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	Indoor 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	UC1114	LoRaWAN® I/O Controller	
1	EM500-LGT	LoRaWAN® Light Sensor	
1	EM500-SMTC	LoRaWAN® Soil Moisture, Temperature and Electrical Conductivity Sensor	
1 Year	Milesight IoT Cloud	Standard subscription	/

◆ Topology
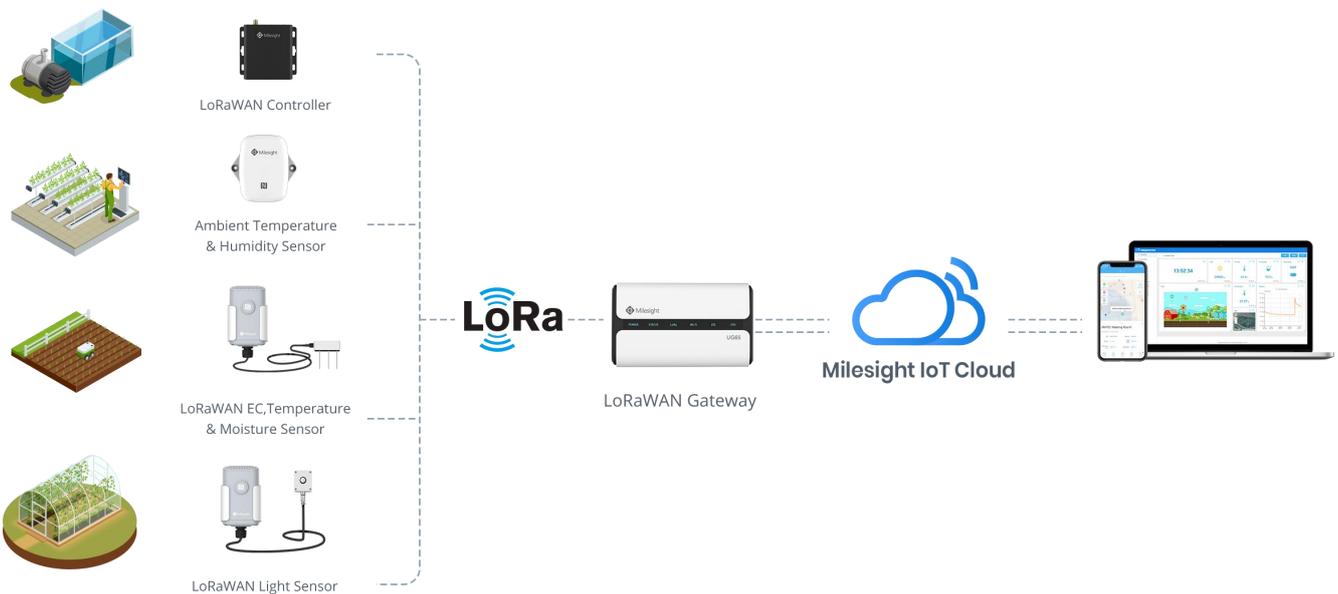
◆ 5 Steps to Start the Online Monitoring

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
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

More info: https://www.milesight-iot.com/lorawan/gateway/ug65/

➢ 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

More info: https://www.milesight-iot.com/lorawan/sensor/em300-th/

➤ UC1114 LoRa Remote I/O
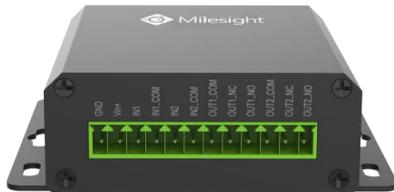
Interface	
Ports	2 × DI + 2 × DO
Digital Input	Opto-isolated Digital Inputs, 3-24VDC (pulse counter support)
Digital Output	SPDT Relay Contact Rating: 3A@DC Max: 30 V or AC Max: 250 V
Physical Characteristics	
Power Supply	5-24 VDC
Operating Temperature	-40°C to +70°C
Ingress Protection	IP30
Dimension	79 × 60× 24 mm
Installation	Desktop, Wall mounting

More info: https://www.milesight-iot.com/lorawan/controller/uc11xx/

➤ 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-SOCL2 battery
Operating Temperature	-30°C to +60°C
Ingress Protection	IP66
Dimension	Transceiver: 105.4 × 71 × 69.5 mm Light Sensor: 64 × 58 × 34 mm
Installation	Pole, wall or DIN Rail Mounting

More info: https://www.milesight-iot.com/lorawan/sensor/em500-lgt/

➢ 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	0.5%	
Conductivity	Range	0~20000 μs/cm	
	Accuracy	±3%(0~10000 μs/cm), ±5%(10000~20000 μs/cm)	
	Resolution	1μs/cm	
Physical Characteristics			
Cable Length	2 m		
Power Supply	19000 mAh Li-SOCL2 battery		
Operating Temperature	-40°C to +70°C		
Ingress Protection	IP66		
Dimension	Transceiver: 105.4 × 71 × 69.5 mm Soil Sensor: 88 × 68 × 26 mm (Probe length: 50mm)		
Installation	Pole, wall or DIN Rail Mounting		

More info: https://www.milesight-iot.com/lorawan/sensor/em500-smtc/