# Smart AC Controller

Featuring LoRaWAN®

# UC701

UC701 is a LoRaWAN® smart AC controller that supports wireless IR control of mainstream air conditioning and PTAC systems via BMS systems or the paired Milesight WT401 thermostat. It allows automatic control through local schedules or remote cloud systems. UC701 provides built-in sensors and multiple interfaces to integrate with external sensors, enabling operational data collection, accurate control, and energy savings for air conditioning systems.

Compliant with Milesight LoRaWAN® gateway and Milesight Development Platform solution, users can control the air conditioner systems via webpage remotely.

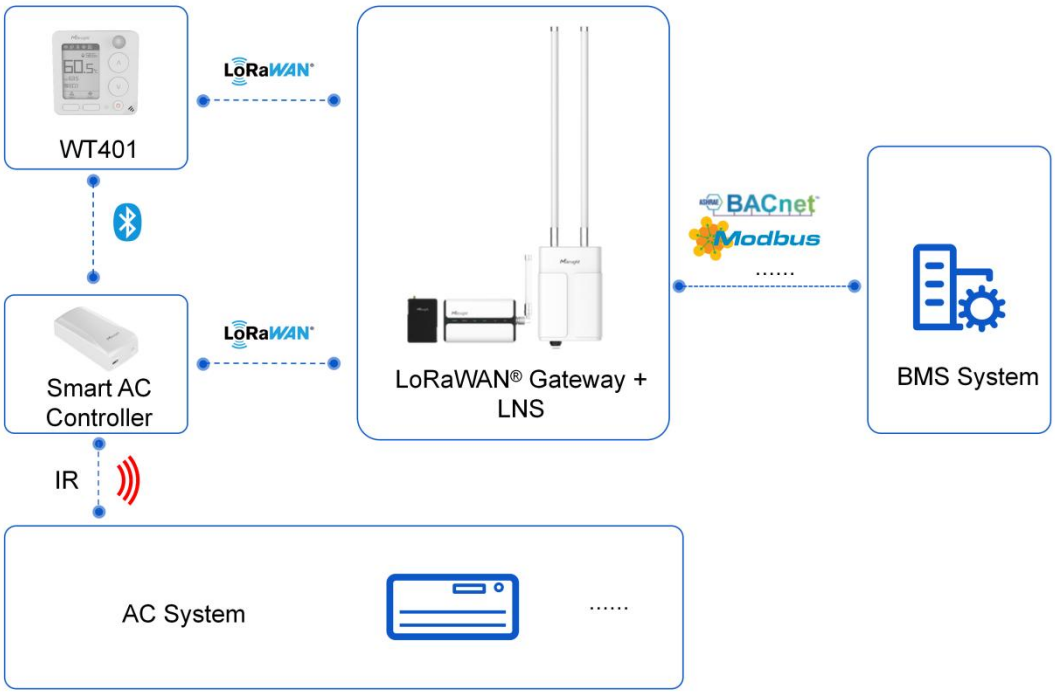



## Features

- Provide wireless IR control without any cable connections
- Built-in IR code library compatible with mainstream air conditioner systems, with IR code learning capability
- Built-in sensor and rich external sensor inputs for accurate AC monitoring and control
- Built-in Bluetooth for easy configuration
- Support 5V DC power supply via Type-C, with an optional external battery compartment for flexible deployment
- Work with Milesight WT401 wireless thermostat via Bluetooth

- Support local rules for AC time on/off and temperature adjustment
- Enable real-time monitoring to ensure timely alerts for sudden temperature changes
- Store historical records locally and supports retransmission to prevent data loss
- Work well with standard LoRaWAN® gateways and network servers
- Compatible with Milesight Development Platform
- Support Firmware Update Over the Air (FUOTA)

## Application Example




## Specifications

| | |
|---|---|
| **Wireless Transmission** | |
| Technology | LoRaWAN® |
| Antenna | Internal Antenna |
| Frequency | IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4 |
| Tx Power | 16dBm (868 MHz)/22 dBm (915 MHz) |
| Sensitivity | -137dBm |
| Mode | OTAA/ABP Class B, Class C |
| **Sensor** | |
| **Universal IR Emitter** | |
| Compatibility | Any air conditioner or heat pumps with a remote control. Including: Mini Split, Window AC, Cassette, Portable, PTAC/PTHP, Central AC, etc. |

| | |
|---|---|
| IR Operating Distance | 360°, Up to 10 meters without barriers |
| IR Learning Frequency | 38 kHz |
| **Temperature** | |
| Operating Principle | Digital CMOSens® technology (MEMS) |
| Range | -20°C ~ 60°C |
| Accuracy | ±0.5°C (0°C ~ 60°C), ±1°C (-20 ~ 0°C) |
| **Humidity** | |
| Operating Principle | Digital CMOSens® technology (MEMS) |
| Range | 0-100% RH |
| Accuracy | ±3% RH (40-85% RH), ±5% RH (0-40% RH, 85-100% RH) |
| **Others** | |
| External Sensor Input | 1 × NTC Interface, 1 × Current Transformer Interface, 1 × IR Emitter Interface |
| **Others** | |
| LED Indicator | 1 × Two-color Indicator |
| External Buttons | 1 × Reboot/Reset Button, 1 × IR Code Learning Button |
| USB | 1 × Type-C for Power Supply and Console |
| **Software** | |
| Configuration | Mobile App via Bluetooth®, Downlink |
| Communication | Pair with WT401 thermostat via Bluetooth |
| Advanced Feature | IR Code Learning, Local Control Schedule, Temperature Limit Mode, Open Window Detection, Threshold Alarm, Data Storage (1,200 entries), Data Retransmission, Data Retrievability, FUOTA |
| **Physical Characteristics** | |
| Power Supply | 5V DC/1A via Type-C Port[1] |
| Power Consumption | 5V@10mA (Normal), 5V@12uA (Sleep Mode) |
| Operating Temperature | -20°C ~ 60°C |
| Relative Humidity | 0% to 95% (Non-condensing) |
| Ingress Protection | IP40 |
| Material & Color | PC, White (Black Customizable) |
| Dimension | 96 × 48 × 26 mm |
| Installation | Wall Screws Mounting, 3M Tape Mounting |

[1]: The controller supports connection to an external plug-in battery compartment.

## ◆ Optional Extended Accessories

| Type | Introduction | Parameters |
|---|---|---|
| NTC Sensor | Detects the ambient temperature to monitor air conditioner operating status. | **Measuring Range**: -20°C ~ 60°C<br>**Accuracy**: ± 1°C<br>**Cable Length**: 2.5 m |
| Current Transformer | Measures air conditioner current to monitor operating status and power consumption. | **Detection Parameter**: RMS Current<br>**Measuring Range**: 0-30A<br>**Accuracy**: ± 1% (≥2.5A), ± 2% (1 - 2.5A), ± 5% (500mA - 1A), ± 20% (50 - 500 mA)<br>**Color**: White (Black Customizable)<br>**Cable Length**: 1.5 m |
| IR Emitter | Controls the air conditioner when UC701 is installed at a distance. | **IR Learning Frequency**: 38 kHz<br>**Cable Length**: 1.2 m |
| Battery Compartment (Without Batteries) | Provide external battery power if a wired power source is difficult to deploy. | **Compatible**: 3 × AA Alkaline 1.5 V Batteries<br>**Battery Life**: 2 years (EU868, Class B, 12-24 control numbers/day), 1.7 years (AU915, Class B, 12-24 control numbers/day)<br>**Operating Temperature**: 0°C ~ 40°C<br>**Installation**: Wall Screws or 3M Tape Mounting |

## ◆ Dimensions (mm)

