

OVERVIEW

The Ubisense DIMENSION4 UB-Tag is a small, rugged device that is intended to be attached to assets and allows them to be located to high accuracy in three dimensions in real-time. It is specifically designed for use in industrial sites where harsh environmental conditions will be encountered.

In addition to its tracking capabilities, it includes additional features such as an LED for easy status identification, an accelerometer to instantly activate a stationary tag when it is moved and a magnetic switch to allow wake-up from a low-power sleep state.



SIMULTANEOUS UWB & BLE TRACKING

The tag transmits ultra-wideband (UWB) radio pulses which can be used by the Ubisense location system to find its position. By using UWB, the system's accuracy is maintained even in cluttered, multipath-rich indoor environments.

The tag can also transmit BLE packets, either as iBeacon- or Eddystone-format packets (on standard BLE 2.4GHz channels), or Quuppa-compatible positioning packets (on standard BLE or Quuppa proprietary 2.4GHz channels). This allows the device to be used for either low- or high-accuracy BLE tracking, in addition to its UWB location capabilities.

Specifications

Dimensions:

46mm x 42mm x 18mm (1.8" x 1.7" x 0.7") including mounting plate

Weight:

21g (0.7oz)

Temperature:

-20°C to 70°C (-4°F to 158°F)

Humidity:

0 to 100%

Enclosure:

Ultrasonically-welded case, rated to IP67 and IP69K

Update rate:

Up to 30Hz (UWB & BLE rates configured via BLE link)

Peripherals:

LED, Accelerometer

Radio frequencies:

Ultra-wideband channel: 6 - 7GHz

BLE channel: 2.401 - 2.48175GHz

Compatibility:

UWB: Ubisense DIMENSION4™ AoA & TDoA

BLE: iBeacon, Eddystone, Quuppa AoA

Certifications:

US: FCC Part 15; FCC ID SEAUWBBLE

EU: CE

Canada: RSS-Gen, RSS-210, RSS-220; IC: 8673A-UWBBLE

Power supply:

Internal CR2477 1000mAh battery (non-user-replaceable)

Battery life at 1Hz continuous update rate:

UWB only mode: 10 years

BLE only mode: 13 years

Simultaneous UWB + BLE: 8 years

Mounting options:

Screw, Strap, Cable/Ring, Adhesive

Ubisense part code:

D4UWBBLE



ACCURATE LOCATION

The Ubisense UWB location system is the only one capable of measuring both Angle-of-Arrival (AoA) and Time-Difference-of-Arrival (TDoA) of the tag's signals, enabling it to generate accurate 3D tracking information even when only two sensors can detect the tag. The UB-Tag includes dual 2.4GHz antennas for diversity in multipath-rich environments, improving the performance of BLE for industrial applications.

FLEXIBLE UPDATE RATES

The tag's update rate may be automatically varied depending on tag activity. An inbuilt motion detector ensures that when the tag is moving, a high update rate is assigned for best tracking; when stationary, the update rate may be reduced to preserve battery lifetime.

The rates at which a tag transmits UWB and/or BLE packets can be set independently.

RUGGED AND ADAPTABLE

The UB-Tag is designed to be rugged for use in harsh industrial environments. It is mechanically robust, dust- and water-resistant, with an ultrasonically-welded enclosure, and can be securely mounted using one of several attachment mechanisms.

LONG BATTERY LIFE

The low current consumption and sophisticated power management techniques result in battery lifetimes at 1Hz continuous update rate (one update per second) of over 10 years for UWB, 13 years for BLE, and 8 years for simultaneous UWB and BLE modes.

OPTIONAL WIRELESS CONFIGURATION

UB-Tags can optionally use their on-board BLE radio to receive configuration instructions to set up operational parameters such as UWB and BLE location packet transmission rates, and receive instructions to illuminate the on-tag LED to allow users to easily find a particular tag.



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