InterSense® InertiaCube4™
Motion Tracker

Precision
Inertial Orientation
3-DOF MEMS Sensor
**InterSense® InertiaCube4™**

The 4th generation InertiaCube4 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; 6,176,837; 6,314,555; 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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