

Ultrasonic Distance Sensor

Featuring LoRaWAN®

EM500-UDL



EM500-UDL is designed for objects distance or level detection in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, EM500-UDL can work up to 10 years with 19000 mAh battery. Combining with Milesight LoRaWAN® gateway and Milesight IoT Cloud solution, users can manage all sensor data remotely and visually.

EM500-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 Milesight 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

Wireless Transmission	
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
Measurement	
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
Operation	
Power On & Off	NFC, Power Button (Internal)
Configuration	Mobile App(via NFC) or PC software(via USB Type-C)
Physical Characteristics	
Power Supply	19000 mAh Li-SOCL ₂ 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
Approvals	
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)

