

Wireless Smart Thermostat

Featuring LoRaWAN®

WT401

Milesight

◆ Introduction

WT401 is a LoRaWAN® wireless smart thermostat that supports a wide range of different heating and cooling systems via BMS systems or paired Milesight HVAC controllers. WT401 offers multiple temperature modes and fan modes, enabling precise temperature adjustments in buildings.

With a 2.7" e-ink screen and an embedded temperature and humidity sensor, WT401 continuously displays the room status while monitoring the ambient temperature and humidity. Compliant with Milesight LoRaWAN® gateways, users can control the room temperature via HVAC systems easily.

With battery powered (wireless) and various wired power supply options, WT401 can widely used in building offices, hotels, stores, etc.



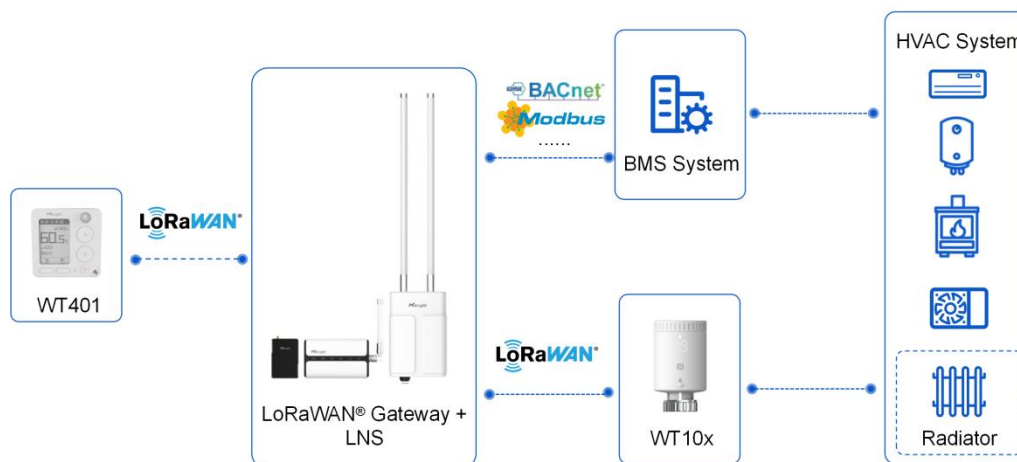
WT401



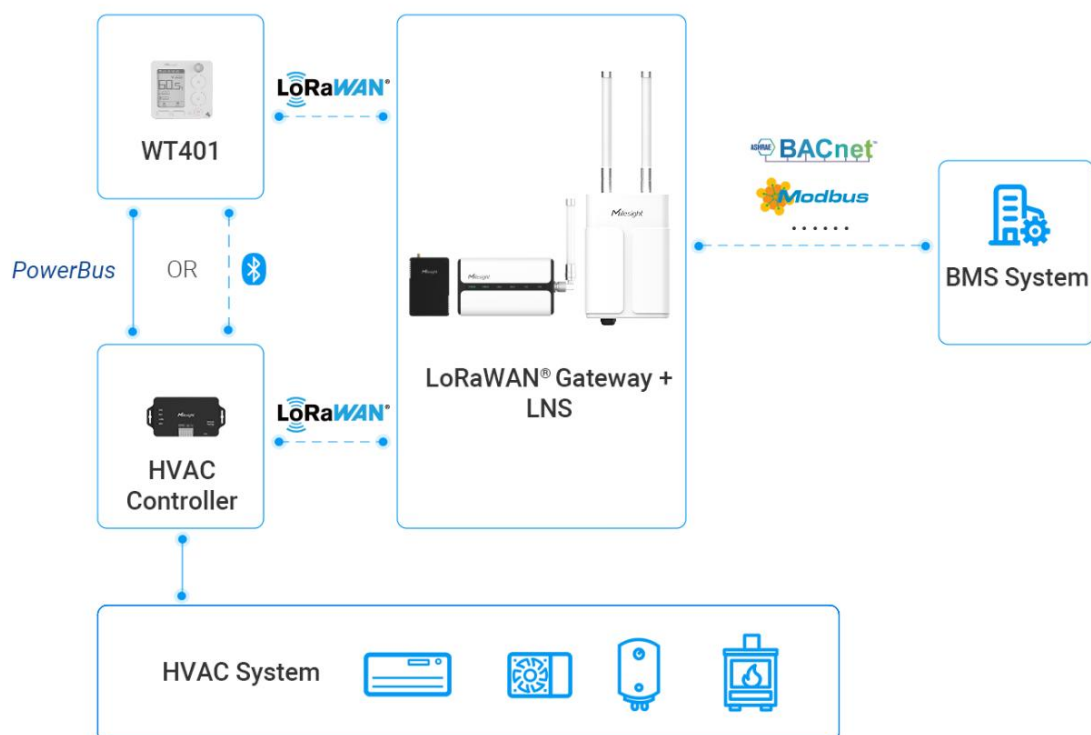
WT401-Flat-FL

◆ Application Examples

Example 1:



Example 2:



◆ Features

- Supports most HVAC systems with common HVAC controllers, including furnaces and air conditioners, heat pumps, boilers, PTAC, etc.
- Features an intuitive 2.7-inch display, allowing for showing environment and control status of the room clearly
- Equipped with a PIR sensor to detect human presence to achieve energy-saving temperature control
- Equipped with 5 external buttons for friendly and easily control, and support button feature flexible switch
- Supports battery power for wire-free installation, and provide various power supply options

- Includes child lock function and anti-theft installation for safety reasons
- Highly adaptable to different scenarios with walls or 60mm/86mm/118mm/120mm boxes
- Equipped with NFC and Bluetooth for one touch configuration
- Allows manual or automatic temperature adjustment with 8 kinds of working plans
- Function well with standard LoRaWAN® gateways and network servers
- Compatible with BMS systems via Milesight LoRaWAN® gateways
- Compatible with Milesight Development Platform
- Supports multicast for control in bulk
- Supports Firmware Update Over-the-Air (FUOTA)

◆ Specifications

Model	WT401	WT401-Flat-FL
Thermostat Feature		
Compatibility	Work with most HVAC systems via LoRaWAN®	
	Work with PTAC (2H/1C), AC & Furnaces (1H/1C) or Heat Pumps (2H/1C) via Milesight UC711 HVAC controllers	
	Work with Common Air Conditioners or PTAC systems via Milesight UC701 ¹ AC controllers	
	Work with Radiators via Milesight WT101/WT102 thermostat	
Temperature Control Mode ²	Heat, EM (Emergency) Heat, Cool, Auto, Dehumidify, Ventilation	
Fan Mode ²	Low, Medium, High, Auto, On, Circulate	
Advanced Feature	Local Control Schedule	
Sensor		
Temperature		
Operating Principle	Digital CMOSens® technology (MEMS)	
Range	-20°C ~ 60°C	
Accuracy	Typical ± 0.2°C, Maximum ± 0.5°C	
Resolution	0.1°C	
Humidity		
Operating Principle	Digital CMOSens® technology (MEMS)	
Range	0% - 100% RH	
Accuracy	Typical ± 2% RH, Maximum ± 5% RH	
Resolution	0.5% RH	
Occupancy Detection		

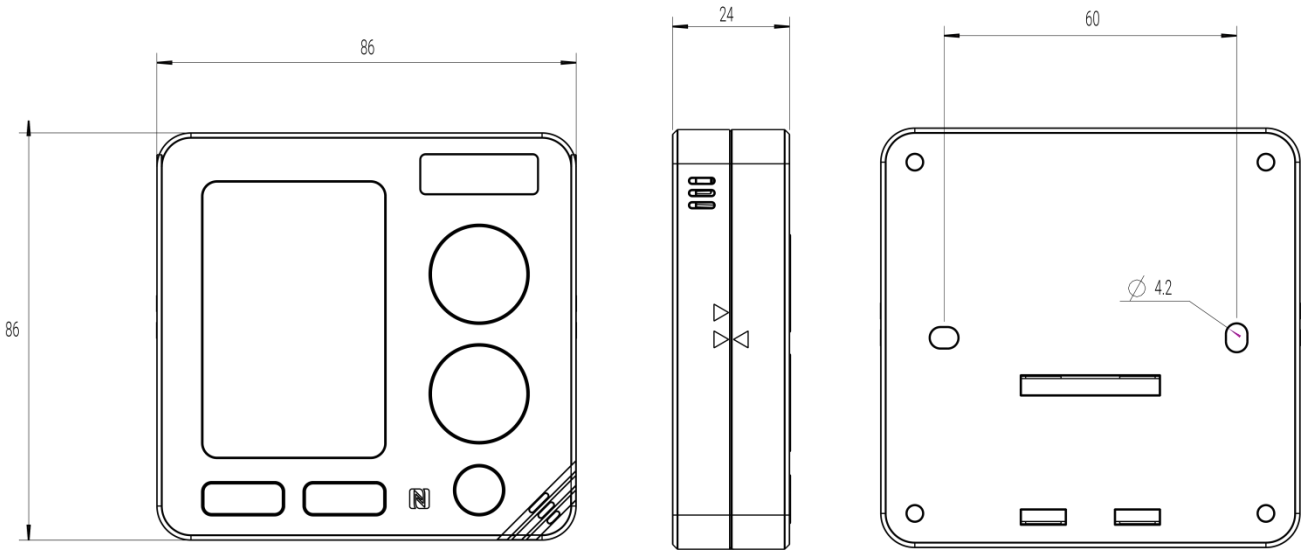
Operating Principle	PIR	
Detection Area	120 ° Horizontal, 90 ° Vertical	120 ° Horizontal, 100 ° Vertical
Detection Distance	Maximum 6 m	Maximum 7 m
Wireless Transmission		
Technology	LoRaWAN®	
Antenna	Internal Antenna	
Frequency	IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4	
Tx Power	16dBm (868MHz)/22 dBm (915 MHz)	
Sensitivity	-137dBm	
Mode	OTAA/ABP Class A/Class C	
Others		
Display	2.7-inch Black&White E-ink Screen	2.7-inch Black&White E-ink Screen with Backlight
Buttons	5 Buttons for Power On/Off, Reset, System On/Off, Temperature Up/Down, Temperature Control Mode, Fan Mode, etc.	
LED Indicator	1 x Power/Reset Indicator	
USB	1 × Type-C for Power Supply or Console	
Power Connector	1 × 2-pin Power Terminal Connector (PowerBus) ³	
Software		
Power On/Off	Button, Mobile App via NFC	
Configuration	Mobile App via NFC or Bluetooth® 5.0, Downlink	
Advanced Feature	Occupied Detection, Smart Display, Child Lock, Button Customization, External Sensor Mode, Multicast, FUOTA	
Physical Characteristics		
Power Supply ⁴	1. 2 × 2700 mAh ER14505 Li-SOCl ₂ Replaceable Batteries 2. 24V DC/AC by Power Connector 3. 5V DC by Type-C Port 4. Powerbus ³ (24V DC) by Milesight UC711 Controller	
Battery Life ⁵	LoRa Mode (10 min report interval): Class A: Around 5 years (SF7), Around 3 years (SF10) Class C: Around 25 days LoRa + BLE Mode (1440 min report interval + 2 min BLE transfer interval): Class A: Around 3.5 years Class C: Around 25 days	
Operating Temperature	-20°C ~ 60°C (E-ink Screen: 0°C ~ 40°C)	
Relative Humidity	0% to 95% (non-condensing)	

Ingress Protection	IP30
Material & Color	PC + ABS (UL94 V0), White (Black Customizable)
Dimension	86 × 86 × 24 mm
Installation	Wall Screw Mounting, 86mm Square or European 60mm Round Box Mounting, 118 or 120 Wall Box Mounting via Wall Plate Accessories
Approvals	
Regulatory	CE, FCC

- ¹: Milesight UC701 AC controller is under development.
- ²: The temperature control mode and fan mode are decided by the Milesight HVAC controller when WT401 is pairing with it.
- ³: The PowerBus connector is only used for power supply, communication feature is under development.
- ⁴: These power supply options can not be used at the same time.
- ⁵: The battery life is tested under laboratory conditions and for guideline purposes only.

◆ Dimensions (mm)

WT401



Wall Plate

