

# Ultra sonic Distance Sensor

Featuring LoRaWAN

## KL500-UDL



KL500-UDL is designed for objects distance or level detection in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, KL500-UDL can work up to 10 years with 19000 mAh battery. Combining with KLED LoRaWAN® gateway and KLED IoT Cloud solution, users can manage all sensor data remotely and visually.

KL500-UDL is widely used for outdoor applications like flood monitoring, granary level monitoring, etc.

### ◆ Features

- Object distance or level detection without touch
- Ultra-wide-distance transmission up to line of sight of 10km
- IP67 waterproof enclosure for harsh environment applications
- Built-in 19000 mAh replaceable battery and work for 10 years without replacement
- Equipped with NFC for easy configuration
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with KLED IoT Cloud solution

### ◆ Applications

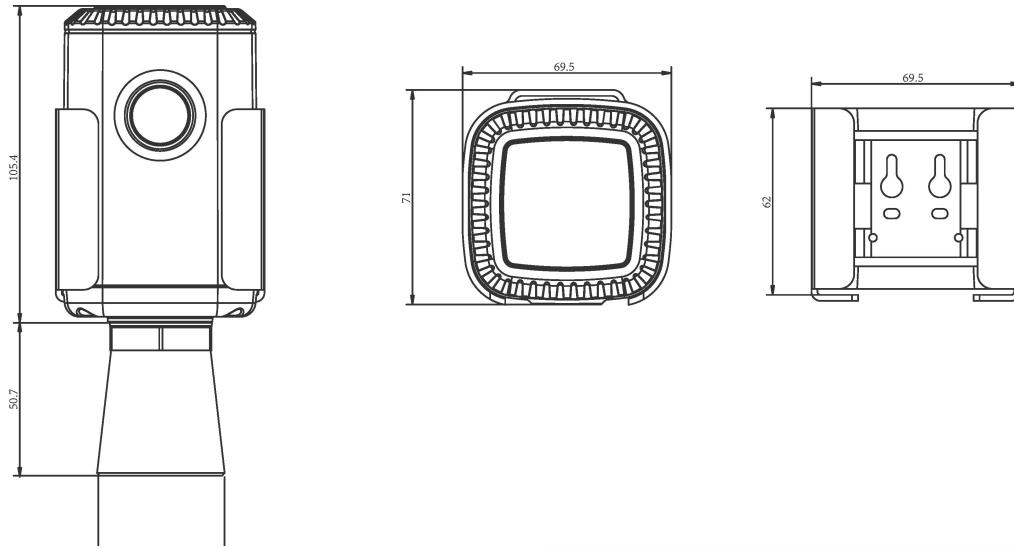
- Water level monitoring
- Flood monitoring
- Level/depth monitoring in tanks
- Snow level monitoring
- Smart agriculture: fill level monitoring in grain, fertilizer or pellets silos

## ◆ Specifications

<b>Wireless Transmission</b>	
Technology	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
Tx Power	16dBm(868)/20dBm(915)/19dBm(470)
Sensitivity	-137dBm @300bps
Mode	OTAA/ABP Class A
<b>Measurement</b>	
Range & Accuracy	W050: 0.3 - 5 m, ±1% FS
	W100: 0.5 - 10 m, ±1% FS
	S050: 0.3 - 5 m (Snow Version), ±1% FS
	C050: 0.25 - 5 m, ± (1+0.3%*S) cm, S=distance
	C100: 0.25 - 8 m, ± (1+0.3%*S) cm, S=distance
Resolution	1 mm
<b>Operation</b>	
Power On & Off	NFC, Power Button (Internal)
Configuration	Mobile App(via NFC) or PC software(via USB Type-C)
<b>Physical Characteristics</b>	
Power Supply	19000 mAh Li-SOCL <sub>2</sub> battery (ER34615)
Battery Life*	10 years (10 min interval)
Operating Temperature	W050/W100/S050: -30°C to +65°C
	C050/C100: -15°C to +60°C
Relative Humidity	0% to 80% (non-condensing)
Ingress Protection	IP67
Dimension	156.1 × 71 × 69.5 mm (6.1 × 2.8 × 2.7 in)
Installation	Pole, wall or DIN Rail Mounting
<b>Approvals</b>	
Regulatory	CE, FCC, RoHS, LoRaWAN® Certified
EMC	EN 55032, EN 55035
EMS	IEC 61000-4-2 Level 3, IEC 61000-4-3 Level 2, IEC 61000-4-8 Level 4
Radio Frequency	FCC Part 15B, FCC Part 15.247, EN 300 330, EN 301 489-1/3, EN 300 220-1/2
Safety	EN62368-1

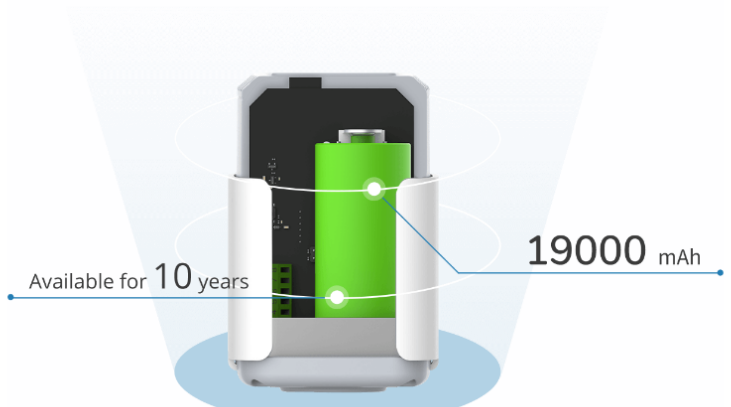
\* Tested under laboratory conditions and for guideline purposes only.

## ◆ Dimensions(mm)



## LoRaWAN Wireless Transmission

Ultra-low power consumption and easy deployment  
 Built-in 19000 mAh high-capacity battery can be used for 10 years.



## Ultrasonic Distance/Level Sensor

### KL500-UDL

KL500-UDL provides highly accurate distance measurement for a variety of applications in harsh environments like flood monitoring, wastewater management, fill level monitoring in grains or fertilizer. The measurement is based on ultrasonic waves transmitted and reflected back from nearby objects.

