

HVAC Controller

Featuring LoRaWAN®

UC711

Milesight

UC711 is a LoRaWAN® HVAC controller that supports heating and cooling systems, including heat pumps, furnaces, and PTAC devices, via BMS systems or paired Milesight WT401 thermostat. UC711 offers multiple temperature control modes and fan modes, enabling precise temperature adjustments in buildings. It allows for automatic control through scheduled programming and remote management via cloud system. Real-time monitoring ensures timely alerts for sudden temperature changes, prioritizing people's safety and protecting assets.

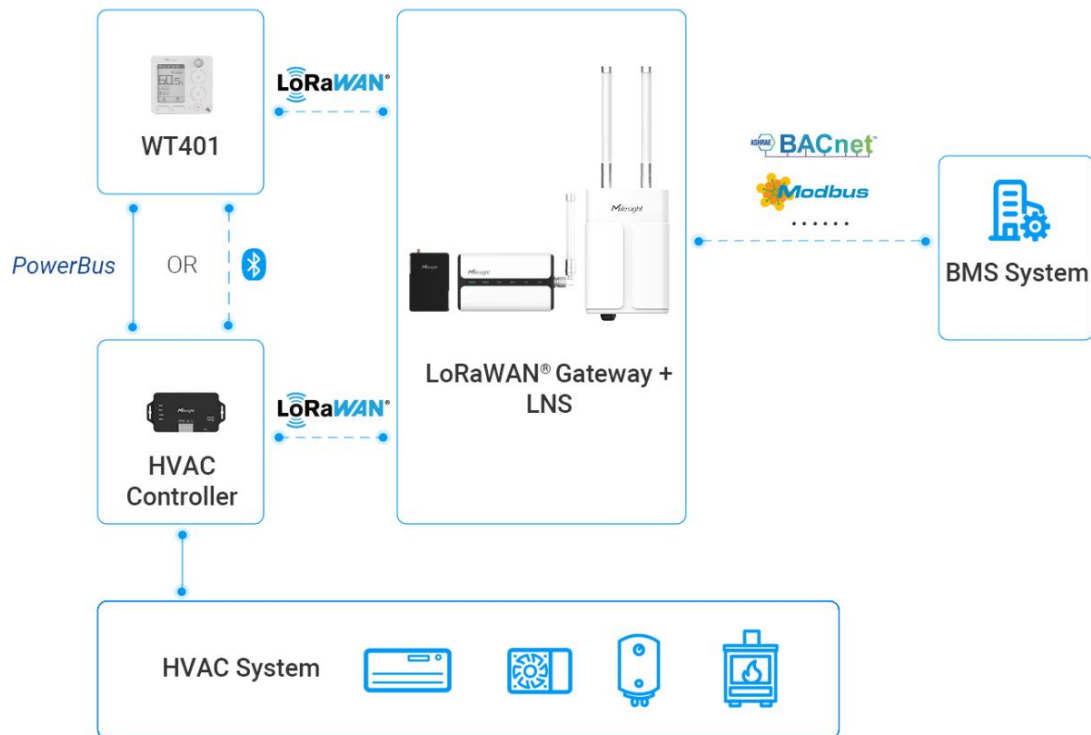
Moreover, the controller seamlessly integrates with hotel room card systems, allowing for convenient remote management. Compliant with Milesight LoRaWAN® gateway and Milesight Development Platform solution, users can control the room temperature via webpage remotely as well as be triggered by other sensors or appliances easily via D2D protocol.



UC711 is designed for 24VAC (@Typ. 150mA, Max. 1A) systems only. Do not connect it to high voltage, high current or millivolt systems.



◆ Application Example



◆ Features

- Support 24VAC HVAC systems including PTAC, AC & furnaces, and heat pumps
- Work with Milesight WT401 wireless thermostat via Bluetooth (wireless)
- Optional data sources for environmental detection and accurate control: external NTC sensor, WT401 thermostat, Milesight sensors, external sensor data from network servers (*Under Development*)
- Equipped with an external NTC sensor signal input and a dry contact input for keycard/magnet switches (*Under Development*)
- Equipped with RTC to keep time correct for 72 hours even without power supply
- Adjust the room temperature manually or automatically with 8 working modes and allow up to 16 schedules for each mode (*Under Development*)
- Enabling real-time monitoring ensures timely alerts for sudden temperature changes (*Under Development*)
- Store locally historical records and support retransmission to prevent data loss (*Under Development*)
- Built-in NFC and Bluetooth for easy configuration
- Function well with standard LoRaWAN® gateways and network servers
- Compatible with Milesight Development Platform
- Supports Milesight D2D protocol to enable ultra-low latency control without gateway (*Under Development*)
- Supports multicast for control in bulk
- Support Firmware Update Over the Air (FUOTA) feature

◆ Specifications

Wireless Transmission	
Technology	LoRaWAN®, Milesight D2D
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 C
Thermostat Feature	
Compatibility	PTAC (2H/1C), AC & Furnaces (1H/1C) or Heat Pumps (2H/1C)
Wire Terminals	RC, C, Y1, W1, O/B, GM, GL, GH
Wire Relays	AC 24V (@Typ. 150mA, Max. 1A)
Temperature Control Range	5°C ~ 35°C
Temperature Control Mode	Heat, Cool, Auto
Fan Mode	Low, Medium, High, Auto, Circulate
Others	
Inputs ¹	1 × NTC Input, 1 × DI (Dry Contact) for Keycard Switches, Magnet Switches, etc. (Only for Physical Switches or Buttons)
Advanced Feature	Freeze Protection, Fan Delay (Under Development: Open Window Detection, Local Control Schedule)
Others	
LED Indicator	1 × SYS, 1 × BLE, 1 × LoRa, 1 × NFC
External Buttons	1 × Reboot/Reset Button, 1 × Manual Pairing Button
USB	1 × Type-C for Power Supply and Console
Powerbus	1 × 2-pin PowerBus Interface for WT401 Communication (Under Development)
Software	
Configuration	Mobile App via NFC or Bluetooth® 5.3, Downlink
Communication	Pair with WT401 thermostat via Bluetooth
Advanced Feature	Multicast, FUOTA (Under Development: Threshold Alarm, External Sensor Mode, Data Storage (1,000 Entries), Data Retransmission, Data Retrievability, Milesight D2D Controller & Agent, Milesight D2D Data Receiving)

Physical Characteristics

Power Supply ²	1. 24V AC (@ Typ. 150mA, Max. 1A) by Wire Terminals (RC+C) 2. 5V DC by Type-C Port
Operating Temperature	-20°C ~ 60°C
Relative Humidity	0% to 95% (Non-condensing)
Ingress Protection	IP30
Material & Color	ABS (UL94 V2), Black
Dimension	120 × 60 × 20.5 mm
Installation	Wall Screws Mounting, 3M Tape Mounting

¹: The features for NTC input and DI are under development.

²: The controller must be powered by 24VAC if it pairs with WT401 thermostat via PowerBus.

◆ Dimensions (mm)

