

Ubisense Series 7000 Trimode Tag

Ruggedized location tag for indoor and outdoor asset location (Preliminary)



Overview

The Ubisense Trimode Tag is a small, rugged device that can be attached to assets, allowing them to be located both indoors and outdoors using GPS, 2.4GHz signals (to presence-level accuracy) and/or ultra-wideband technology (to an accuracy of 15cm* in 3D in real-time). It is specifically designed for use in sites where assets need to be located precisely indoors and approximately outdoors (e.g. vehicle at an assembly plant). In addition to its tracking capabilities, it includes additional features such as three LEDs for easy status identification, a motion detector to instantly activate a stationary tag and a push button to trigger events.

Low-infrastructure presence location

Ubisense tags employ a unique dual-radio architecture – in addition to the one-way UWB radio used for precision tracking, tags have a conventional bi-directional 2.4GHz radio for control and telemetry. In situations where the full UWB location system capabilities are not required, these radio signals allow the Ubisense location system to supply presence-level information for tags, indoors or outdoors, using a very sparse network of sensors.

Outdoor GPS location

The Trimode Tag incorporates a SiRFStar-based GPS receiver. When outside the location range of the Ubisense ultra-wideband location system, it will attempt to use GPS to find its location, and will relay that back to the Ubisense location system via Fixed Detectors using the 2.4GHz radio.

Specifications

Dimensions:

71mm x 64mm x 47mm
(2.80" x 2.52" x 1.85")

Weight:

128g (4.5 oz.) (including C-size battery)

Temperature:

-20°C to 85°C (-4°F to 185°F)

Humidity:

0 to 95%, non-condensing

Design protection level:

IP67

Update rate:

Ultra-wideband: 0.00225Hz up to 33.75Hz
(can be varied dynamically under software control)

2.4GHz presence: 0.00225Hz up to 0.625Hz
(programmable)

GPS: 0.00225Hz up to 1Hz (programmable)

Peripherals:

LEDs (application controllable)
Push button (application controllable)
Motion detector

Operating range:

Ultra-wideband link: Up to 160m*

2.4 GHz link: Over 300m (with directional antenna on receiver)

Radio frequencies:

Ultra-wideband channel:

6 - 8GHz
(6 - 7GHz for US Part 15.250 option)

Telemetry channel:

Narrow-band 2.4GHz

Certifications:

US: FCC Part 15
FCC IDs SEAMOD21, SEAMOD21HH
(SEAMOD23 for Part 15.250 option)

EU: CE

Mounting options:

Industrial adhesive pad (supplied), industrial Velcro®, magnetic and screw mountings (via mounting bracket).

Trimode tag mounting bracket
(Ubisense part code: INDTALLBKT)

Power supply:

C-size lithium cell

*Dependent on system configuration and environment.

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Two-way communication

The tag's two-way 2.4GHz communication capability allows the Ubisense system to dynamically manage the tag's update rate, flash the tag's LEDs, report battery status and button presses, and wirelessly reprogram the tag to enable new features.

Flexible update rates

The Ubisense software platform allows the tag's update rate to be dynamically and automatically varied depending on tag activity. When stationary, tags sleep to conserve power, an inbuilt motion detector ensures the tag transmits again when moved.

User interaction features

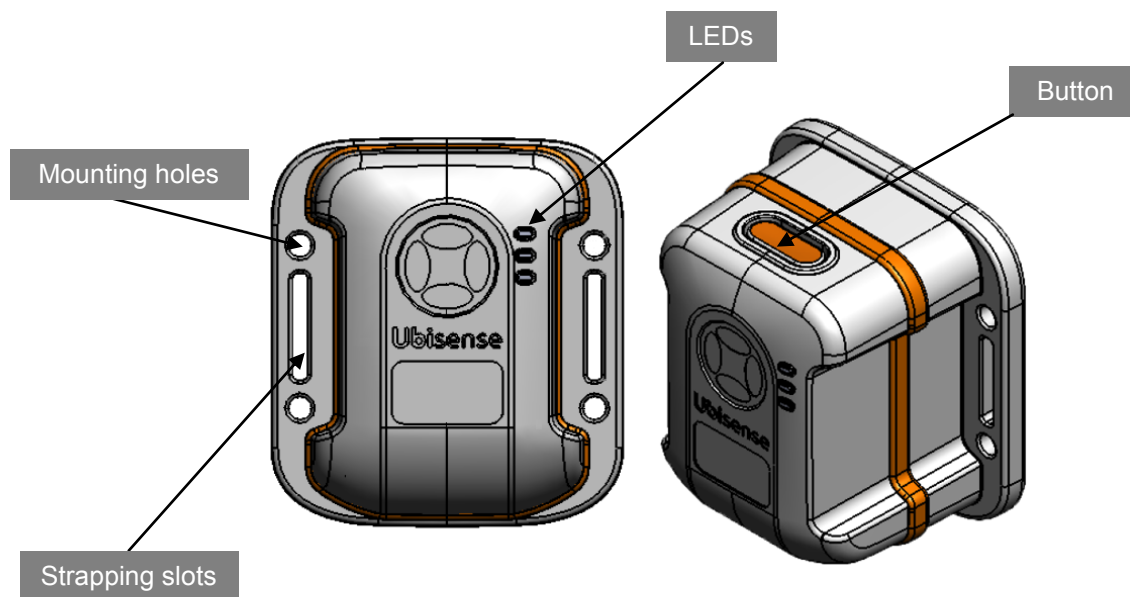
The tag has a button to provide context-sensitive input to interactive applications. The application can also send feedback to the user via the tag LEDs that it received the button press.

Rugged and adaptable

The Trimode Tag is designed to be rugged for use in harsh industrial environments. It is mechanically robust, dust- and water-resistant, and can be securely mounted using a variety of attachment mechanisms.

Long battery life

The low current consumption and power management techniques result in long battery lifetimes. Status reports and alerts make maintenance easy, and batteries are technician-replaceable. The C-size lithium cell provides considerable battery power capacity. Battery life depends heavily on the specific application, in particular the update rate of the GPS based positions since they consume relatively the most power.



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