

ToF Laser Distance Sensor

Featuring LoRaWAN®

EM400-TLD



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 |
| 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* | ≥10 years |
| 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.

