ASY Electronics (Jiaxing) Co., Ltd

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Metal-cased guide rail temperature measuring host

KS30M-LORA 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 to 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.

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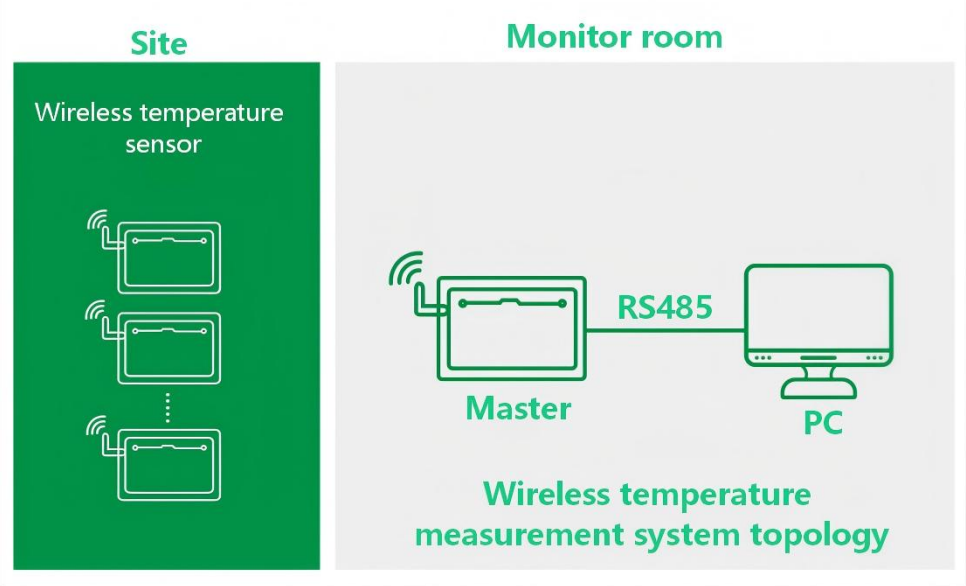
I. Product overview

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

The KS30M-LORA wireless temperature measurement host is an industrial-grade wireless communication temperature measurement host with a DIN rail-mounted metal casing. Users can read data from the receiving module via RS485 or serial communication. This series of products is currently 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 wireless temperature measurement host via a wireless network.

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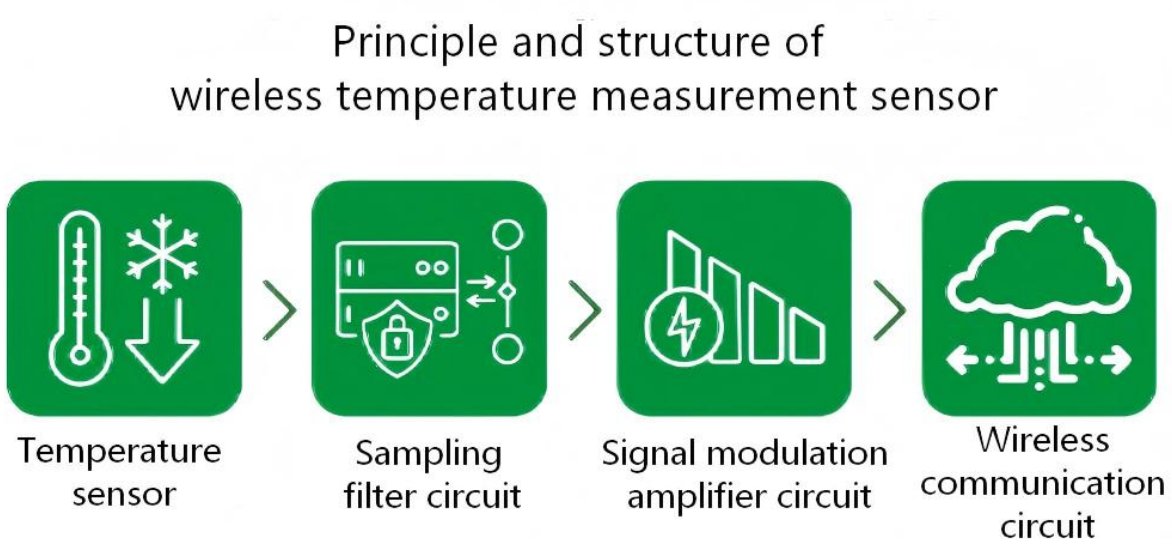
Temperature sensors can be used to measure the temperature of the surface or contact points of high-voltage energized objects, such as the operating temperature of industrial production equipment, high-power motors, exposed contacts in high-voltage switchgear, busbar connections, outdoor disconnectors,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

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



2.3 Main functions of the wireless temperature measurement system

Main functions	Function introduction
Temperature	Real-time detection of the current
Battery voltage	Real-time detection of the internal battery
Note: All data detected by the sensors are uploaded to the wireless	

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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	AC/DC 100-240V
Number of received	Maximum number of sensors that can be connected	240
Wireless frequency band		Sub-GHz (default 433MHz)
Communication methods		RS485
		2-channel 485 communication output
Relay dry contact parameters		AC220V/5A (1 set of passive normally open/normally closed contacts)
Default communication parameters	Baud rate	9600Bps
	Data bits	8-bit
	Stop bit	1 bit
	Verification method	None
Communication protocol		Standard MODBUS RTU protocol
Installation method		Guide rail installation, screw installation

2.4.2 Terminal block numbering diagram

Figure 1. Terminal block number diagram

Serial Number	A2	B2	A1	B1	PE	RL2	RL1
Chinese instructions	485 output		485 output		Relay output		
Serial Number	L		PE		N		
Chinese instructions	Power input						

III、Function Description

Function	illustrate
Communication	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℃.

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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	Sensor IDs can be set.
Communication	The parameters set during communication.

Precautions :

1. The input power supply range is AC/DC 100-240V.
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.

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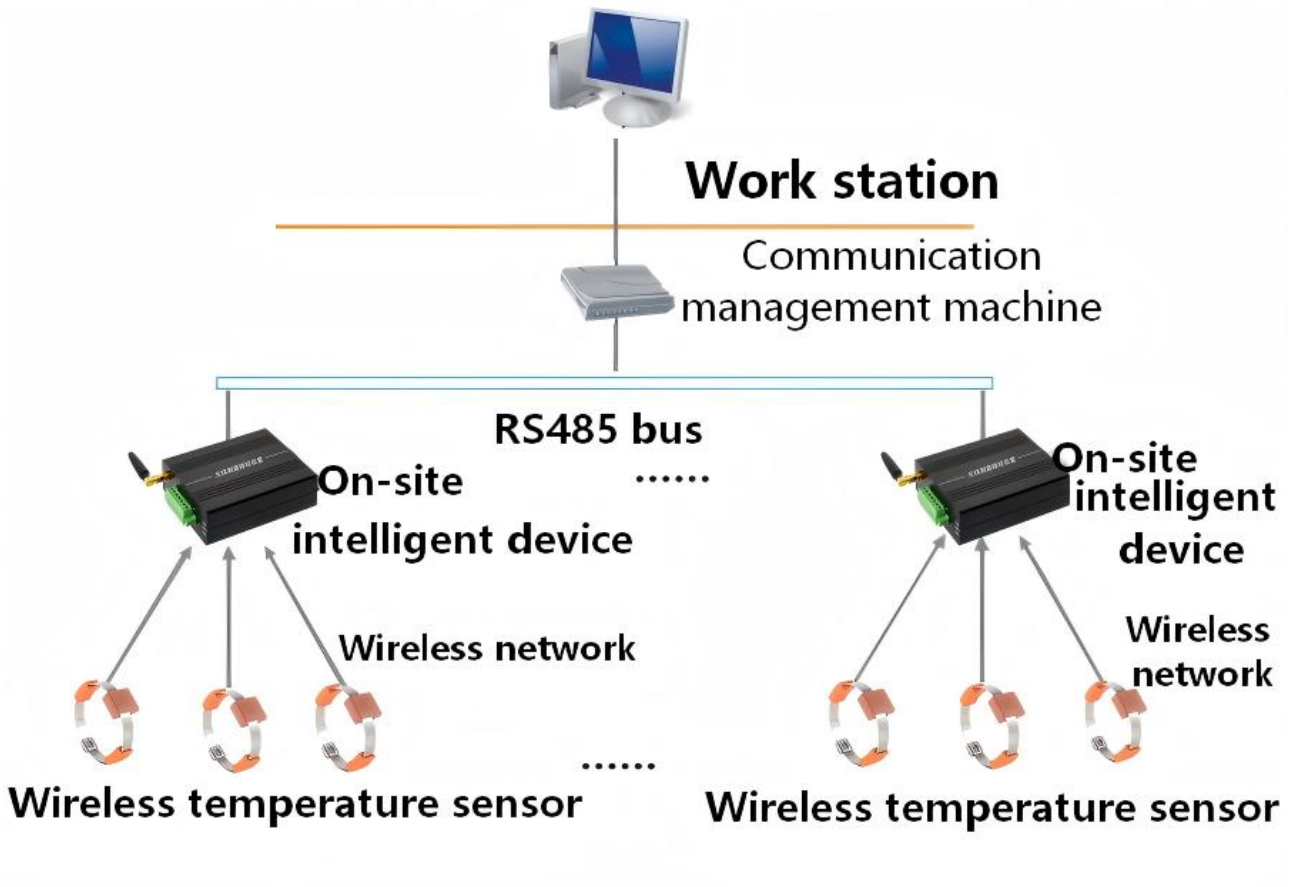
IV . Typical networking methods for wireless temperature measurement systems



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

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V. Product dimensions

External dimensions: 113*90*36 (unit: mm) Installation method: Rail mounting

VI. Contact Us

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*This information product images and technical data is for reference only, if subject to update without prior notice, the specific content of the right to interpret ASY Electronics (Jiaxing) Co., Ltd.