

# Multifunctional Ultrasonic Distance Sensor

Featuring LoRaWAN®

## EM400-MUD

*Milesight*



EM400-MUD is a multifunctional ultrasonic distance sensor that mainly detects small-range areas and small blind spots. Besides a wide measuring range, EM400-MUD has equipped with three switchable pre-set modes including standard mode, trash bin mode, and parking lot mode for different applications. Featuring low power consumption LoRaWAN® technology, EM400-MUD can work for over 10 years with its two built-in 9000 mAh batteries.

Besides, EM400-MUD equips with a 3-axis accelerometer and temperature sensor to detect the status of devices. Compliant with Milesight LoRaWAN® gateway and Milesight IoT Cloud, users can know the container status and fill-in level in real-time via browser or mobile App remotely.

### ◆ Features

- 3-450 cm wide detection range with small blind zone
- Equipped with three pre-set modes for different applications
- 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

Detection Range	3 ~ 450 cm
Detection Accuracy	$\pm (1+0.3\%*S)$ cm, S=distance
Detection Resolution	1 mm

#### Device Position

Status	Normal/Tilt
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#### 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 <sub>2</sub> Batteries
Battery Life*	Standard Mode/Trash Bin Mode: > 10 years Parking Lot Mode: 5 years
Operating Temperature	- 30°C ~ 70°C
Relative Humidity	≤95% (non-condensing)
Ingress Protection	IP67
Dimension	118 × 65 × 32.5 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.

