

The Ubisense Intrinsically Safe Tag is a small, rugged device that, when worn by people or attached to objects, allows them to be located to an accuracy of 15cm\* in 3D. It is specifically designed for use in harsh industrial environments with IS certification requirements. In addition to its tracking capabilities, it includes additional features such as an LED for easy identification, a motion detector to instantly activate a stationary tag and a push button to trigger events.



## Features

### Accurate Location

The tag transmits ultra-wideband (UWB) radio pulses which can be used by the Ubisense location system to find its position to within 15cm in 3D dependent on system configuration and environment. By using UWB, the system's 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 the tag's signals, enabling it to generate accurate 3D tracking information even when only two sensors can detect the tag.

### Two Way Communication

Ubisense tags employ a unique dual-radio architecture – in addition to the one-way UWB radio used for tracking, tags have a conventional bi-directional 2.4GHz radio for control and telemetry. The two-way communication capability allows the Ubisense system to dynamically manage the tag's update rate, flash the tag's LED, 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. If the tag is moving quickly, a high update rate can be assigned for best tracking; if it is moving slowly the update can be reduced for best battery lifetime. When stationary, tags sleep to conserve power, and an in-built motion detector ensures the tag transmits again as soon as it is moved.

### Rugged and Adaptable

The IS 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.

### IS Certified

The Intrinsically Safe Tag is specifically designed to be used in hazardous areas with explosive atmospheres, such as oil refineries, chemical plants, paint manufacturing, textile mills, etc.

### Long Battery Life

The low current consumption and power management techniques result in long battery lifetimes. In a typical application, where a tag is used to locate a worker every 3s, it has an expected lifetime of over four years. Status reports and alerts make maintenance easy and batteries can simply be replaced.

## Specifications

### Size and Weight

**Dimensions** 38mm x 39mm x 25.5mm  
(1.50" x 1.53" x 1.00")

**Weight** 35g (1.23 oz)

### Temperature

-30 °C to 70 °C (-22 °F to 158 °F)

**Humidity** 0 to 95%, non-condensing

**Enclosure** IP65

**Update Rate** 0.00225Hz up to 33.75Hz  
(can be varied dynamically under software control)

### Peripherals

LED (application controllable)

Push button (application controllable)

Motion detector

### Radio Frequencies

**Ultra-wideband** 6GHz – 8GHz

**Telemetry channel** narrow-band  
2.4GHz

### Certifications

FCC Part 15 (FCC ID SEATAG22), EU CE

### Power Supply


3V coin cell: Panasonic CR2477/BN

### Mounting Options

Industrial adhesive pad (supplied),  
industrial velcro, magnetic, helmet and  
screw mountings

### IS Ratings - pending

**UL913 HAZLOC** Class I, II, III  
Groups A.B.C.D T4

**ATEX**  II 2 GD Ex ia IIC T4  
Ex iaD IIC T135°C

**Ubisense Part Code** UBITAG7021S

### 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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