

PIR Motion Detector

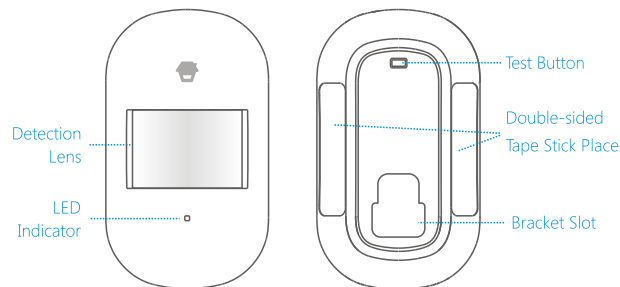
MD2300

User Manual

Introduction

The detector adopts digital dual-core fuzzy logic control processing technology and intelligent analysis algorithm, effective resolution of interfering signal and human movement signal, preventing false alarm. It features automatic temperature compensation and resistance to flow technology, adapting to environmental and temperature change. It can detect human movement within the 8-meter cone space, suitable for halls, hallways, etc. With low power feedback function, user will get SMS alert about low battery when it is connected to GSM alarm system.

Overview



LED Indication

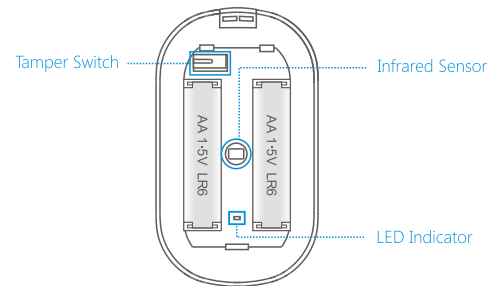
Flash continuously: Self-testing.

Flash once: Intrusion is detected.

Flash twice: 3 minutes testing mode is finished, enters power saving mode.

Flash once per 3 seconds: Low battery indication, user will receive SMS notification if detector was connected with panel, please change the batteries immediately.

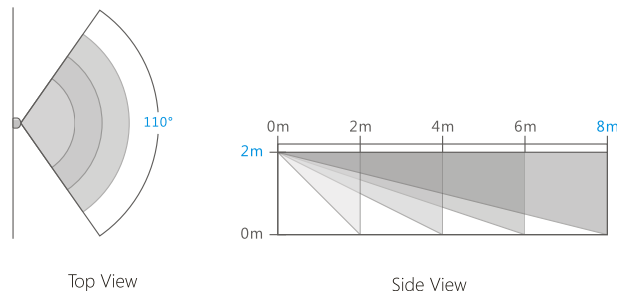
PCB Layout



Infrared sensor: It detects the infrared rays released by human body motion, please do not touch the surface and always keep it clean.

Tamper switch: Once the case is opened in work mode, the tamper switch is triggered and then generates an alarm signal.

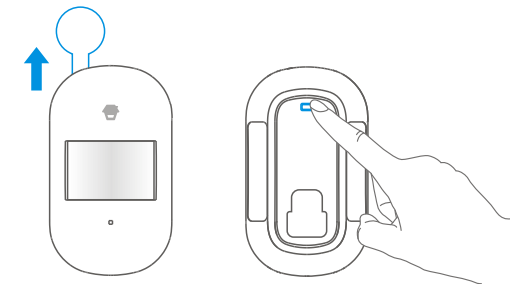
Detection Range



Connect the PIR Motion Detector

Connect PIR motion detector is to build a wireless connection between the detector and the control panel.

1. Control panel enters connecting state (For details, please refer to the relative user manual).
2. Press the test button on the back of the detector twice, the control panel beeps once, indicating a successful connection.



Note: If the control panel beeps twice when the above operation is done, it means the detector has been connected before.

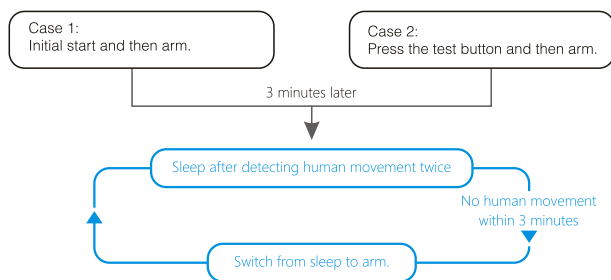
Working Mode

Testing Mode

After self-testing, press the test button, the detector enters testing mode and detects once every 10 seconds. After 3 minutes, the LED indicator flashes twice, and the detector switches to power saving mode.

Power Saving Mode

The product features power-saving design. If the detector detects human movement twice in 3 minutes, it will switch to the sleeping state to save power. At this time, the LED will not flash and no alarm. After no movement within the next 3 minutes, the detector switches back to the working state automatically.



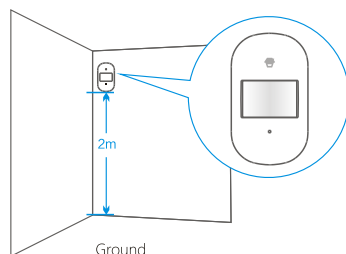
Note: After the detector is in the sleeping state, ensure no human movement within 3 minutes; otherwise, the detector remains sleeping. In the sleeping state, it is recommended that you leave the room after arming the system. Ensure no human movement in 3 minutes. Then, go into the room, the system alarms immediately.

Installation

After making sure the detector works normally, do as follows:

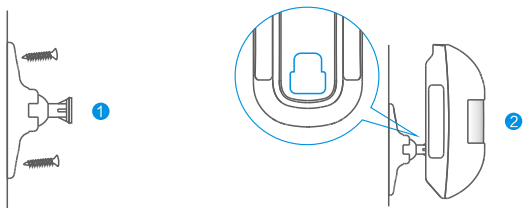
1. Choose a suitable installation location

Choose a suitable installation location, it is recommended to mount it at the height of 2m from the ground.



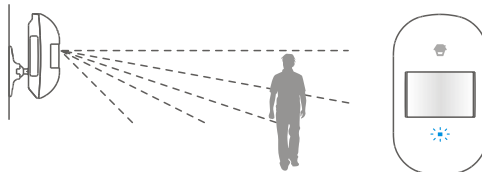
2. Fix the detector

Fix the bracket on the wall with screws and attach the detector to the bracket. Or user can stick it at the corner with double-sided tapes.



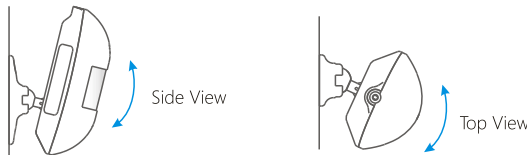
3. Test the PIR motion detector

Press the test button at the back. It switches to the testing mode and sustains for 3 minutes. Walk in the detection scope and observe the LED. When body movement is detected, the LED flashes once.



4. Adjust the angle

Adjust the bracket angle to achieve the best detection effect.

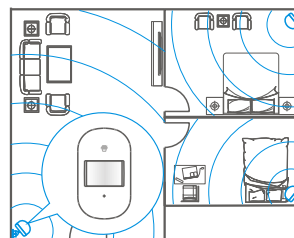


Installation Notices

Pay attention to the following during installation:

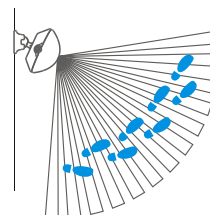
1. Mount the detector in a proper angle

The detector aims at preventing intrusion. Detecting human movement at the entry or exit is critical for security.



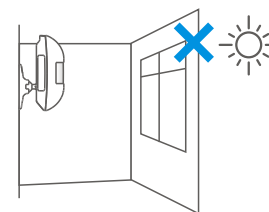
2. Mount the detector in a proper angle

The installation angle affects sensitivity directly. The sensitivity is optimal when the walk direction is vertical to the infrared direction. Choose the best location and angle according to the actual situation and detection scope diagram.



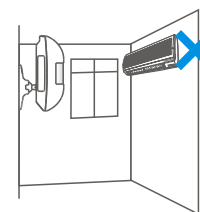
3. Avoid facing to glass windows or doors

Strong light interferes with detection sensitivity. In addition, complicated situations, such as traffic flow, stream of people, also should be avoided.



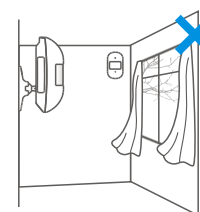
4. Avoid facing to or positioning close to heat sources

Heat and cold sources, such as heat extraction units, heaters, air conditioner, microwave oven, refrigerator, which may cause false alarm, should be avoided.



5. Avoid facing to swinging objects

Swinging objects may also trigger false alarm. Besides, if there are two detectors covering the same scope, adjust the locations to prevent cross-interference.



Specifications

Power Supply DC 3V (AA 1.5V alkaline battery x 2)

Standby Current $\leq 50 \mu\text{A}$

Alarm Current $\leq 11 \text{ mA}$

Detection Range 8m/110°

Transmitting Distance $\leq 80\text{m}$ (Open area/ no interference)

Radio Frequency 868MHz

Housing Material ABS plastic

Operation Condition

Temperature $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$

Relative Humidity $\leq 80\%$ (non-condensing)

Detector Dimensions (L x W x H) 101.5 x 59 x 37.5 mm

Bracket Dimensions (L x W x H) 60 x 29 x 27mm

Federal Communications Commission (FCC) Interference Statement

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 generate, 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 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.

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.