

# LoRaWAN Tilting Sensor

## TS01-LB



## OVERVIEW:

The Dragino TS01-LB is a **LoRaWAN Tilting Sensor** for Internet of Things solution. TS01-LB is an outdoor Tilting Sensor specially designed for **detecting the angle of trees, buildings or large scale equipment**.

TS01-LB measures pitch and roll angle and converts to LoRaWAN wireless data and sends to IoT platform via LoRaWAN network.

The LoRa wireless technology used in TS01-LB allows device to send data and reach extremely long ranges at low data-rates. It provides ultra-long range spread spectrum communication and high interference immunity whilst minimizing current consumption.

TS01-LB **supports BLE configuration and wireless OTA update** which make users easy to use.

TS01-LB is powered by **8500mAh Li-SOCI2** battery, it is designed for long-term use for up to 5 years.

Each TS01-LB is pre-load with a set of unique keys for LoRaWAN registrations, register these keys to local LoRaWAN server and it will auto-connect after power on.

## Features:

- LoRaWAN v1.0.3 Class A
- Ultra-low power consumption
- Detect pitch and roll angle
- Monitor Battery Level
- Support Angle Alarm
- Support Datalog feature
- Bands: CN470/EU433/KR920/US915/EU868/AS923/AU915/IN865
- Support Bluetooth v5.1 and LoRaWAN remote configure
- Support wireless OTA update firmware
- Uplink on periodically
- Downlink to change configure
- 8500mAh Battery for long term use

## Specifications:

### Common DC Characteristics:

- Supply Voltage: 2.5v ~ 3.6v
- Operating Temperature: -40 ~ 85°C

### Angle Spec:

- Measure Pitch and Roll
- Accuracy: 0.3 °

### LoRa Spec:

- Frequency Range, Band 1 (HF): 862 ~ 1020 Mhz, Band 2 (LF): 410 ~ 528 Mhz
- Max +22 dBm constant RF output vs.
- RX sensitivity: down to -139 dBm.
- Excellent blocking immunity.

### Battery:

- Li/SOCI2 un-chargeable battery
- Capacity: 8500mAh
- Self-Discharge: <1% / Year @ 25°C
- Max continuously current: 130mA
- Max boost current: 2A, 1 second

### Power Consumption:

- Sleep Mode: 5uA @ 3.3v
- LoRa Transmit Mode: 125mA @ 20dBm, 82mA @ 14dBm

## Order Info: TS01-LB-XXX

### XXX: The default frequency band

- XXX: Frequency Bands, options: EU433, CN470, EU868, IN865, KR920, AS923, AU915, US915

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