

PIR Motion Sensor IR-32 Series

Introduction

The PIR detects infrared signature to pick up movements within an assigned area and signals the Control Panel to activate the alarm if an intruder crosses its' path of detection.

The PIR is designed to give a typical detection range of 12 meters when mounted at a height of 2.5 meters above the ground. The PIR sensor also supports pet immunity feature and will not detect pets of up to 25 kg to minimize false alarm situation.

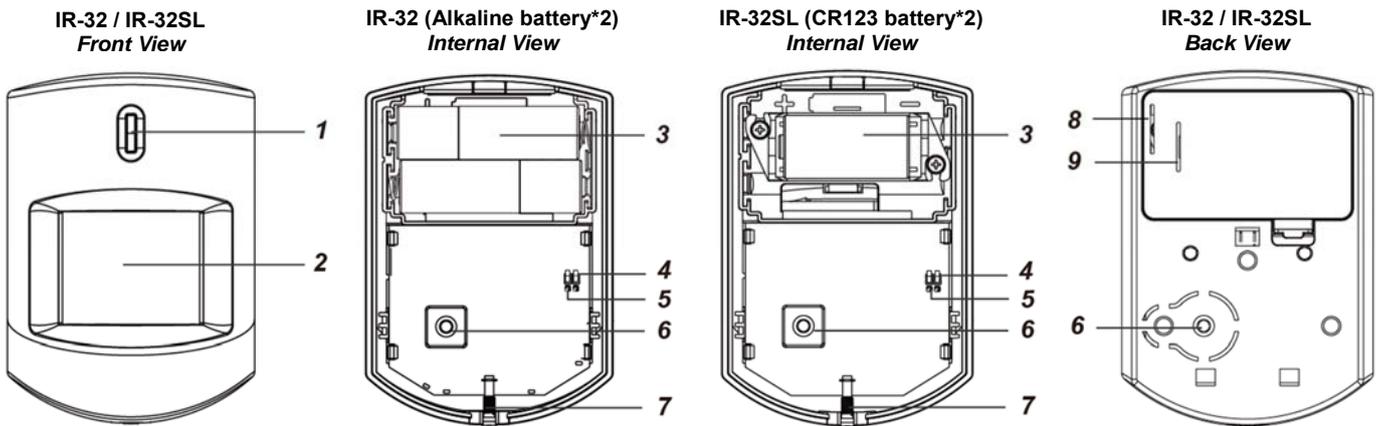
The PIR consists of a two-part design made up of a cover and a base. The cover contains all the electronics and optics and the base provides a means of fixing.

The IR-32 Series PIR Sensor includes the following models:

IR-32 – PIR Motion Detector powered by two alkaline batteries

IR-32SL – PIR Motion Detector powered by one CR123 battery

Parts Identification



1. Test Button / LED Indicator

- The test button is used for testing the radio performance and for learning purpose.
- The LED indicator is used to indicate the status of system.

2. IR Sensor

3. Battery Compartment

4. Sensitivity Increaser Jumper Switch (JP4)



Jumper On

The jumper link is inserted, connecting the two pins.



Jumper Off

The jumper link is removed or "parked" on one pin.

- When set as ON, the PIR's detection sensitivity is high.
- When set as OFF, the PIR's detection sensitivity is in normal level. (Factory default)

5. Pet Immunity Enable/Disable Jumper Switch (JP3)

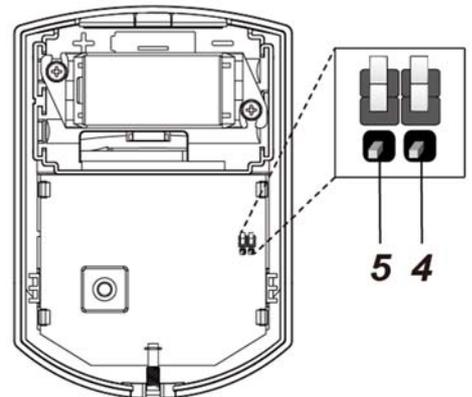
- When set as ON, Pet Immunity is disabled.
- When set as OFF, Pet Immunity is enabled. (Factory default)

6. Tamper Switch

7. Bottom Fixing Screw

8. IR-32 Battery Insulator Hole

9. IR-32SL Battery Insulator Hole



Features

● LED Indicator

In Normal operation mode, the LED Indicator will light up in the following situations:

- When movement is detected under low battery condition
- When the cover is opened and the tamper switch is triggered.
- When movement is detected if the Tamper condition persists.
- When movement is detected under Test mode
- When the Test Button is pressed under tamper condition or if PIR is low in battery.

The LED will not flash if the PIR tamper and battery are normal and PIR is not under test mode.

● **Battery**

IR-32 Series PIR Motion sensor uses alkaline or lithium batteries as its power source:

- The IR-32 model uses two alkaline AA 1.5 V batteries as its power source.
- The IR-32SL model uses one CR123 3V lithium battery as its power source.

The PIR features low battery detection function. If low battery voltage is detected, a low-battery signal will be sent to the Control Panel along with regular signal transmissions for the Control Panel to display the status accordingly.

For each installation, the batteries are installed in by the factory before shipment with an Insulator inserted.

<NOTE>

- ☞ When changing the batteries, after removing the old batteries, press the Tamper Switch twice to fully discharge before inserting new batteries.

● **Tamper Protection**

The PIR is protected by a tamper switch which is depressed when the PIR is properly installed. When the PIR is removed from the mounting surface or mounting bracket, or when its cover is opened, the tamper switch will be activated and the PIR will send a tamper open signal to the system control panel to remind the user of the condition. If movement is detected when the tamper switch is open, the LED will light up.

● **Supervision Function**

When the PIR is in Normal operation mode, it will conduct a self-test periodically by transmitting a supervisory signal once every 30 to 50 minutes.

If the Control Panel fails to receive the Supervisory signals transmitted from a certain PIR for a preset time, an “**Out-Of-Order**” fault message will be generated.

● **Test Mode**

The PIR can be put into Test mode by pressing the Test Button. In Test mode, it will disable the sleep timer and will enable the LED indicator to light up every time a movement is detected. Every time the Test Button is pressed, the PIR will transmit a test signal to the Control Panel for radio range test and enter the test mode for 3 mins. Test Mode will time out after 3 minutes.

● **Sleep Timer**

The PIR has a “**sleep time**” of approximately 1 minute to conserve power. After transmitting a detected movement, the PIR will not retransmit for 1 minute; any further movement detected during this sleep period will extend the sleep time by another minute. In this way continuous movement in front of a PIR will not unduly exhaust the battery.

● **Pet Immunity Function**

The PIR sensor supports pet immunity feature and will not detect pets of up to 25 kg to minimize false alarm situations.

The Pet Immunity function can be enabled/disabled by setting the Jumper Switch (JP3) position. When the Jumper Switch (JP3) is set to ON, Pet Immunity is disabled. When the Jumper Switch (JP3) is set to OFF, Pet Immunity is enabled (Factory default).

● **Sensitivity Increaser Function**

You can use the sensitivity increaser function to increase the PIR's detection sensitivity. To increase detection sensitivity, set the Jumper Switch (JP4) to ON. To maintain normal detection sensitivity, set the Jumper Switch (JP4) to OFF (Factory default).

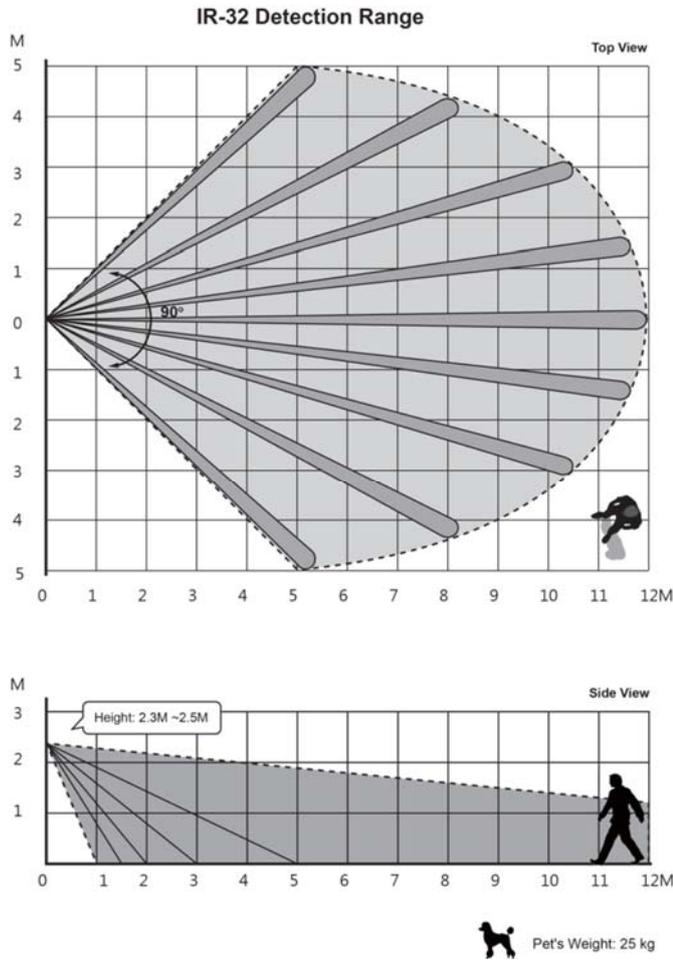
● **Getting Started**

- Pull out the battery insulator to activate batteries.
- The LED indicator will flash for 30 seconds. (The PIR is warming up). During the warm-up period, the PIR will not be activated. After the warm-up period is over, the LED will turn off and the PIR will be ready for operation.
- Put the Control Panel into learning mode (refer to the Control Panel's manual for details).
- Press the test button.
- Refer to the Control Panel's manual to complete the learn-in process.
- After the PIR is learnt-in, put the Control Panel into “**Walk Test**” mode; hold the PIR at the desired location, and press the Test button to confirm whether this location is within the signal range of the Control Panel (refer to the Control Panel's manual to complete Walk Test).
- When you are satisfied that the PIR works at the chosen location, you can proceed to mounting.

Installation

● **Installation Guideline**

- The PIR is designed to be mounted on either a flat surface or in a corner.
- The detection range is up to 12 meters if the PIR is mounted at a height of 2.3-2.5 meters above the ground.
- When Pet-Immunity function is enabled, the PIR will not detect pets up to 25kg when mounted at a height of 2.3-2.5 meters above the ground. If required, you can adjust the height of the PIR according to the size of your pet for optimal pet immune performance. Higher installation location will provide larger pet-immune space, but also increases the blind spot under the PIR.
- When the PIR is mounted with the rotating bracket, it will not have the regular detection area (as in the diagram), or the typical pet immune range.
- After the installation site is selected, press the Test Button to enter Test Mode. Walk around the protected area noting when the LED lights up and check whether the detection coverage is adequate.
- When the detection coverage is found to be satisfying, follow the steps described in **Mounting Method** section below to mount the PIR.



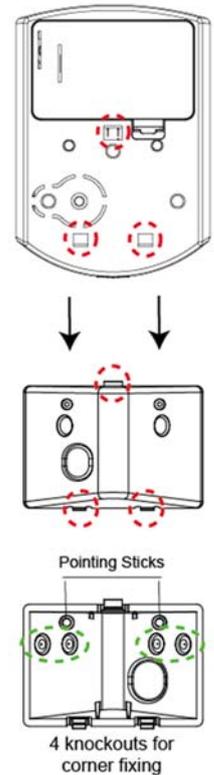
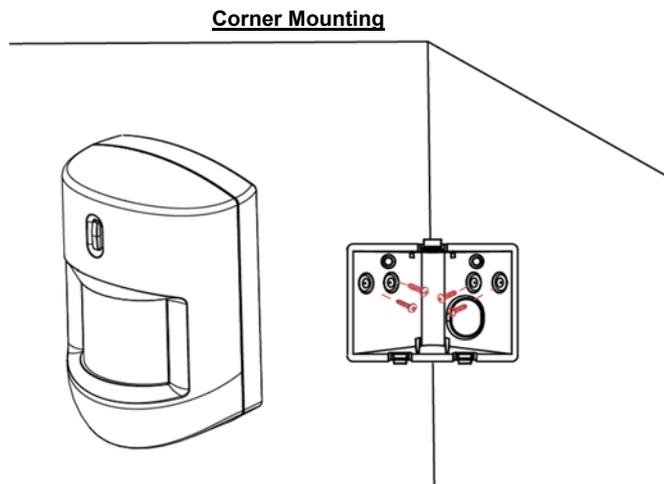
● **Mounting Method**

- The PIR is designed to be mounted either on a flat surface or in a corner.
- The base has three knockouts, where the plastic is thinner and can be broken, for surface mounting.
- For corner mounting, a triangular bracket is provided to add Back Tamper Protection. The bracket includes four knockouts to mount it on the wall.
- For surface mounting, an optional rotating bracket is provided for users to adjust the range of detection. With the rotating bracket, the IR-32 can be rotated 80 degrees horizontally and 70 degrees vertically to provide optimal coverage.

◆ **Corner Mounting with the triangular bracket:**

The triangular bracket can be mounted on the corner with the screws provided.

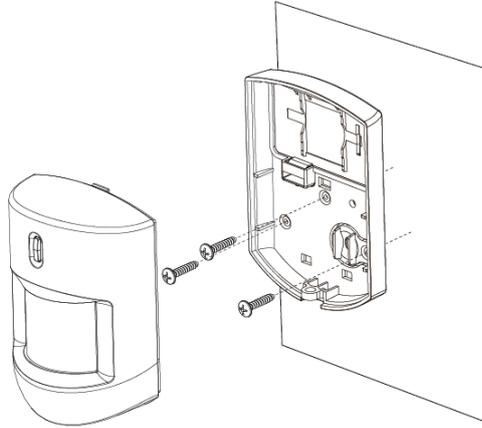
- 1) Break through the four knockouts on the triangular bracket.
- 2) Use the holes as a template and drill holes in the surface to be mounted.
- 3) Insert the wall plugs if the PIR is to be fixed onto plaster or bricks.
- 4) Screw the triangular bracket onto the wall plugs with the two pointing sticks on top and facing you.
- 5) Fit the PIR onto the hooks of the triangular bracket.



◆ **Surface Mounting:**

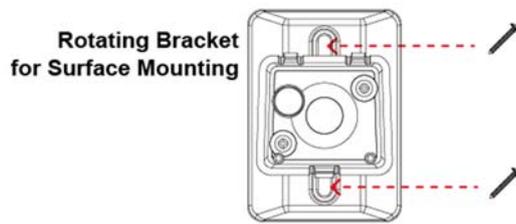
- The PIR can also be mounted on a flat surface with the fixing screws and wall plugs.
- The base has 3 knockouts, where the plastic is thinner and can be broken for mounting purpose.
- To mount the PIR directly on a flat surface:
 - 1) Unscrew the bottom fixing screw and detach the cover from IR-32.
 - 2) Break through the three knockouts from the inside of the base.
 - 3) Use the holes as a template and drill holes in the surface to be mounted.
 - 4) Insert the wall plugs if the PIR is to be fixed onto plaster or bricks.
 - 5) Screw the base onto the wall plugs.
 - 6) Screw the cover onto the base.

Surface Mounting

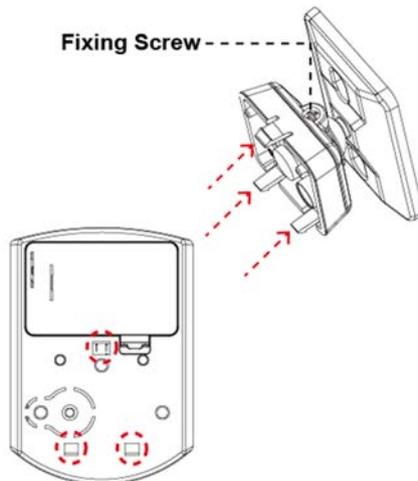


◆ **Surface mounting with rotating bracket (optional item, sold separately):**

- For surface mounting, an optional rotating bracket is provided for users to adjust the range of detection. With the rotating bracket, the IR-32 can be rotated 80 degrees horizontally and 70 degrees vertically to provide optimal coverage.
- The rotating bracket can be mounted on the wall with the screws provided.
 - 1) Screw the rotating bracket onto the wall.
 - 2) Fit the 3 hook holes on the base to the hooks of the rotating bracket accordingly.
 - 3) Rotate the bracket for the proper range of detection and tighten the fixing screw.



Fixing Screw

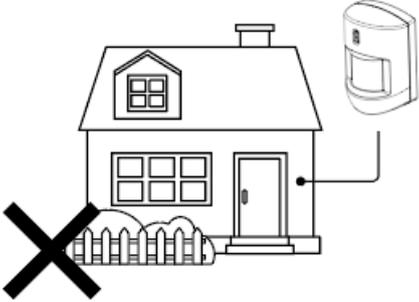
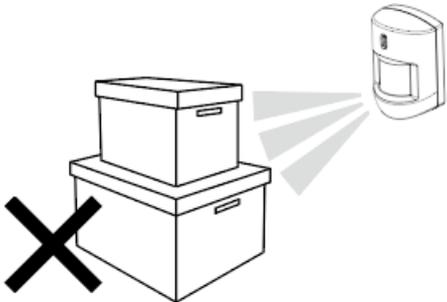
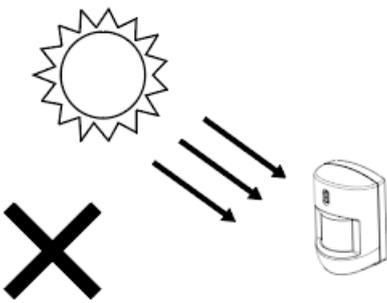
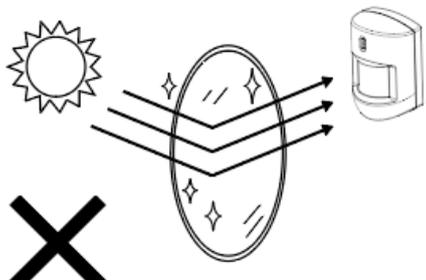
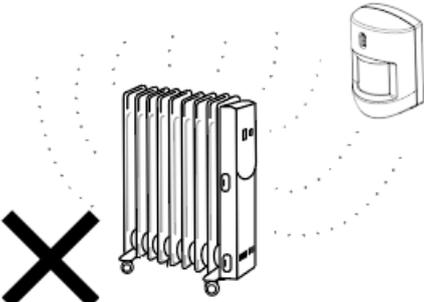
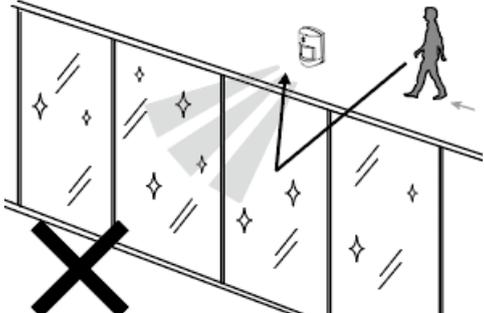


● Installation Recommendations

◆ It is recommended to install the PIR in the following locations:

- At a height of 2.3M-2.5M for best performance:
- At a position where the animals cannot come to the detection area by climbing on furniture or other objects.
- Don't aim the detector at stairways the animals can climb on.
- At a position such that an intruder would normally move across the PIR's field of view from side to side.
- In a corner to give the widest view.
- At a position where its field of view will not be obstructed e.g., by curtains, ornaments etc.

◆ Limitations

<ul style="list-style-type: none"> ● Do not install outdoors. 	<ul style="list-style-type: none"> ● Avoid large obstacles in the detection area. 
<ul style="list-style-type: none"> ● Do not expose the PIR completely to direct sunlight. 	<ul style="list-style-type: none"> ● Avoid vapor or high humidity that can cause condensation. 
<ul style="list-style-type: none"> ● Avoid moving objects, e.g., curtains, wall hangings etc., in the detection area. 	<ul style="list-style-type: none"> ● Avoid reflected light from bright surfaces, e.g. mirrors, windows, etc. 
<ul style="list-style-type: none"> ● Avoid installing the PIR in areas where machines such as air conditioners or heater may cause rapid change in temperature in the detection area. 	<ul style="list-style-type: none"> ● Avoid reflecting surface in the detection area. Reflected infrared signatures may lead to false alarm. 

Federal Communication Commission 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 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 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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.