

EM500 series

Environment Monitoring Sensors



► Introduction

EM500-UDL ultrasonic level sensor is a long range wireless sensor compatible with standard LoRaWAN protocol. Combining with the advanced LoRa technology and 19000mAh battery make it a low power consumption product with years-long use life. It can measure the distance to a wide range of objects by using ultrasonic sound waves and provides highly accurate continuous level measurement of most liquid material.

► Features

- Up to 11km communication range
- Standard LoRaWAN protocol
- Easy Configuration via NFC
- Ursalink Cloud and third-party platform compliant
- Low power consumption with 19000 mAh replaceable battery

► Applications

- ✓ Water level monitoring in running water
- ✓ Flood monitoring
- ✓ Waste water management, sewer system monitoring
- ✓ Level/depth monitoring in water tanks
- ✓ Smart agriculture: fill level monitoring in grain, fertilizer or pellets silos
- ✓ Snow level monitoring

► Specifications

LoRaWAN	
Frequency	EU433/CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923
Tx Power	20dBm
Sensitivity	-147dBm @300bps
Mode	OTAA/ABP Class A
Antenna	Integrated ceramic antenna
Distance Measurement	
Range	EM500-UDL-W050: 0.3-5m EM500-UDL-W100: 0.5-10m (Customizable for snow level detection)
Resolution	1 mm
Accuracy	±1%
Software	
Turn On & Off	NFC, button (internal)
Configuration	Mobile APP or PC software via NFC: Configuration and Firmware Upgrade
Physical Characteristics	
Power Supply	19000 mAh Li-SOCL ₂ battery
Battery Life	6 years (10 min interval, SF12)

	>10 years (10 min interval, SF7)
Operating Temperature	-20°C to +70°C
Ingress Protection	IP66 (IP67 as required)
Dimension	156.1 × 71 × 69.5 mm
Mounting	Pole, wall, DIN Rail
Operation	
Power On & Off	NFC, power button (Internal)
Configuration	Mobile APP or PC software via NFC: Configuration and Firmware Upgrade

► Order Information

Model	Measuring Range
EM500-UDL-W050	0.3-5m
EM500-UDL-W100	0.5-10m