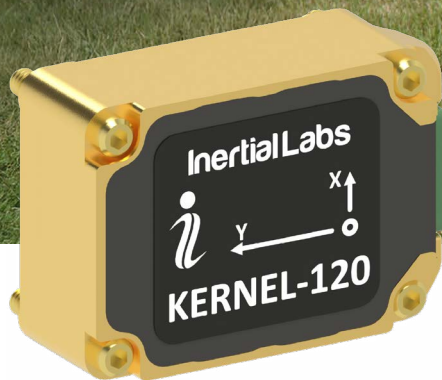
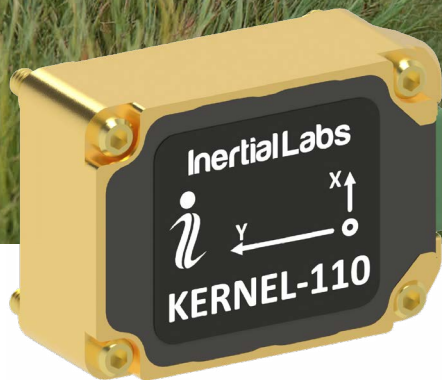


# KERNEL-100

Gyro Bias in-run Stability (RMS)	2°/h
Gyro Noise (ARW)	0.38°/√h
Accel Bias in-run Stability	0.01 mg (RMS, 8 g)
Pitch & Roll Accuracy	0.05° (Static,RMS)
Accel SF Accuracy (over temp. range)	500 ppm
Size	28.5 x 19.5 x 8.5 mm
Weight	7 g

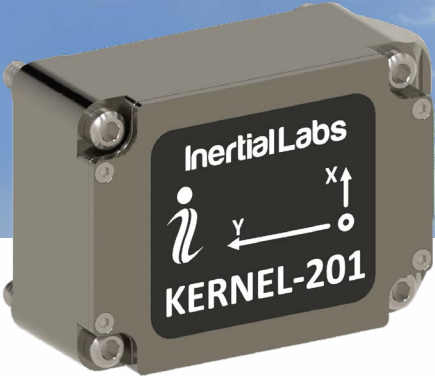


## Inertial Measurement Units



# KERNEL-110 | KERNEL-120

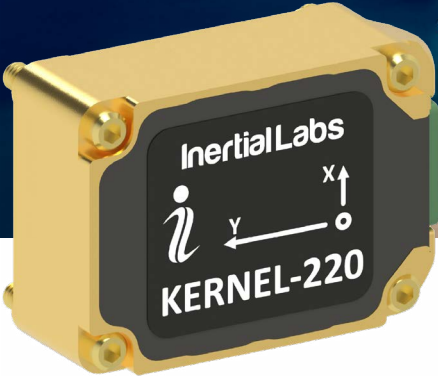
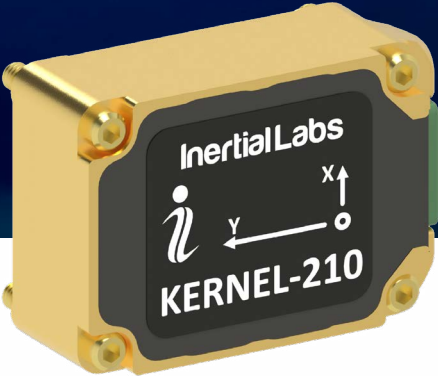
Gyro Bias in-run Stability (RMS)	2°/h
Gyro Noise (ARW)	0.3°/√h
Accel Bias in-run Stability	0.01 mg (RMS, 8 g)
Pitch & Roll Accuracy	0.05° (Static,RMS)
Accel SF Accuracy (over temp. range)	.500 ppm
Size	28.38 x 19.5 x 10.5 mm
Weight	10 g



# KERNEL-201

Gyro Bias in-run Stability (RMS)	0.7%/h
Gyro Noise (ARW)	0.065%/√h
Accel Bias in-run Stability	0.015 mg (RMS, 8 g)
Accel SF Accuracy (over temp. range)	.500 ppm
Size	28.5 x 19.5 x 11.2 mm
Weight	10 g

# Inertial Measurement Units



## KERNEL-210 | KERNEL-220

Gyro Bias in-run Stability (RMS)	1%/h
Gyro Noise (ARW)	0.2%/√h
Accel Bias in-run Stability	0.005 mg (RMS, 8 g)
Pitch & Roll Accuracy	0.05° (Static,RMS)
Accel SF Accuracy (over temp. range)	150 ppm
Size	28.38 x 19.5 x 10.5 mm
Weight	17 g

## Inertial Measurement Units



# IMU-P TACTICAL / INDUSTRIAL A, S

	Tactical A	Industrial A	Tactical S	Industrial S
Gyro Bias in-run Stability (RMS)	.1%/h	3%/h	0.5%/h	2%/h
Gyro Noise (ARW)	0.2%/√h	0.3%/√h	0.06%/√h	0.1%/√h
Accel Bias in-run Stability	0.005 mg (RMS,8g)	0.01 mg (RMS,8g)	0.005 mg (RMS,8g)	0.01 mg (RMS,8g)
Pitch & Roll Accuracy	0.05° (Static,RMS)	0.05° (Static,RMS)	0.05° (Static,RMS)	0.05° (Static,RMS)
Accel SF Accuracy (over temp. range)	150 ppm	500 ppm	150 ppm	500 ppm
Size	39 x 45 x 22 mm	39 x 45 x 22 mm	39 x 45 x 22 mm	39 x 45 x 22 mm
Weight	70 g	70 g	70 g	70 g





# IMU-NAV-100 TACTICAL A, S

	Tactical A	Tactical S
Gyro Bias in-run Stability (RMS)	0.5%/h	1%/h
Gyro Noise (ARW)	0.1%/√h	0.04%/√h
Accel Bias in-run Stability	0.003 mg (RMS, 8g)	0.003 mg (RMS, 8g)
Pitch & Roll Accuracy	0.03° (Static, RMS)	0.03° (Static, RMS)
Accel SF Accuracy (over temp. range)	150 ppm	150 ppm
Size	59.2 x 47.0 x 43.2 mm	59.2 x 47.0 x 43.2 mm
Weight	155 g	155 g



# IMU-NAV-200

Gyro Bias in-run Stability (RMS)	0.3%/h
Gyro Noise (ARW)	0.04%/h
Accel Bias in-run Stability	0.003 mg (RMS, 8g)
Pitch & Roll Accuracy	0.03° (Static, RMS)
Accel SF Accuracy (over temp. range)	150 ppm
Size	47.0 x 62.6 x 43.5 mm
Weight	155 g



## IMU-FI-200T

Gyro Noise (ARW) .....	0.025°/h (typical)
Accel Bias in-run Stability .....	0.02 mg (RMS)
Accel SF Accuracy (over temp. range).....	500 ppm (over temp. range)
Size .....	D88.90 x H84.50 mm
Weight.....	790 g



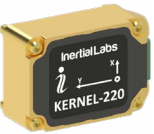












# IMU-H100

Gyro Bias in-run Stability (RMS)	1 °/h
Gyroscopes Measurement range	±2000 deg/sec
Accel Bias in-run Stability	0.03 mg
Accel Bias Repeatability	1.2 mg
Accelerometers Noise (VRW)	0.045 m/sec-√hr
Size	50.8 x 64.8 x 35.6 mm
Weight	160 g



# INERTIAL MEASUREMENT UNITS

							
	Kernel-100	Kernel-110, 120	Kernel-210, 220	Kernel-201	IMU-H100	IMU-P Industrial A	IMU-P Industrial S
<b>Gyro Bias in-run Stability (RMS) (°/h)</b>	2	2	1	0.7	1	3	2
<b>Gyro Noise (ARW)(°/√h)</b>	0.38	0.3	0.2	0.065	0.2	0.3	0.1
<b>Accel Bias in-run Stability (mg) (RMS, 8g)</b>	0.01	0.01	0.005	0.015	0.03	0.01	0.01
<b>Pitch &amp; Roll Accuracy (Static,RMS)</b>	0.05°	0.05° (Static,RMS)	0.05° (Static,RMS)	N/A	N/A	0.05°	0.05°
<b>Accel SF Accuracy (over temp. range)(ppm)</b>	500	500	150	500	150	150	500
<b>Size (mm)</b>	28.5 x 19.5 x 8.5	28.38 x 19.5 x 10.5	28.38 x 19.5 x 10.5	28.5 x 19.5 x 11.2	50.8 x 64.8 x 35.6	39 x 45 x 22	39 x 45 x 22
<b>Weight (g)</b>	7	10	17	10	160	70	70
<b>Applications</b>	Autonomous Vehicles, LoS Stabilization, Micro-UAV Systems	Autonomous Vehicles, LoS Stabilization, Micro-UAV Systems	Autonomous Vehicles, Guidance and Nav, LoS Stabilization, Micro-UAV Systems	Autonomous Vehicles, LoS Stabilization, Micro-UAV Systems	Autonomous Vehicles, LoS Stabilization, Micro-UAV Systems	Anti-Roll Systems, Gimbals, Motion Control Sensors	Anti-Roll Systems, Gimbals, Motion Control Sensors

						
	<b>IMU-P Tactical S</b>	<b>IMU-P Tactical A</b>	<b>IMU-NAV-100-S</b>	<b>IMU-NAV-100-A</b>	<b>IMU-NAV-200</b>	<b>IMU-FI-200T</b>
<b>Gyro Bias in-run Stability (RMS) (°/h)</b>	0.5	1	1	0.5	0.3	N/A
<b>Gyro Noise (ARW) (°/h)</b>	0.06	0.2	0.04	0.1	0.04	0.025
<b>Accel Bias in-run Stability (RMS, 8g) (mg)</b>	0.005	0.005	0.003	0.003	0.003	0.02
<b>Pitch &amp; Roll Accuracy (Static, RMS)</b>	0.05°	0.05°	0.03°	0.03°	0.03°	N/A
<b>Accel SF Accuracy (over temp. range) (ppm)</b>	150	150	150	150	150	500
<b>Size (mm)</b>	39 x 45 x 22	39 x 45 x 22	59.2 x 47.0 x 43.2	59.2 x 47.0 x 43.2	47.0 x 62.6 x 43.5	D88.90 x H84.50
<b>Weight (g)</b>	70	70	155	155	155	790
<b>Applications</b>	Anti-Roll Systems, Gimbals, Motion Control Sensors	Electro-Optical Components (EOC/IR), Orientation Control, Platform Stabilization	Antenna and Line of Sight Stabilization Systems, Motion Control Sensors	Land vehicle navigation and motion analysis, UAV & AUV/ROV navigation	Guidance & Navigation in GPS-denied environments	Tactical Navigation. Medium accuracy gyrocompassing