

# JTY-GF-TX3190A

Standalone Photoelectric Smoke Detector  
Installation and Operation Manual



## Product Safety

To prevent severe injury and loss of life or property, read the instruction carefully before installing the detector to ensure proper and safe operation of the system.



### European Union directive

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.



For more information please visit the website at [www.recyclethis.info](http://www.recyclethis.info)

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## 1 General

JTY-GF-TX3190A wireless smoke detector consists of a smoke detector and an IoT communication unit (LoRa) (hereinafter referred to as the detector), which can detect a large amount of smoke generated during a fire and send out an alarm signal in time. The detector uses a single-chip microcomputer (MCU) with excellent performance, and completes the compensation for changes in external environmental parameters and fire alarm judgment through the solidified calculation program inside the single-chip microcomputer. Built-in LoRa wireless communication components, stable and reliable, can be connected to wireless gateways, widely used in family residences, supermarkets, stores, hotels, etc. The detector has a built-in buzzer, which emits a strong sound after detection, and has an infrared remote control noise reduction function.

## 2 Characteristics

1. The alarm has automatic compensation function. It can automatically compensate performance drift due to external environment (temperature, dust etc.), to some extent, so as to increase reliability of the alarm.
2. The alarm has self-check function, with sound-light alarm signals.
3. The alarm has prompt functions of fault status, alarming status and battery under-voltage status.
4. Use LoRa wireless communication, and wireless coverage area is wide.
5. Low power consumption and long service life of the battery.
6. No wiring, easy arrangement, simple maintenance and low cost.

## 3 Technical Parameters

Operating voltage: DC3V (IoT communication unit: 1 lithium battery, alarm: 1 lithium battery)

Operating current:

Monitoring current: <40uA

Alarm current: <40mA

Alarm sound: higher than 80dB (at 3m right ahead, A-weighted)

Wireless communication system: LoRa

Protection area: 60m<sup>2</sup>-100m<sup>2</sup>

Alarm status indication:

Normal monitoring status: red indicator light flashes every 60s and the buzzer does not sound.

Alarming status: red indicator light flashes quickly; the buzzer sends an alarm signal.

Fault status: Under-voltage fault: the yellow light flashes once every 50s, and the buzzer sounds briefly; Dust accumulation fault: the yellow light is always on, and the buzzer sounds briefly every 50s

IoT communication unit indicator light:

Normal monitoring status: the green light flashes once every 60s

Fault status: the yellow light flashes once every 60s

Operating environment: temperature -10 °C ~ +50 °C , relative humidity ≤ 95%RH, without condensation

Shell material and color:

IoT communication unit: ABS (flame retardant)

Alarm: PP material, pearl white

Weight: about 225.6g (including the battery)

Outline dimension: diameter: 111 mm, height: 69 mm (including base)

Installation hole spacing: 24 mm

#### 4 Structural features and operating principle

##### 4.1 Alarm outline dimension as shown in Fig. 1 (unit:mm):

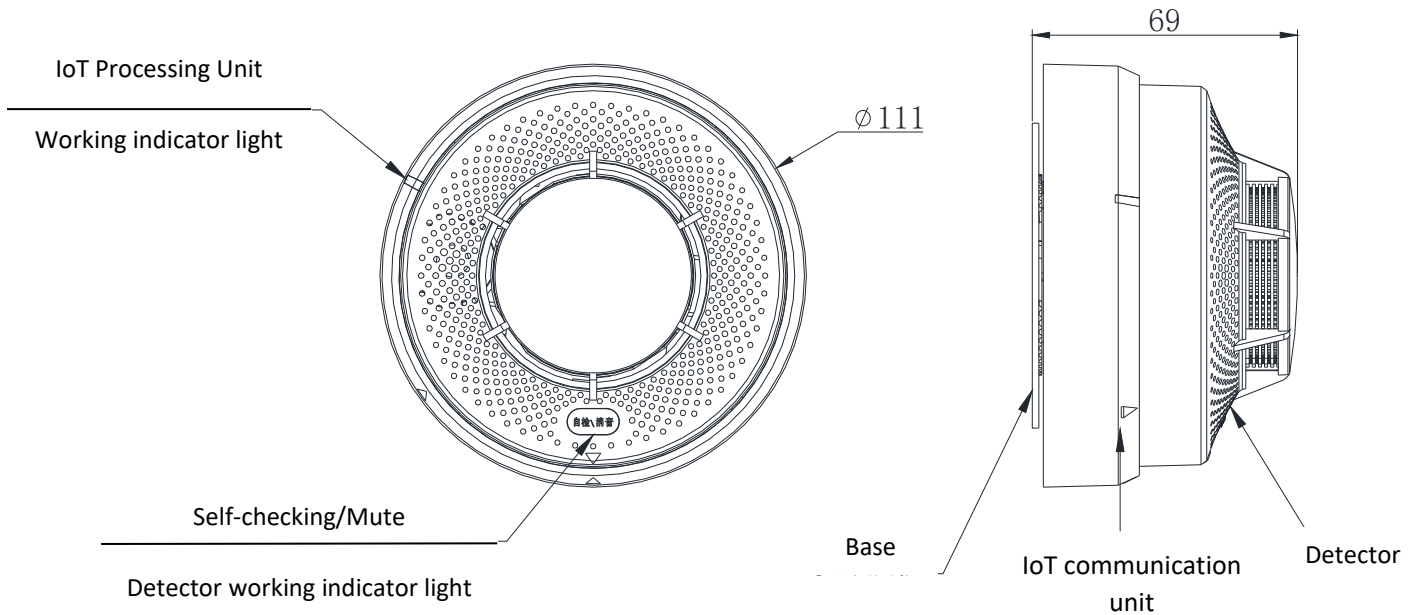


Fig 1 Alarm outline diagram

##### 4.2 Alarm base dimension diagram as shown in Fig. 2 (unit: mm)

Installation position and the number shall be determined according to GB 50116 Code for design of automatic fire alarm system. The alarm shall be installed in matched base.

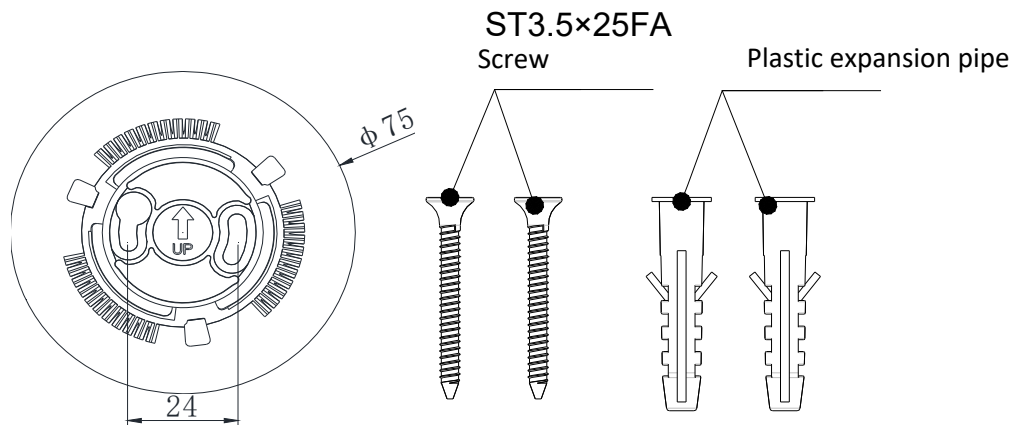


Fig. 2 Alarm base and fixed accessories

##### 4.3 Operating principle

This product mainly uses infrared light and blue light dual-wavelength smoke sensor to detect smoke. When the smoke concentration reaches the alarm condition, the product will alarm, and at the same time output the alarm sound through the buzzer. The alarm indicator light flashes quickly with

the alarm sound, so that people can know early. fire. And through the LoRa wireless communication, the alarm wireless gateway, the wireless gateway uploads the alarm information to the control panel to realize the alarm.

## 5 Installation instructions

1. Appropriate installation position: In order to obtain the fastest detection speed, the installation position of the alarm is very important, and the best position should be on the roof.
  - 1.1 Installed on the roof: When installed on the roof: the edge of the alarm should be no less than 50cm from any wall. (As shown in Figure 3)
  - 1.2 Installed on the wall: the distance from the alarm to the top is not less than 10cm and not more than 30.5cm. (As shown in Figure 3)
  - 1.3 Installed on a sloping or gable roof: the alarm should be kept at a certain distance from the roof. When the slope is less than 30 degrees, the appropriate distance is 20 cm, and when the slope is greater than 30 degrees, the appropriate distance is 30 cm to 50 cm. (As shown in Figure 4)
  - 1.4 For the smoke generated by combustion, the effect of stairs is similar to that of chimneys, so alarms should be installed on stairs.
  - 1.5 Alarms should be installed in the two areas of air circulation, such as the living room and the bedroom, and at least one alarm should be installed in each area.
  - 1.6 Please refer to Figure 5 for the installation position of the alarm, please determine the best installation position according to the actual situation.

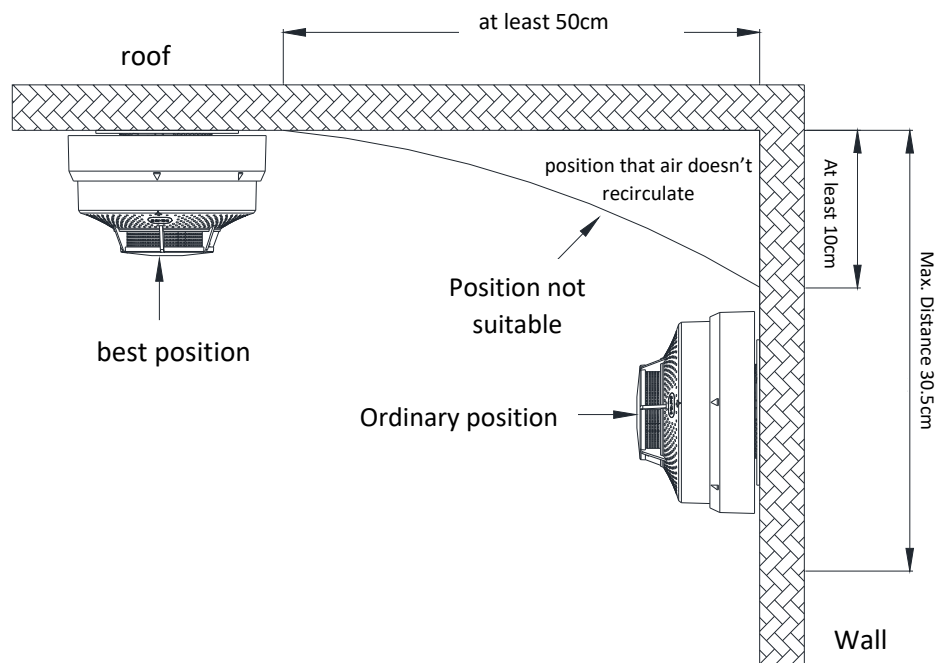


Fig. 3 Schematic diagram of the installation position of the alarm on the wall and roof of the flat-roofed room

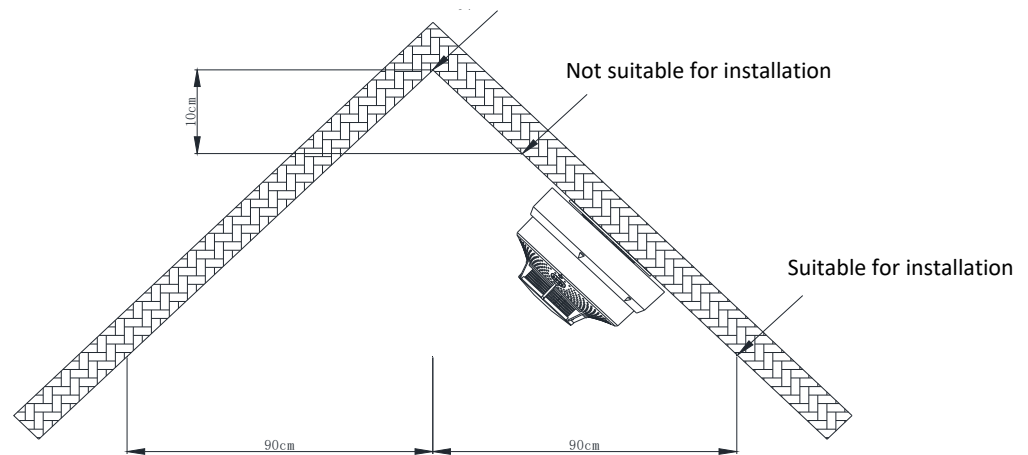


Fig. 4 Schematic diagram of the installation position of the alarm on the sloping roof

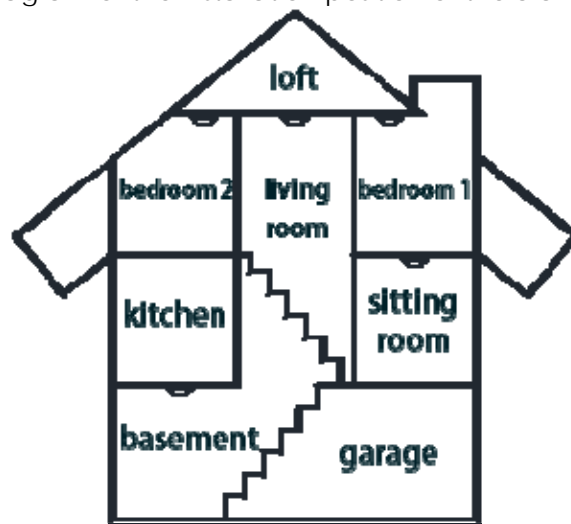


Fig. 5 Alarm installation position diagram

## 2. Installation position avoided

2.1 Places where the temperature is lower than minus 10°C and higher than 55°C or relative temperature is >95%RH..

2.2 Dusty, insect-rich areas. Dust and insects entering the alarm may cause false alarms.

2.3 Places where air flow is poor: when a fire occurs, combustion products like smoke cannot disperse in time and efficiently.

2.4 Do not install the alarm in the places where smoke particles are generated, such as garage, kitchen, water heater and heating system.

2.5 The alarm is not installed near air inlet or outlet of the fan because smoke concentration at the inlet of fan cannot reflect overall smoke concentration in the room efficiently, and it should not be installed near the fluorescent lamp, and the distance should be more than 1m.

## 3. Alarm installation

According to Fig. 6, the alarm bottom is fastened on the roof by 3.5×35FA screws. Installation hole spacing is as shown in Fig. 2.

Buckle the alarm on the positioning card slot of the base, and after the alarm matches the base, turn it clockwise until it is locked in place.

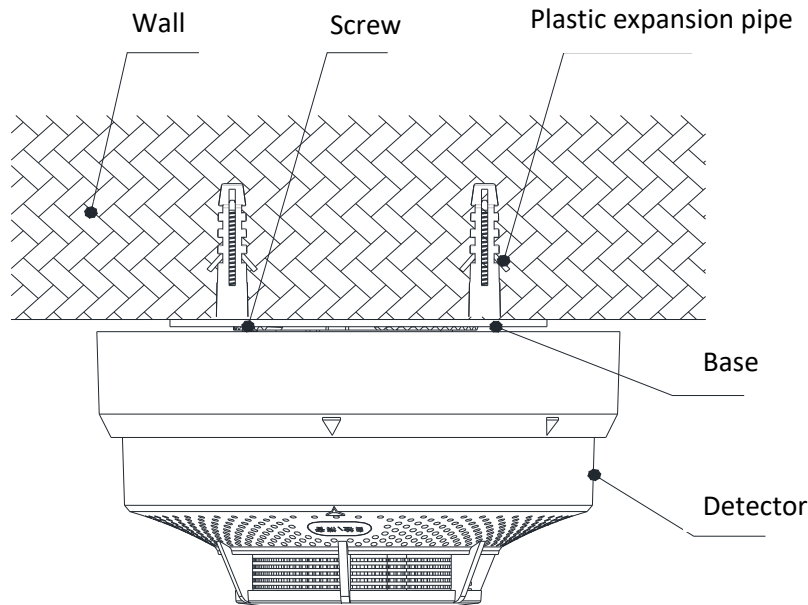


Fig. 6 Alarm installation diagram

## 6 Usage and Operation

6.1 Use the scanner to scan the ID of the alarm and add the alarm to the gateway.

6.2 Insert the battery, screw in the IoT communication unit, the alarm flashes once, enters the LoRa network connection state, the alarm emits two beeps, the alarm flashes twice, and the IoT communication unit is always on for 8s, indicating networking. If successful, the alarm information can also be referred to on the gateway.

6.3 Alarm function: When the smoke around the alarm reaches a certain concentration, the indicator light of the alarm flashes quickly, and the buzzer sounds an alarm. When the smoke concentration drops to a certain threshold, the alarm can automatically recover. (This function can be configured in advance, that is, it can be restored by default, and can be set to not restore through configuration)

6.4 In the normal monitoring state, short press the "Self-check/Mute" button to perform self-inspection. During the self-inspection, the alarm will send out an audible and visual indication signal. In the fire alarm state, short press the "Self-check/Mute" button to silence.

6.5 The alarm has the function of battery voltage detection. When the battery voltage is lower than a certain voltage, the alarm will emit a short "beep" sound and a light-emitting indicator, which means that the battery is under-voltage fault. Please replace the new battery in time.

6.6 The alarm has a detachment detection function. When the alarm is separated from the IoT communication unit, the IoT communication unit will emit a yellow light indication, which means that the alarm and the IoT communication unit are disconnected. Please check the connection in time.

6.7 The alarm has a battery voltage detection function. When the battery voltage is lower than a certain voltage, the IoT communication unit will send out a yellow light indication, which means that the battery under-voltage fault will be reported. Please replace the new battery in time.

## 7 Product notes

Common faults and troubleshooting



Faults	Methods
Short press the "Self-check/Mute" button and there is no response	Check if the alarm is screwed into the base well
The yellow light of the alarm 50S flashes once, accompanied by an alarm sound of "beep"	Alarm battery needs to be replaced
Alarm yellow light is always on	Alarm maze need to be cleaned
The yellow light of the IoT communication unit flashes once every 60s	Check whether the IoT communication unit is screwed into the alarm or the battery of the IoT communication unit needs to be replaced

## 8 Precautions

- 8.1 Do not install in places with high temperature and heavy oily smoke, and keep the environment around the alarm clean.
- 8.2 Test the alarm regularly, and repair it in time if any fault is found.
- 8.3 When the house is being decorated and painted, please take off the alarm to prevent the alarm from being polluted by dust.
- 8.4 In harsh environments such as high temperature, high humidity, and frequent false alarms, the battery life will be shortened.
- 8.5 In case of failure, please do not disassemble the alarm for repair without authorization, the user can notify the company or the local office of the company, and we will deal with it for you as soon as possible.
- 8.6 The alarm should be installed in a place with good coverage of the LoRa network to avoid communication failure between the alarm and the gateway.
- 8.7 When replacing the battery, please use the same type of battery from the regular manufacturer. If

unqualified batteries are used, the alarm may be damaged, and the battery itself may catch fire; when replacing new batteries, please put the old batteries into the battery recycling trash can.

## 9 Battery Safety Precautions

- 9.1 The battery used for this product is not rechargeable. It is forbidden to recharge or short the battery.
- 9.2 It is forbidden to over-discharge, squeeze or burn the battery;
- 9.3 It is forbidden to use seriously damaged or deformed battery;
- 9.4 It is forbidden to use or heat the battery beyond allowed temperature range;

9.5 The user is forbidden to remove the battery voluntarily;

9.6 It is forbidden to weld the battery surface directly;

9.7 When replacing the battery, please use special battery from original factory or other batteries of the same specification. Otherwise, it may lead to fire or explosion.