ASY Electronics (Jiaxing) Co., Ltd

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Rail-mounted wireless temperature measurement host

KL-MT88MD Manual

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Safety and precautions

Danger and warning

- This device can only be installed and maintained by professionals.
- The manufacturer assumes no responsibility for any malfunctions caused by failure to comply with the instructions in this manual.

Dangers of electric shock, fire and explosion

- The equipment can only be installed and maintained by qualified personnel.
- Before performing any operation on the equipment, the voltage input should be isolated and the operating power supply of the equipment should be disconnected.
- A reliable voltage detection device is needed to confirm whether the voltage has been cut off.
- Before powering on the equipment, all mechanical parts should be returned to their original positions.
- The equipment should be supplied with the correct rated voltage during use.
- Before powering on, carefully check that all wiring is correct.

Failure to take these precautions could lead to serious harm!

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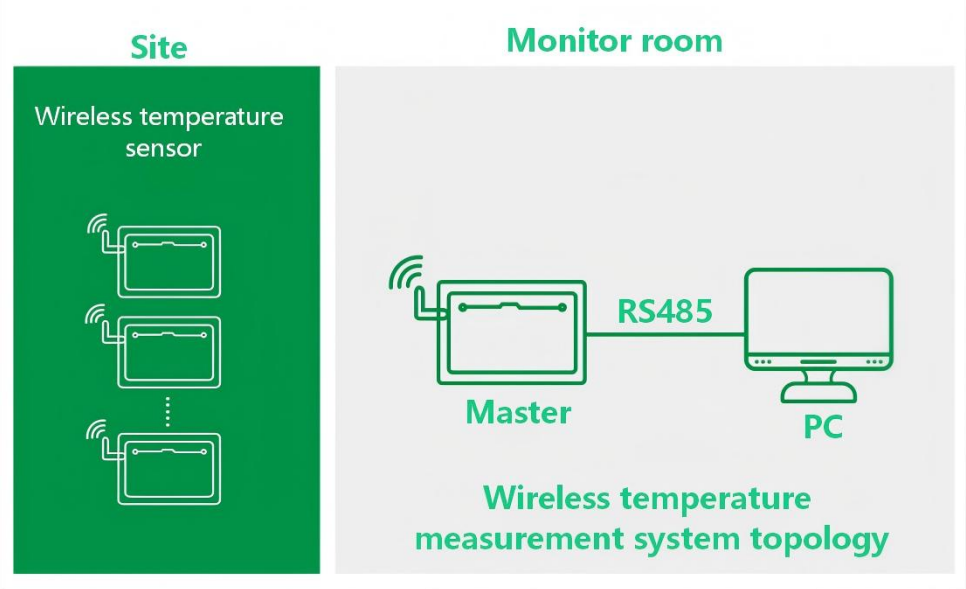
I. Product overview

The wireless temperature monitoring system uses radio waves for signal transmission . The sensor is installed on the device being measured and is connected to the receiving host via a wireless network.

The KL-MT88MD wireless temperature measurement host is an industrial-grade wireless communication temperature measurement host with a DIN rail-mounted plastic casing. Users can read data from the temperature measurement host via RS485 or serial communication . Currently, this series of products is widely used in many industries such as power, petroleum, chemical, railway, mining, metallurgy, and cement.

II. Structure of wireless temperature measurement system

2.1 Wireless temperature measurement system structure diagram



2.2 Wireless temperature sensor

The wireless temperature sensor consists of a temperature sensor, signal modulation and amplification, logic control circuit, wireless communication circuit, antenna, and other components. It collects temperature data and sends it to the

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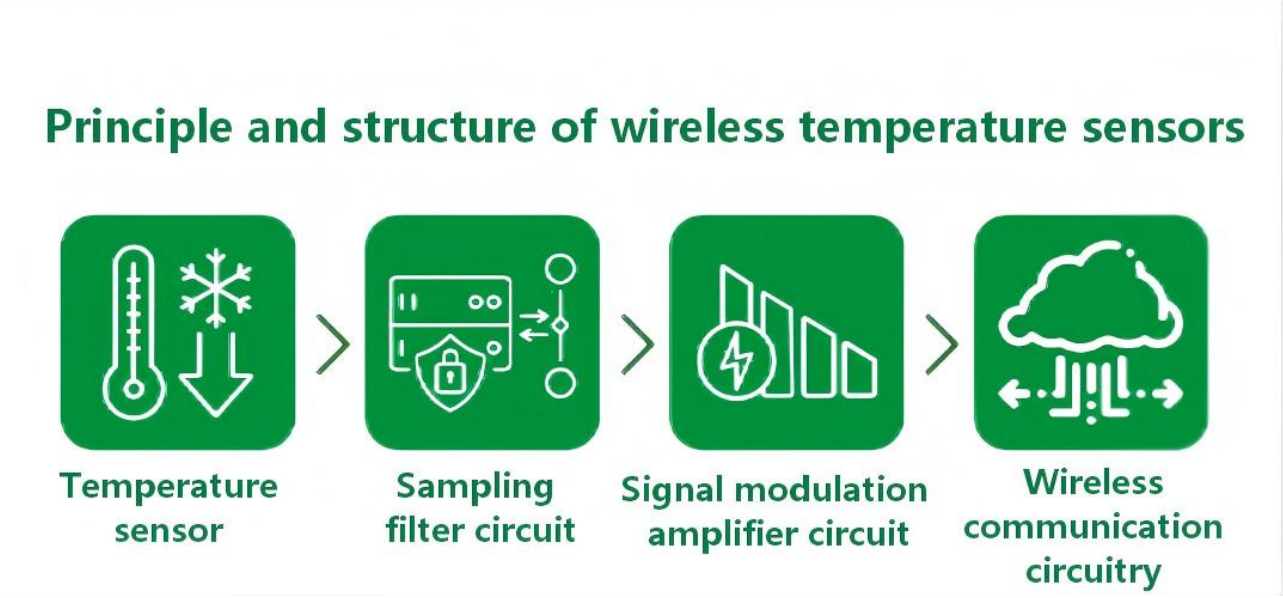
wireless temperature measurement host via a wireless network.

Temperature sensors can be used to measure the temperature of the surface or contact points of high-voltage energized objects, such as the operating temperature of industrial production equipment, high-power motors, exposed contacts in high-voltage switchgear, busbar connections, outdoor disconnectors, and transformers.

The schematic diagram of the wireless temperature sensor is shown below.



2.3 Introduction to the main functions of the temperature measurement system

Main functions	Function Introduction
Temperature detection function	Real-time detection of the current temperature of the measured part
Voltage self-test function	Real-time detection of the sensor's own power supply voltage value
All detected data is wirelessly uploaded to the wireless temperature measurement host.	

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2.4 Wireless temperature measurement host

2.4.1 Equipment technical parameters

Technical parameters		Technical indicators
Usage Environment	Ambient temperature	-25℃～+70℃
	Ambient humidity	≤95%
	Atmospheric pressure	80～110KPa
	Altitude	≤2500 meters
Working power supply	Power supply	DC 9-32V AC 85-265V
Number of received	Maximum number of sensors that can be connected	240 pcs
Wireless frequency band		433M
Communication methods		TTL
		RS485
Default communication parameters	Baud rate	9600Bps
	Data bits	8-bit
	Stop bit	1 bit
	Verification method	None
Communication protocol		Standard MODBUS protocol (customizable)
Installation method		Guide rail installation, screw installation

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2.4.2 Terminal block numbering diagram

Figure 1. Terminal block number diagram

Serial Number	Chinese instructions	Serial Number	Chinese instructions
+	Power input positive	A	RS485A/RX
-	Power input negative	B	RS485B/TX

III、Function Description

Function	Illustrate
Communication parameters	The parameters set during communication.
Wireless parameters	Matching parameters between the receiving module and the temperature sensor.
Temperature parameters	16-bit data, with the most significant digit first, accurate to 0.1℃, with an error of ±1℃.
Voltage parameters	The data is 16 bits long, with the most significant bit first. If the sensor is an active sensor, this value is the battery voltage. If it is a passive sensor, this value is the voltage after the power is rectified and regulated.
ID register parameters	Sensor IDs can be set.
Alarm temperature and status information	The default alarm temperature is 90℃. Status information: 0x0000 indicates no temperature exceedance, 0xFFFF indicates temperature exceedance, and 0x1111 indicates a negative maximum temperature. A positive maximum temperature indicates the highest temperature, while a negative maximum temperature indicates the lowest temperature.

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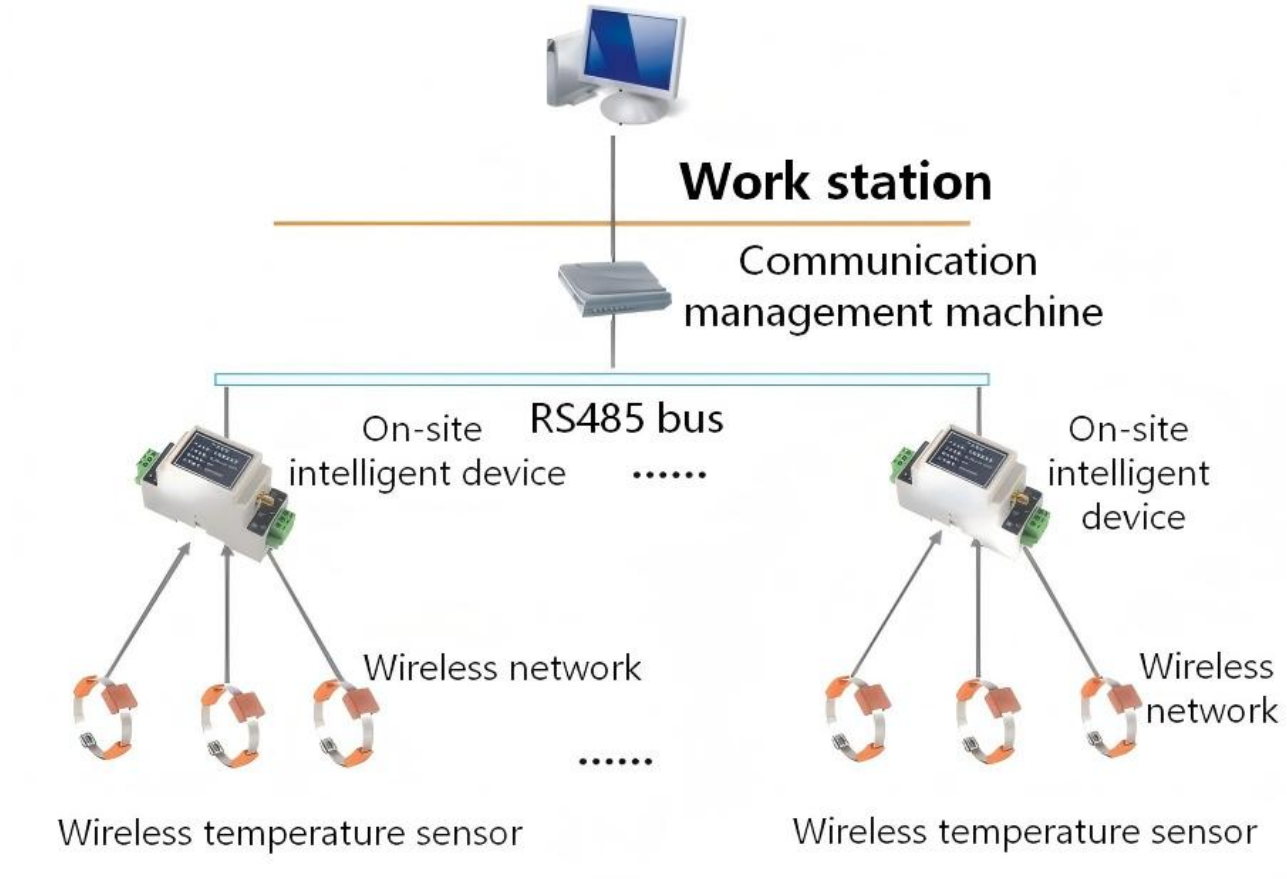
Precautions :

1. The input power supply range is DC 9-32V and AC 85-265V.
2. Strictly follow the terminal number sequence when wiring. If the module does not have a constantly lit LED after wiring and powering on, please unplug it immediately and check if the wiring is correct.

IV、Typical networking methods for wireless temperature measurement systems



Note: This diagram shows a typical network topology, which may vary depending on the specific project requirements.

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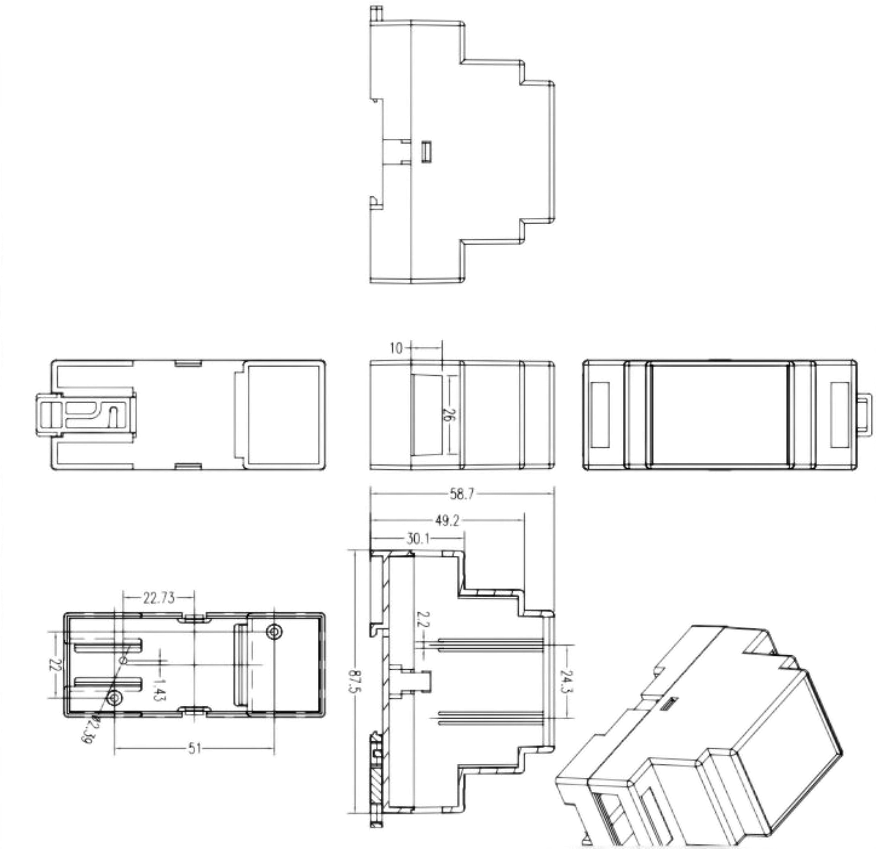
V、Opening size

External dimensions:
88*37*59 (unit: mm)
Installation method:
35mm guide rail mounting



VI、Contact Us

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