



LoRaWAN[®] Agricultural Monitoring Node-to-App Starter Kit



Milesight IoT Cloud



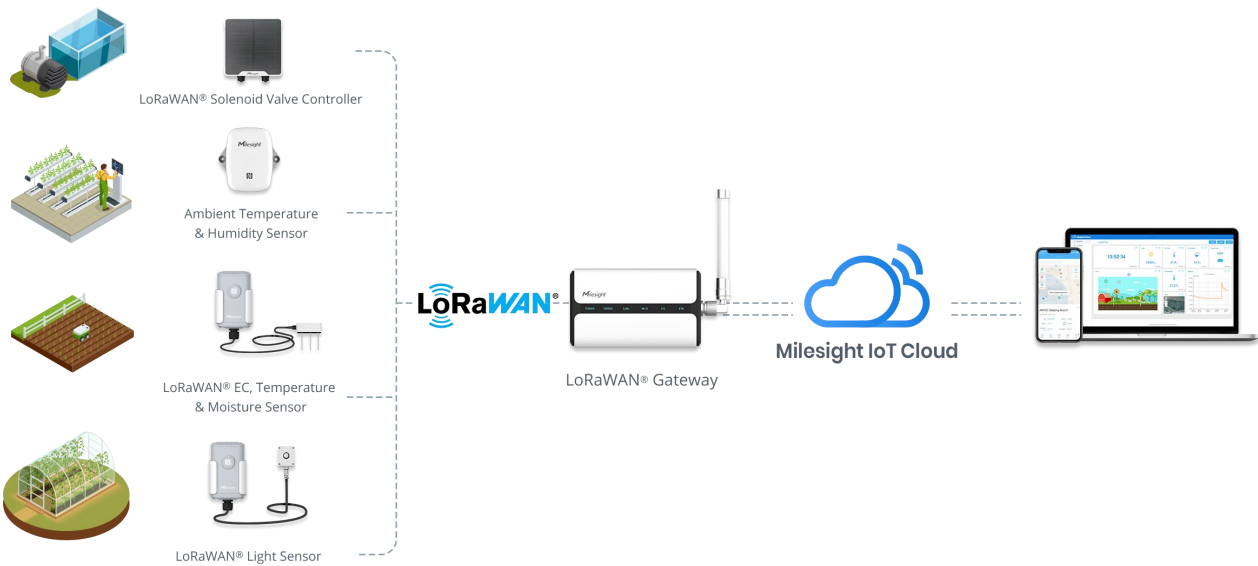
◆ Introduction

Milesight LoRaWAN® Agricultural Monitoring Node-to-App Starter Kit is designed for simplifying the process of PoC about LoRaWAN® network establishment and remote monitoring for the agricultural environment.

◆ Checklist

| Qty | Model | Description | LoRa Frequency |
|--------|---------------------|---|---|
| 1 | UG65 | Semi-industrial LoRaWAN® Gateway (Wi-Fi, Cellular and PoE supported) | CN470/EU868 /IN865/RU864/AU915 /US915/KR920/AS923 |
| 1 | EM300-TH | LoRaWAN® Temperature and Humidity Sensor | |
| 1 | EM500-LGT | LoRaWAN® Light Sensor | |
| 1 | EM500-SMTC | LoRaWAN® Soil Moisture, Temperature and Electrical Conductivity Sensor | |
| 1 | UC511 | LoRaWAN® Solenoid Valve Controller | |
| 1 Year | Milesight IoT Cloud | Standard Subscription | / |

◆ Topology



◆ 5 Steps to Start the Online Monitoring

1. Register a Milesight IoT Cloud account at cloud.milesight-iot.com;
2. Add UG65 to Milesight IoT Cloud;
3. Add 4 LoRaWAN nodes to Milesight IoT Cloud;
4. Create your dashboard on Milesight IoT Cloud;
5. Download Milesight IoT Cloud app from Google Play or Apple Store.

Start monitoring the status of your agricultural application!

◆ Specifications

➤ UG65 LoRaWAN® Gateway



| LoRaWAN | |
|--------------------------|---|
| Antenna | 2 × Internal Antennas + 1 × 50 Ω N-Female External Connector |
| Channel | 8 (Half/Full-duplex) |
| Interfaces | |
| Ethernet Port | 1 × 10/100/1000Mbps (PoE PD) |
| Cellular Interface | 1 × SIM Card (2FF) |
| Wi-Fi Interface | 802.11 b/g/n(2.4GHz), AP or Client Mode |
| Physical Characteristics | |
| Power Supply | 9-24 VDC or 802.3 af PoE |
| Operating Temperature | -40°C to +70°C |
| Ingress Protection | IP65 |
| Dimension | 180 × 110× 56.5 mm |
| Installation | Desktop, Wall or DIN Rail Mounting |

➤ EM300-TH Temperature and Humidity Sensor



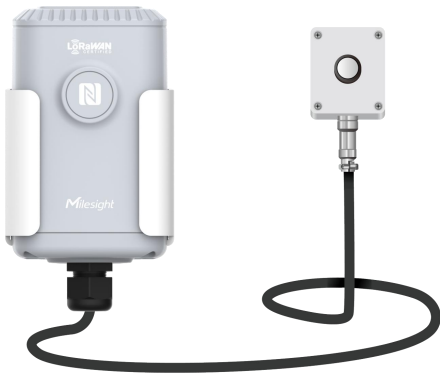
| Measurement | |
|--------------------------|---|
| Temperature Range | -30°C to + 70°C |
| Temperature Accuracy | 0°C to + 70°C (±0.3°C), -30°C to 0°C(±0.6°C) |
| Humidity Range | 0% to 100% RH |
| Humidity Accuracy | ±3% RH from 10% to 90%, ±5% RH below 10% and above 90% |
| Physical Characteristics | |
| Power Supply | 4000 mAh Replaceable Li-SOCL ₂ Battery |
| Ingress Protection | IP67 |
| Dimension | 88.5 × 85.3 × 27 mm |
| Installation | Wall Mounting |

➤ UC511 Solenoid Valve Controller



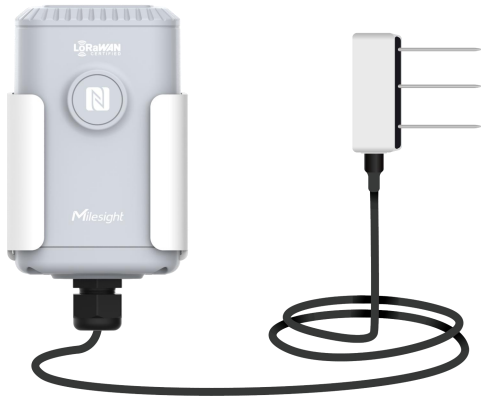
| Interface | |
|--------------------------|--|
| Solenoid Interface | 2 × Solenoid Interfaces, Supporting 2 Wires 5/9/12V DC Latching Solenoids |
| Pulse Interface | 2 × Pulse Interfaces, Supporting 2 Pulse Meters |
| Physical Characteristics | |
| Power Supply | Solar powered (5V, 1.6W) + 5100 mAh Rechargeable Battery |
| Operating Temperature | -20°C to +60°C |
| Ingress Protection | IP67 |
| Dimension | 116 × 116 × 45.5 mm |
| Installation | Wall or Pole Mounting |

➤ EM500-LGT Light Sensor



| Measurement | |
|--------------------------|--|
| Light Range | 0~100000 lux |
| Light Accuracy | ±3% |
| Light Resolution | 1 lux |
| Physical Characteristics | |
| Cable Length | 3 m |
| Power Supply | 19000 mAh Li-SOCL ₂ Battery |
| Operating Temperature | -30°C to +60°C |
| Ingress Protection | IP67(Transceiver)/IP65 (Light Sensor) |
| Dimension | Transceiver: 105.4 × 71 × 69.5 mm Light Sensor: 64 × 58 × 34 mm |
| Installation | Pole, Wall or DIN Rail Mounting |

➤ EM500-SMTC Soil Sensor



| Measurement | | |
|--------------------------|---|---|
| Temperature | Range | -40°C ~80°C |
| | Accuracy | ±0.5°C |
| | Resolution | 0.1°C |
| Moisture | Range | 0% to 100% RH |
| | Accuracy | ±2%(0~50%), ±3%(50%~100%) |
| | Resolution | 0.01% |
| Conductivity | Range | 0~20000 µs/cm |
| | Accuracy | ±3%(0~10000 µs/cm), ±5%(10000~20000 µs/cm) |
| | Resolution | 1 µs/cm |
| Physical Characteristics | | |
| Cable Length | 2 m | |
| Power Supply | 19000 mAh Li-SOCL ₂ Battery | |
| Operating Temperature | -30°C to +70°C | |
| Ingress Protection | IP67 (Transceiver)/IP68(Soil Sensor) | |
| Dimension | Transceiver: 105.4 × 71 × 69.5 mm Soil Sensor: 88 × 68 × 26 mm (Probe Length: 50mm) | |
| Installation | Pole, Wall or DIN Rail Mounting | |