

Ultrasonic Distance Sensor

Featuring LoRaWAN®

EM500-UDL

The Milesight logo features a stylized blue 'M' with a white outline, followed by the word 'Milesight' in a black, sans-serif font.

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)

