

The Series 7000 sensor is a precision ultra-wideband (UWB) measurement device, containing an array of antennas and ultra-wideband radio receivers. The sensor detects UWB pulses from Ubisense tags, allowing the Ubisense location system to find the tags' positions to within 15cm\* in 3D.



### Features

#### Flexible and Scalable Installations

Ubisense uses a cellular architecture to scale from small to very large installations – large areas are covered by tiling them with 'cells' consisting of a small number of sensors working together. Thousands of sensors can be integrated into a single enterprise wide system to monitor an unlimited area and manage thousands of tags. Sensors can be connected together in a variety of ways, allowing infrastructure cost to be traded off against location accuracy in accordance with application requirements.

#### Standard Networking - Wired or Wireless

Sensors operate within a Ethernet environment, using standard network infrastructure, such as Ethernet switches, WiFi access points and CAT5 structured network cabling for communication between sensors and servers. Sensors can be powered over the network cabling using Power-over-Ethernet switches.

#### Accuracy

By using UWB technology, the system's location accuracy is maintained even in cluttered, multipath-rich indoor environments. The Ubisense UWB location system is the only one capable of measuring both Angle-of-Arrival (AoA) and Time-Difference-of-Arrival (TDoA) of tag signals, enabling it to generate accurate 3D tracking information even when only two sensors can detect the tag. This reduces the infrastructure requirements for an installation, minimizing costs whilst dramatically improving the reliability and robustness of the system.

#### Real Time Responsiveness

Each sensor is capable of sustaining a continuous update rate of up to 135Hz, meaning a tag location can be provided every 7.4ms from each sensor or cell.

#### Two Way Communications

Ubisense Series 7000 sensors also support two-way control and telemetry communications with Ubisense tags over a conventional bi-directional 2.4GHz radio. The sensors' two-way communication capability allows the Ubisense system to dynamically manage the update rate of tags in the system, send feedback to users via tags' LEDs, query tag battery status information and button press actions, and wirelessly reprogram tags to enable new features.

#### Ease of Maintenance

Sensors are administered remotely over the Ethernet network. Firmware is downloaded into the sensors over the network allowing them to be easily upgraded when new features become available.

### Specifications

#### Size and Weight

**Dimensions** 20cm x 13cm x 6cm  
(8" x 5" x 2.5")  
**Weight** 650g (23 oz)

#### Operating Conditions

**Temperature** 0 °C to 60°C (32 °F to 140 °F)  
**Humidity** 0 to 95%, non-condensing  
**Enclosure** IP30

#### Location Performance

**Operating Range** up to 160m (520 ft) in open field conditions  
**Achievable Accuracy** better than 30cm (12") in 3D

#### Radio Frequencies

**Ultra-wideband** 6GHz – 8GHz  
**Telemetry channel** 2.4GHz

#### Certifications

FCC Part 15 (FCC ID SEASENSOR20)  
EU CE

#### Power Supply

Power-over-Ethernet IEEE 802.3af compatible  
12V DC @ 10W (optional)

#### Mounting Options

Adjustable mounting bracket (supplied)

#### Ubisense Part Codes

UBISENSOR7000,  
UBISENSPS (optional 12V power supply)

### About Ubisense

Ubisense is the world leader in Precise Real Time Location Systems, tracking unlimited numbers of people and objects in any space of any size. With unmatched 15cm 3D tracking accuracy and high reliability, its acclaimed open standards technology platform gives enterprises the power to bring visibility and control to previously intractable business processes. Together Ubisense consulting and its partners, such as IBM, Atlas Copco, Lockheed Martin and Raytheon deliver geospatial and RTLS systems, pioneering innovation whilst reducing costs, gaining competitive advantage and improving safety for companies across all vertical markets. With over 400 customers worldwide including BMW, Caterpillar, DHL, Duke Energy, Deutsche Telekom, US Army; Ubisense is revolutionising industries today. Visit [www.ubisense.net](http://www.ubisense.net)

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