

# InterSense® IS-1500 Optical-Inertial Sensor

AR Anywhere™ Vision-Inertial Tracking for  
Mixed Reality and GPS Denied Navigation





# InterSense® IS-1500 AR Anywhere™ — Optical-Inertial Sensor

The IS-1500 tracking system architecture enables a lightweight, mobile Vision-Inertial Navigation approach to Natural Feature Tracking that utilizes the natural world as a tracking reference. The small, lightweight InertiaCam vision-inertial sensor includes our NavChip IMU and lets you track an object or person anywhere at any time from your mobile computing platform with maximum precision that's ideal for augmented reality and GPS-denied navigation applications. Combined with optional marker-based (Fiducial) tracking, the IS-1500 represents truly flexible next generation capability.



## Technical Specifications

### Key Features

- Unprecedented Tracking Capabilities
- Total Mobility
- Ruggedness and Reliability
- Simplicity

### Overall Specifications

Pitch and Roll Accuracy	0.25° RMS
Max Angular Rate and Linear Acceleration	2000 °/s, 16 g
Latency (average)	10 milliseconds (prediction off)
Prediction	Up to 50 milliseconds
Synchronization	Virtual (software)
Supported Operating Systems	Windows & Linux (contact sales for other operating systems)

### InertiaCam Sensor Module

Dimensions	65mm X 20mm X 20mm
Mass (not including cable)	36 grams (metal reference design housing)
Interface (power and data)	Single USB 2/3 cable (type-c connector)
Power Consumption	1.2 watts (typical)
Temperature (Operating/Storage)	-20° to 65° C, -30° to 85° C
Humidity (Operating/Storage)	20 to 80%, 20 to 95% (non-condensing)

### Tracking Performance: Fiducial Markers

Position Accuracy	2mm (typical)
Max Tracking Distance from Fiducials	20x the Fiducial diameter
Min Fiducials in View for Pose Recovery	2 (recommend 10–12 for optimal performance)
Orientation Drift Rate with no Fiducials	0.6°/minute (RMS)

### Tracking Performance: Natural Features

Position Drift (traveling)	1% of distance traveled (RMS)
Yaw Drift (traveling)	0.7°/minute (RMS)
Static Wander	±1 cm position, 1° Yaw (RMS)
Global Relocation Accuracy	See Fiducial marker accuracy above

Specifications are subject to change without notice.

**Thales Visionix**

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