

Overview

The Ubisense DIMENSION4 RTK Tag is a multi-mode device designed for indoor and outdoor location of vehicles such as forklifts, buses and trains. It allows better-than-bay-level location in real-time, both indoors and outdoors using a combination of ultra-wideband (UWB) and RTK-GPS signals in the same device.



RTK GPS TAG

Hyper-accurate Outdoor Location

The tag incorporates an RTK-GPS unit for centimetre-level outdoor positioning. It receives standard GPS satellite signals and RTK-GPS corrections from a local RTK-GPS base unit (sold separately) and is capable of positioning within 3cm CEP (2D). When a GPS position is successfully found, it relays the location back to the Ubisense location system using the 2.4GHz radio.

Specifications

Tag Dimensions

215mm x 140mm x 70mm (8.5" x 5.5" x 2.8")

Weight:

697g (1lb 9oz) (including A-size battery)

Temperature:

-40°C to 65°C (-40°F to 149°F)

Humidity:

0 to 95%, non-condensing

Enclosure:

ASA/Polycarbonate (UL V0)
Tested to protection level IP67, IP69K

Update Rate:

Ultra-wideband (UWB): Up to 30Hz (configurable)
GPS: One update per second to one update per 15 minutes (configurable)

Operating Range:

Ultra-wideband (UWB): Up to 160m
RTK correction stream: Up to 500m from RTK base unit (receive only)
GPS backhaul channel: Over 300m (with directional antenna on GPS backhaul receiver)

Radio Frequencies:

Ultra-wideband (UWB): 6 - 7GHz
RTK correction stream: 915MHz
GPS backhaul channel: Narrow-band 2.4GHz

Certifications:

US: FCC Part 15; FCC ID SEAMOD31
Canada: ISSED; IC 8673A-D4RBWMOD31A

Power Supply:

Vehicle supply: 8-30VDC (with reverse-polarity, voltage transient and overcurrent protection) via Molex Mizu-P25 plug connector. Average current drain on a 24V vehicle supply whilst in range of RTK-GPS base unit: 35mA
Battery backup for UWB tracking: Internal lithium thionyl chloride A-size battery (technician-replaceable)

Mounting Options:

ASA/Polycarbonate bus mounting plate (supplied with unit)

Ubisense Part Code:

D4TAGRTK915 RTK GPS Tag (915MHz variant)
D4TAGRTK-MNT RTK GPS Tag – Mounting Kit
D4TAGRTK-WIRE1 One meter unterminated power cable
D4TAGRTK-WIRE5 Five meter unterminated power cable
D4RTKBASE915 Base Station (915MHz variant)

Dimensions4™ RTK GPS Tag

Flexible Update Rates

The target GPS update rate can be adjusted within a wide range to accommodate different vehicle power budgets, and can be automatically increased when vehicle motion is sensed using the tag's in-built motion sensing switch. When outside the range of the local RTK-GPS base unit, the tag powers down the GPS unit in order to minimise current drain on the vehicle battery.

Simple Software Integration

Tag locations are forwarded on by sensors in the Ubisense location system to Ubisense SmartSpace software, providing real-time visibility of vehicle locations (indoors and outdoors) throughout the organisation.

Accurate UWB Location

The tag continuously transmits UWB radio pulses which can be used by the Ubisense location system to find its position with high accuracy (up to 30cm) in 3D. By using UWB, the system's accuracy is maintained even in cluttered, multipath-rich indoor environments such as vehicle depots.

A technician-replaceable internal battery maintains UWB tracking in a housekeeping mode (with multi-year lifetime) when the vehicle supply is disconnected for maintenance.



RTK GPS BASE STATION



RTK GPS BASE STATION -
POLE MOUNTING OPTION



For more information, contact us on:

US +1 720 549 7553
DE +49 211 229733-0

UK +44 1223 53 5170
FR +33 1 83 79 06 81

www.ubisense.com