

Please read this user manual carefully before installation.

## **TCMK5411W Wireless Input Module**

### **User Manual**



Liaoning Tiancheng Fire Protection Equipment Co., LTD

Version	Date	Author	Note
Ver1.0 202007	July 13, 2020	Deng Yi; Gao Peng	Create

## I. General

TCMK5411W wireless input module (hereinafter referred to as the module) is suitable for installation in public places, factories and other environments. When there is a fire alarm, after the module receives the input signal specified by the manufacturer, it will send an alarm signal to the control panel through wireless communication technology, and the red light will always be on.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

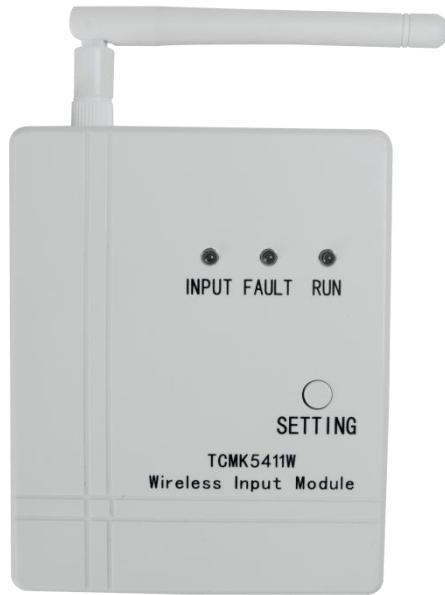
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important: You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



## II. Features

1. Adopting 470MHz wireless communication technology, no need to pre-buried wiring, easy and quick engineering installation;
2. With battery low-voltage detection function, it can reflect the battery power status in time;
3. Use microprocessor to realize signal processing, and use digital signal to communicate with controller, work stably and reliably, and have good suppression ability against electromagnetic interference.

### III. Technical specifications

Fault Indicator: yellow, flashes twice every 48s when the battery is under power, and periodically flashes when the communication fails after being connected to the network

Working Indicator: Green, flashing periodically when the communication is normal  
after entering the network

5. Coding Method: The controller is automatically assigned during networking

6. Communication method: 470MHz FSK coded two-way communication

7. Communication distance:  $\leq 50\text{m}$

8. Transmitted power: <20dBm

## 9. Reset method: by control panel

## 10. Application environment:

Type: indoor

Atmosphere pressure: 86kPa~106kPa

Temperature:  $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$  Relative humidity  $\leq 95\%$ , non-condensing

11. Outline dimension: 101mm×137mm×43mm

12. Material and color: ABS, off-white

13. Weight: about 160g (including battery)

14. Executive standard: GB 16806-2006 "Fire Linkage Control System"

XF 1151-2014 "General Requirements for Wireless Communication Function of Fire Alarm System"

#### IV. Structure characteristics and working principle

1. The outline diagram of the module is shown in Figure 1 :

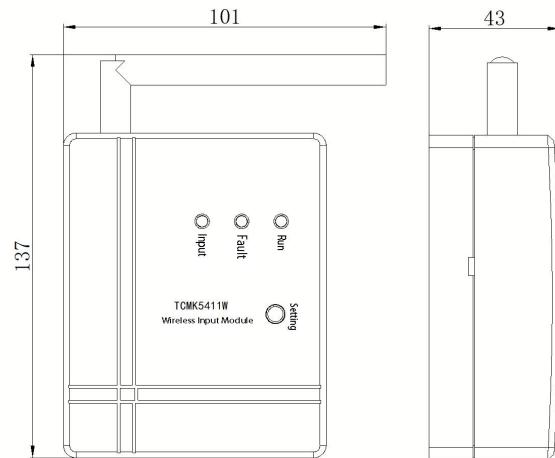


Fig. 1 Outline diagram of the module

## 2. Working principle

When there is a fire alarm, after the module receives the closing signal, it will send relevant information signals to the controller through wireless communication technology. After the controller responds to the information signal, the red light of the input module is always on.

When the battery of the input module is low, the module sends a battery undervoltage signal to the controller, and the Fault Indicator flashes twice every 48 seconds.

## V. Installation method

1. Before installation, first check whether the shell is intact and whether the identification is complete.

### 2. Input module fixing method:

When installing, use two screws to fix the module base on the 86 series (width 72mm, height 49mm, depth 47mm) embedded box, and then install the button front panel, the installation hole distance is 60mm.

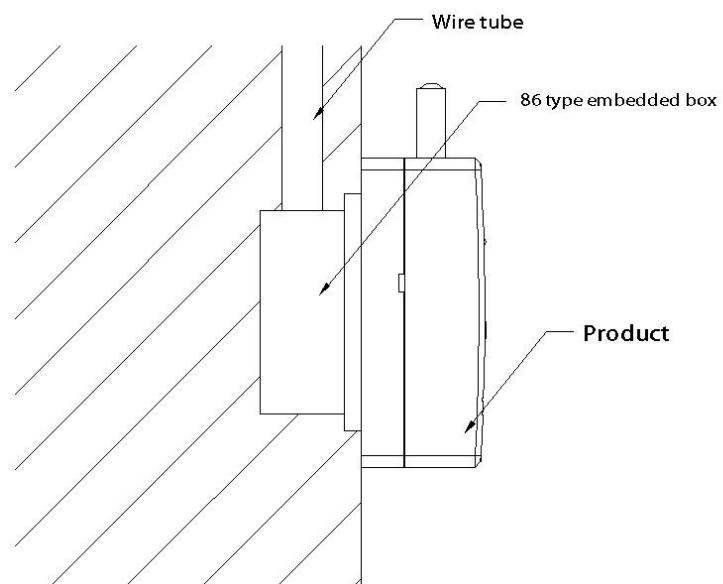


Fig.2 Installation method

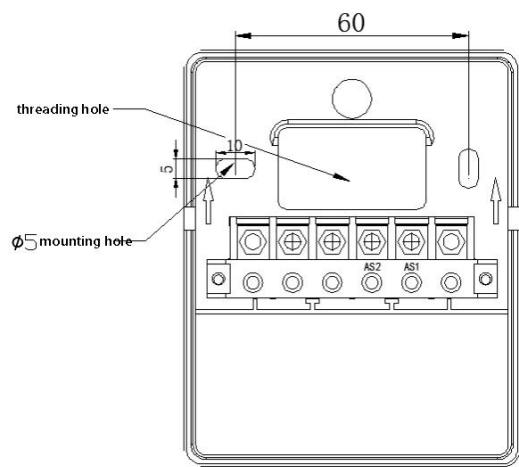


Fig. 3 Installation hole distance

AS1, AS2: Passive answer signal input

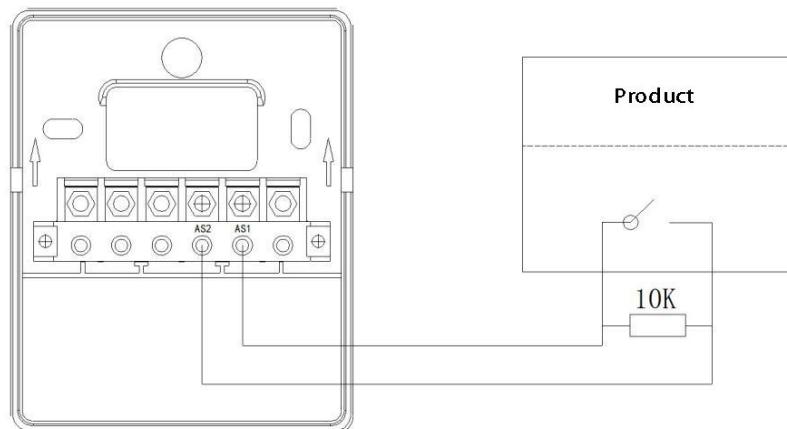


Fig. 4 Wiring diagram

#### Test

Warning: Please make sure that the polarity of the battery is correct before proceeding.

1. The input module should be tested every year after installation and during use.
2. Input signal test: After the networking is successful, the relevant input signal conditions of the input module are artificially satisfied (please turn off the fire alarm linkage function to avoid unnecessary alarm linkage). After the test, use the operation controller reset to reset the input module, and Notify the relevant management department to restore the system to normal.
3. During the test, the unqualified input modules are resolved according to "general failure and repair" and "maintenance".

## VI. Use and operation

1. Network segment setting: The device network segment should be set before the input module enters the network. In the network setting interface of the controller menu, set the input module network segment according to the actual situation on site.
2. The device enters and exits the network:
  - A) Network access operation: When the controller is in the "wireless registration interface" and the input module is not connected to the network, quickly press the setting button 3 times, and the green light flashes 3 times, the input module sends a network access application to the controller, and the application is successful. After that, the total number of network access displayed by the controller +1.
  - B) Exit the network operation: When the controller is in the "wireless registration interface" and the input module is in the network connection state, press the input module setting key 3 times in quick succession, and the green light flashes 3 times, the input module sends to the controller. After the application is successful, the total number of withdrawals displayed by the controller will be +1.
  - C) Status detection: After the input module is powered on, press the set button once and the green light flashes once. If the controller responds to the device, it indicates that the input module has successfully connected to the network, otherwise the input module is not connected to the network.
3. Equipment alarm: When the input module signal is triggered, the input module sends related signals to the controller wirelessly. After the controller responds to the related signals, the red light of the input module is always on.
4. Device reset: It needs to be reset by controller operation.
5. Restore factory settings: After the input module is connected to the network, when resetting or re-powering on, the red or green light will stay on for 10s. During this period, you can restore the factory settings by tapping the setting button 5 times.
6. Set the signal type of the input module: After the input module is connected to the network, when resetting or powering on again, the red or green light will stay on for 10s. During this period, you can adjust the signal type of the input module by pressing the setting button three

times. Button, the yellow light flashes once for the feedback mode, the yellow light flashes twice for the supervision mode, and the yellow light flashes for three times for the fire alarm mode.

## VII. General failure and maintenance

The general faults and their solutions are shown in the following table:

Fault	Reason	Solution
After the device alarms, the controller has no status prompt	The device is not connected to the network	Restart the network operation
Device networking is unsuccessful	Too far away from the controller or interference sources nearby	Move the device near the controller, reconnect to the network and remove the source of interference
The fault yellow light keeps flashing	The battery is low and the device is not working properly	Change the battery

## VII. Precautions

1. After the signal passes through the wall, the signal strength will be greatly attenuated, so try to reduce the number of partition walls for wireless products.
2. When the product is installed, keep it away from metal to reduce the shielding of metal objects to the signal. For example, it cannot be installed in a metal box such as a fire hydrant box or outside of a metal cabinet.
3. Install in a low-interference environment and far away from motors or large-scale electrical equipment.

## VIII. Documents and warranty instructions

1. Packing documents: 1) Packing list: 1  
2) Instructions: 1 copy  
3) 10K resistance: 1
2. Warranty description: Our company is responsible for the maintenance of this product. If you find any problems, please contact our company's technical service department in time. Users are not allowed to disassemble or repair by themselves, otherwise they will be responsible for the consequences.
3. The maintenance contact information is as follows:

Liaoning • Yingkou Tiancheng Fire Equipment Co., Ltd.

Address: No. 11-2, Kechechang Xili, Xishi District, Yingkou, Pilot Free Trade Zone (Liaoning) China , City

Fax: 0417-4835568

Postcode: 115004

Tel: 400-6930-119

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