

# LoRaWAN Distance Detection Sensor

## DDS45-LB



## OVERVIEW:

The Dragino DDS45-LB is a **LoRaWAN Distance Detection Sensor** for Internet of Things solution. It is used to measure the distance between the sensor and a flat object. The distance detection sensor is a module that uses **ultrasonic sensing technology** for distance measurement, and **temperature compensation** is performed internally to improve the reliability of data.

The DDS45-LB can be applied to scenarios such as horizontal distance measurement, liquid level measurement, parking management system, object proximity and presence detection, intelligent trash can management system, robot obstacle avoidance, automatic control, sewer, bottom water level monitoring, etc.

It detects the **distance between the measured object and the sensor**, and uploads the value via wireless to LoRaWAN IoT Server.

The LoRa wireless technology used in DDS45-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.

DDS45-LB supports **BLE configure** and **wireless OTA update** which make user easy to use.

DDS45-LB is powered by **8500mAh Li-SOCI2 battery**, it is designed for long term use up to 5 years.

Each DDS45-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 1.0.3 Class A
- Bands: CN470/EU433/KR920/US915/EU868/AS923/AU915/IN865
- Ultra-low power consumption
- Distance Detection by Ultrasonic technology
- Flat object range 30mm - 4500mm
- Accuracy:  $\pm(1\text{cm}+S*0.3\%)$  (S: Distance)
- Measure Angle: 60°
- Cable Length : 25cm
- Support Bluetooth v5.1 and LoRaWAN remote configure
- Support wireless OTA update firmware
- AT Commands to change parameters
- Downlink to change configure
- IP66 Waterproof Enclosure
- 8500mAh Battery for long term use

## Specifications:

### Common DC Characteristics:

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

### 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: DDS45-LB-XX

### XX: The default frequency band

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

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