



# AIRINS

GEOREFERENCING AND ORIENTATION SYSTEM



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## GEOREFERENCING AND ORIENTATION SYSTEM

AIRINS is a lightweight, all-in-one, real-time georeferencing and positioning system designed to meet the requirements of the most demanding airborne survey and remote sensing applications such as digital cameras, SAR, digital scanners, films cameras and LIDAR.

Designed for easy integration, AIRINS combines multiple I/Os and an extensive protocol library to accept all types of GNSS. It handles multi-sensor operations (LIDAR and Cameras) thanks to precise timing, a very fast output rate, event markers and highly accurate position information in real-time. AIRINS computes high-accuracy position and orientation data up to two hundred times per second.

### AIRINS, All-in-one GPS/INS solution

#### IXSEA IMU:

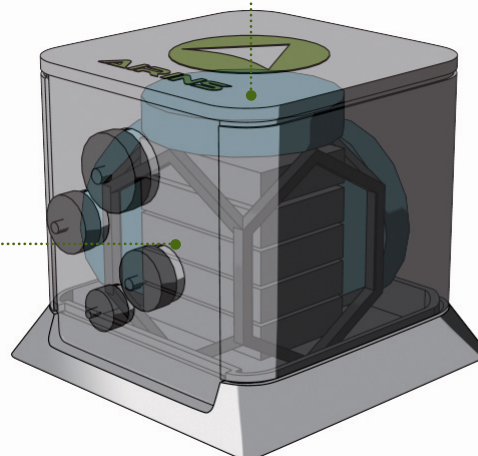
- High grade FOG and acceleration sensors
- Absolute accuracy
- Very low noise level
- High relative accuracy (<1 arc-second)

#### Embedded Data Processing:

- Navigation solution
- Relies mostly on IMU sensors rather than aiding GPS
- Accepts any GPS receiver (No tight coupling required)
- Fast alignment mode
- Automatic setup and initialization

#### Comprehensive interface:

- 200 Hz real-time data
- 1,000 Hz event markers
- Precise time-tagging
- Pulses
- Ethernet





AIRINS, engineered for optimal integration and ease-of use, utilizes IXSEA's expertise in Fiber Optic Gyroscopes, already in use in satellite control. AIRINS combines the latest motion sensing technology, electronics and embedded processing design in one single unit. This offers the most compact position, orientation and direct georeferencing system.

## SMOOTH INTEGRATION

- No external computer required
- Lean power consumption
- Compact and lightweight
- Industry standard outputs
- Multiple outputs

## BENEFITS IN OPERATIONS

- No drift of heading during straight lines
- Direct input to gyro-stabilized mounts
- Improved performance to FMC
- Real-time direct georeferencing
- Interface to Flight Management System



## APPLICATIONS:

Corridor mapping • GIS data collection • Sensor gyrostabilization • UAV control and navigation • Forestry • Scanning lasers • Environmental assessment • SAR imaging • High altitude remote sensing • Rapid Response Imaging • Digital camera • Hyperspectral sensors • Urban planning • Coastal zone monitoring • Multisensor survey • DTM generation • Film camera •

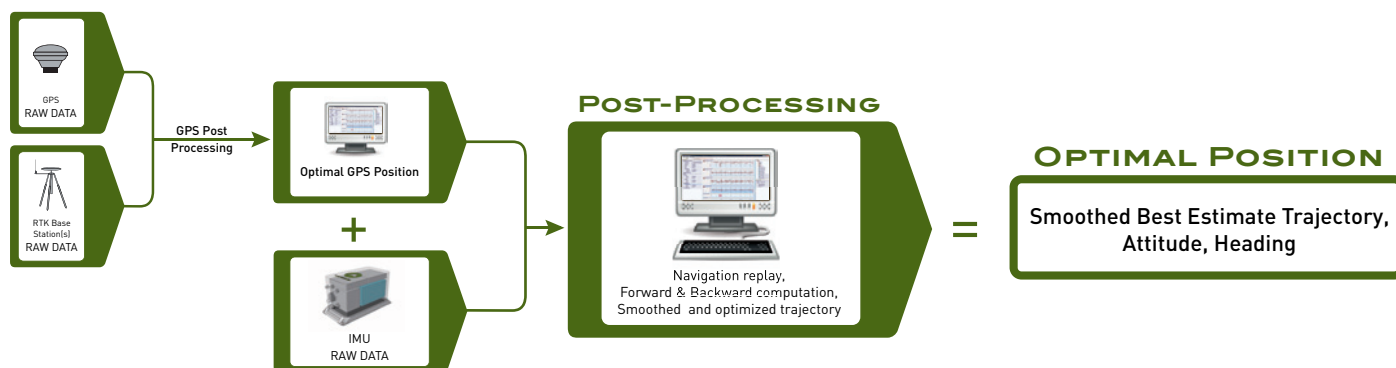
# AIRINS

ALL-IN-ONE COMPACT SOLUTION

## PERFORMANCE\*

	GPS	DGPS	RTK	PPK
True heading (deg)	0.02	0.02	0.01	0.005
Roll/Pitch (deg)	0.005	0.005	0.005	0.0025
Velocity (m/s)	0.03	0.02	0.01	0.01
Position (m)	5	0.6	0.15	0.15

AIRINS data can be improved with a dedicated post-processing software, which offers optimal results when extra positioning information is available. This allows a seamless integration with sensor data collected in the field. It reduces the amount of offline work and boosts productivity.



\* All figures are RMS  
Specifications subject to change without notice



## INS CHARACTERISTICS

<b>Weight:</b>	4.5 kg	<b>Operating temperature:</b>	-10°C to 50°C
<b>Size:</b>	180 mm x 180 mm x 160 mm	<b>Storage temperature:</b>	-40°C to 80°C
<b>Power:</b>	consumption: < 18W input range: 12 to 32V DC	<b>MTBF:</b>	> 30,000 Hours

## INS INTERFACES

<b>3 "event markers":</b>	100 $\mu$ s time stamping accuracy, up to 1,000Hz
<b>Output refreshing rate:</b>	up to 200 Hz
<b>Latency:</b>	< 3 ms
<b>Time tagging:</b>	PPS signal
<b>Ethernet 100 Mbits:</b>	-configuration, monitoring, ftp/http access -5 logical ports
<b>2 serial inputs:</b>	RS232/422
<b>2 serial outputs:</b>	RS232/422
<b>Pulses:</b>	3 in/2 out
<b>Repeater I/O:</b>	Configuration/monitoring



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