

InterSense® InertiaCube®4 **Motion Tracker**

Precision
Inertial Orientation
3-DOF MEMS
Sensor



InterSense® InertiaCube®4

The 4th generation InertiaCube®4 is the industry's leading 3-Degrees of Freedom (DOF) MEMS-based inertial technology, utilizing advanced Kalman filtering algorithms to produce a full 360° sourceless orientation tracking sensor. The sensor's portable package with high-end performance and accuracy is ideal for a range of applications, including simulation & training, virtual & augmented reality, motion capture, robotics and human movement analysis.



Technical Specifications

Key Features

- Sourceless 3DOF Tracking with Full 360° Range
- Accuracy of 1° Yaw, 0.25° Pitch & Roll
- 200 Hz Update Rate
1000 Hz available for USB
- 2000° Maximum Angular Rate
- Adjustable Output Filters and Rotational Sensitivity
- In-situ and Environmental Compass Calibration Tools for Static Magnetic Field Compensation
- USB and RS-232 Versions Available
- AHRS Output

General Specifications:

Degrees of Freedom: 3 (yaw, pitch and roll)
Angular Range: Full 360° — all axes
Maximum Angular Rate: 2000° per second*
Minimum Angular Rate: 0° per second*
Accuracy (RMS): 1° in yaw, 0.25° in pitch and roll at 25°C*
Angular Resolution: 0.01° RMS*
Max Update Rate: 200 Hz, 1000 Hz available for USB (contact Thales)
Minimum Latency: 2 ms for RS-232 (PC host and OS dependent)
Prediction: up to 50 milliseconds
Interfaces: USB or RS-232
RS-232 Rate: 115200 baud
Size: 36.6 mm x 27.7 mm x 13.8 mm
Weight: 11 grams
Cable Length: USB 6 feet (2 m), RS-232 15 feet (4.572 m)
Power: 6 VDC, 40 mA
Operating Temp. Range: 0° to 50° C
O/S Compatibility: Windows, Linux, and Mac OS X

Software Features

Compass Calibration Tool compensates for the effects of static magnetic field distortions

Magnetic Environment Calibration Tool prevents performance degradation by dynamic detection of magnetic disturbances

U.S. Patents

5,645,077; 5,807,284; 6,162,191; 6,176,837; 6,314,055; 6,361,507; 6,409,687; 6,474,159; 6,681,629; 6,757,068; 6,786,877; 6,922,632; and 7,000,469

*Measurement with perceptual enhancement set to '0' (at +25° C)

Specifications are subject to change without notice.

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