

# SKY-Microwave Wireless outdoor PIR detector



## Instruction manual

### 1. Guidelines

SKY-Microwave is a high-performance ,low false rate detector that integrates advanced technologies .It consists of durable microwave module, PIR sensor and radio transmission module, etc. Its shell is made of durable plastic .

Features:

- A. Microwave and infrared double detection, highly accurate. Only gives alarm to real body movement.
- B. Adopting patented full-scope precision temperature compensation, the detecting sensitivity is always stable and consistent within working temperature despite temperature changes.
- C. Wireless construction, built-in power, radio transmission, totally wireless. easy installation and usage.
- D. Power-saving design and high capacity battery enables the detector to continuously work for a long period.
- E. Built-in expansion slot, be compatible with control panels from other suppliers

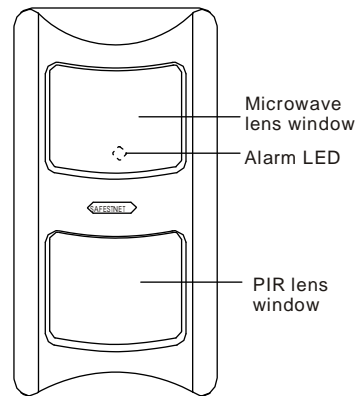


Fig.1 Overall look

### 2. Specifications

Power supply: 1pc 3V high-capacity lithium battery.  
 battery life: 12~18 months.  
 Working current: standby: <30uA, on alarm: <15mA.  
 Self-checkup: detector checks itself upon electrification (for about 150seconds), then start working.  
 Emitting frequency: 315/433MHZ  
 Emitting distance: with built-in antenna:>100m, external Antenna> 300m( without any interference).  
 Working mode: USE mode: alarm interval is min.1minute.  
 TEST mode: alarm interval is min. 20 seconds. Sensor: quiet, dual-core PIR sensors.  
 LED indication: when it detects body movement. red LED flashes for about 2 seconds, detector sends out alarm signal to control panel  
 Lens qty: 72  
 Pulse count: 1-2  
 Detecting scope: 110° , 9 x9m (typical).  
 Temperature compensation: auto compensation.  
 Low battery indication LED : detector generates and sends out alarm signal once battery is lower than 2.5v .  
 Demension: 138x75x46mm

Microwave Frequency: 2.45GHZ.

Working condition :  
 Working temperature: -10C~ 65C °

Storage temperature: -50C~70C °  
 EMI protection:>30V/M  
 White light protection:>1,000,000Lux

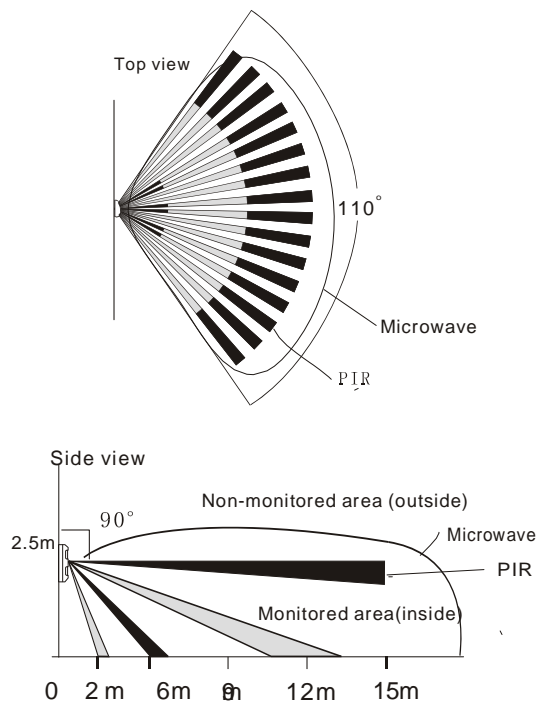


Fig2. detector coverage diagram

## 3. Installation

### 3.1 Guidelines

- The sensitivity of the detector is highest when the intruder motion track is tangent to the coverage circle, the positioning and detecting angle of detector should be based on this feature.
- Avoid installing the detector along with high-volt power cable etc.
- If the detector is installed in a high-temperature environment, to achieve the best effect, it is recommended to aim the detector at the part with lowest temperature and brightness.
- When the detector is used in a place with strong interference, the pulse count should be increased and the detecting sensitivity should be decreased.
- Detector installation height should be between 2 meters and 3meters. (When installed at 2m high the detecting distance is longer).
- The wall for mounting the detector should be firm and sturdy.
- The covered area should not have moving objects such as hanging clothes, curtain, tree branches etc.

### 3.2: Installation

The installation of external antenna: external antenna can extend the transmitting distance of the detector. Ideal length of external antenna is 15cm(for 433MHz). External antenna can be normal wire (included in the package). See fig.4 and 3 for guidance on how to install the external antenna. Please note the built-in antenna should be disconnected (cut) if external antenna is installed.

Installation of detector:

Use screw (or very strong adhesive tape) to fix the detector to wall. Make sure the end with alarm LED should be upward. There are knockout holes on the bottom cover for screws. If a its U versatile bracket is used, the detecting angle can be easily adjusted (from right to left). Distance between detector and floor should be 2-3meters.

### 3.3 Electrification:

Remove the insulation slip so that power is on. The detector checks itself upon electrification (for about 2 minutes), and then start working.

### 3.4 Work mode setting.

**RECORD key** : when press down "record" key, the detector generates radio signal for code learning and help to register the detector on the control panel.

#### Work mode jumper setting:

**USE mode**: detector alarm interval is 150 seconds. That means the detector stops detecting work for up to 150 seconds after it sends alarm signal to control panel. After the 150 seconds, it starts detecting again. This mode saves battery power.

**Test Mode**: The alarm interval is only 20 seconds. This is good for installation and walk test.

**60S mode**: when connect to 60S, the alarm interval is 60 seconds. Please choose a proper mode based on your need.

#### Pulse count jumper:

If jumper is connected to 1, pulse count is 2, if connect to 2, pulse count is 1.(default is 2 ).

#### Detecting distance (sensitivity) jumper:

Connect to 3-6m: detecting distance is 3-6m.

Connect to 5-9m: detecting distance is 5-9m.

Connect to 6-12m: detecting distance is 6-12m.

Connect to 9-18m, detecting distance is 9-18m.

**LED jumper**: connected: LED is on. Disconnected: LED is off.

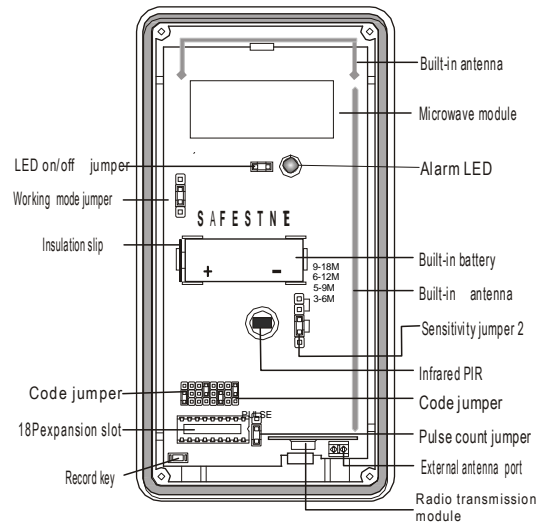


Fig.3 PCB layout

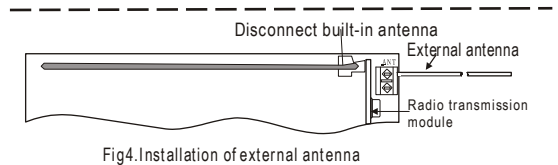
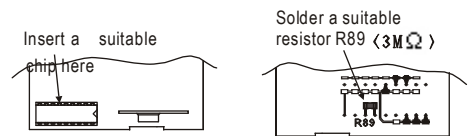


Fig4.Installation of external antenna



Fig5. Sensitivity jumper

Fig 6 pulse count jumper



### 3.5Compatibility

The expansion on the PCB enables detector to compatible with various wireless control panel from other suppliers.

### 3.6 Walking test

- Set all mode/jumpers to default.
- Let the simulating intruder move about in the PIR /microwave coverage, when motion is detected, LED flashes 2 seconds. Make sure the control panel can receive the alarm signal.
- Find out the PIR /microwave coverage and adjust it to cover the desired area by changing the height, jumper setting, positioning, or angle of the detector. If the coverage of PIR exceeds the desired area, the false alarm rate maybe high.

## 4. Notes

- Pay attention not to drop or heavily knock the detector during installation in case the PIR sensor is damaged
- Please keep the PIR sensor and lens window clean and clear
- Set all the work modes/jumpers to your desired modes/values after walk test.
- Walk test of the detector should be carried out regularly.
- It is also suitable for indoor use..