ToF Laser Distance Sensor

Featuring LoRaWAN®

EM400–TLD

Milesight

EM400-TLD is a LoRaWAN® distance sensor based on ToF (time of flight), which is mainly used for detecting the fill level and position status. With an appropriate FOV with the maximum field angle of 27°, it has almost no blind spot when installed on small-sized waste bins or containers. The embedded temperature sensor enables it to monitor whether the containers are burning for security reasons.

With IP67 waterproof rating and internal damp-proof coating, it is suitable for outdoor applications. Besides, EM400-TLD is equipped with 3-axis accelerometer to detect the status of container lid. Compatible with Milesight LoRaWAN® gateway and IoT Cloud solution, users can know the containers' status and fill level in real-time and manage effectively and remotely.

◆ Features

➢ 2-350 cm wide detection range with extremely short blind zone

➢ Easy to install, especially suitable for small-size waste bins or containers

➢ Equipped with NTC temperature sensor for the detection and alarm of trash burning

➢ Built-in 3-axis accelerometer sensor to monitor device tilt status

➢ Damp-proof coating inside and IP67 waterproof enclosure for outdoor applications

➢ Built-in two 9000 mAh replaceable batteries and work for 10 years without replacement

➢ Ultra-wide-distance wireless transmission up to line of sight of 15 km

➢ Equipped with NFC for one touch configuration, support card emulation mode

➢ Function well with standard LoRaWAN® gateways and network servers

➢ Compatible with Milesight IoT Cloud

◆ Specifications

Wireless Transmission

Technology	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16 dBm (868 MHz)/20 dBm (915MHz)/19 dBm (470MHz)
Sensitivity	-137dBm @300bps
Mode	OTAA/ABP Class A

Measurement

Distance

ToF FoV	27°
Detection Range	2 ~ 350 cm
Detection Accuracy	±2 cm (- 20°C ~ 70°C)
Detection Resolution	1 mm

Device Position

Status	Normal/Tilt

Temperature

Range	-40 ~ 125°C
Resolution	0.1°C

Operation

Power On & Off	NFC, Power Button (Internal)
Configuration	Mobile App (via NFC)

Physical Characteristics

Power Supply	2 x 9000 mAh ER26500 Li-SOCL$_2$ Batteries
Battery Life*	Around 10 years (standard mode-10 min interval, bin mode-20 min interval, 25°C)
Operating Temperature	- 30°C ~ 70°C
Relative Humidity	≤95% (non-condensing)
Ingress Protection	IP67
Dimension	118 × 65 × 30 mm
Material & Color	ABS + PC (Flame Retardant), Black gray
Installation	On the Flat Surfaces with Screws

* Tested under laboratory conditions and for guideline purposes only.