POVS-1 Series

PIR Occupancy/Vacancy Sensor

Introduction

POVS-1 is a Passive Infrared Motion Sensor that can function as either a security sensor which activates alarm when triggered, or an occupancy/vacancy sensor which controls home automation or lighting functions via the Control Panel.

Optional models with extra temperature sensor, humidity, and/or ambient light sensor, can provide temperature, humidity/lux readings and transmit to the Control Panel at regular intervals.

The PIR includes following models, with optional ambient light sensor, temperature sensor, and humidity sensor functions.

| Model No.	PIR Sensor	Light Sensor	Temperature Sensor	Humidity
POVS-1-LT	O	O	O	X
POVS-1-L	O	O	X	X
POVS-1-T	O	X	O	X
POVS-1RhL	O	O	O	O
POVS-1	O	X	X	X

Parts Identification

1. IR Lens w/ LED Indicator

The LED Indicator is located at the center of the IR lens.
In Normal operation mode, the LED Indicator will flash in the following conditions:
- When movement is detected under low battery condition.
- When movement is detected under Test mode.
- When the Test Button is pressed under low battery condition.
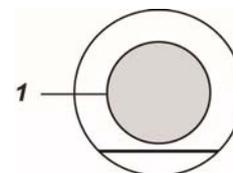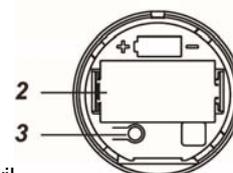
2. Battery Compartment

The PIR is powered by one CR123A 3V Lithium battery.

3. Test Button

The test button is used for testing the radio performance and for learning purpose.

4. Magnetic Base

The PIR is deployed on the magnetic base when installing. The magnet within PIR and the base wil remains attached to the base regardless of PIR location and angle.

Features

- ### *Occupancy/Vacancy Detection*

  When the PIR detects movement, it will transmit a trigger signal. The PIR then begins counting down the occupancy/vacancy timer. The timer length is adjustable from **30 seconds** to **60 minutes** via the Control Panel.
 During the timer, if the PIR detects movement, the timer will be reset.
  When the timer expires without any motion detection, the PIR will transmit a motion detection restore signal and return to normal operation.

- ### *Sensitivity Adjustment*

  The PIR sensitivity can be adjusted to meet different requirements as either security or occupancy/vacancy sensor. Up to 5 levels of sensitivity may be selected via the Control Panel.
  After the PIR is learned into the Control Panel, you can further set its Occupancy/Vacancy Timer & Sensitivity level from the Control Panel Webpage.
  1. Press and hold the Test button on the PIR for three seconds, the LED indicator will light up.
  2. Refer to your Control Panel operation manual to edit the device.
  3. Go to **Occupancy/Vacancy Timer & Sensitivity** and select a desired setting from the dropdown menu.
  4. Click **OK** to confirm. The Sensor's LED will turn bright and then dim to indicate successful operation.
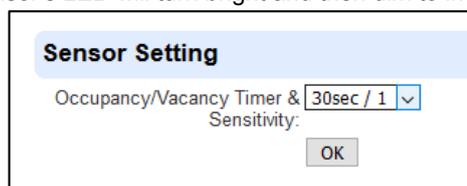
- ### *Battery and Low Battery Detection*

  The PIR uses one CR123A 3V Lithium battery as its power source. The PIR main body must be removed from base to access

battery compartment. The battery compartment has a strip which should be pressed under the battery when battery is inserted. When removing battery, simply lift the strip.

The PIR features Low Battery Detection function. When the battery voltage is low, the PIR will transmit Low Battery signal to the Control Panel. If movement is detected under Low Battery condition, the LED Indicator will flash to indicate.

If battery is not changed after Low Battery and is exhausted, the LED will flash every 2 seconds and the PIR will stop all operation.

When changing battery, after removing the old battery, press the Function Button twice to fully discharge before inserting new battery.

- *Supervision*

  The PIR will transmit a supervision signal along with the reading signal to report its condition regularly. The factory default interval is 30 minutes.

- *Test Mode*
  - Test mode is for you to check the PIR's detection range.
  - To enter Test mode, press the Test button once enter the Test mode for 3 minutes.
  - During Test Mode, you can trigger PIR sensor to check its detection coverage. If PIR is triggered, the LED will light up to indicate.

- *Temperature and Humidity Detection*
  - The sensor measures temperature and humidity to transmit measured data to the Control Panel regularly. The factory default interval is 30 minutes.
  - When the temperature changes by +/- 2°C, the PIR will transmit a signal.
  - When the humidity changes +/- 10%, the PIR will transmit a signal.
  - You can also press the Test Button once to transmit a temperature/humidity signal manually.

- *Light Monitoring*
  - PIR models with built-in ambient light sensor measures illuminance and transmits measured data to the Control Panel regularly. The factory default interval is 30 minutes.
  - When the current illuminance changes by +/- 10%, the PIR will also transmit a signal.
  - You can also press the Test Button once to transmit current lux reading manually.

Getting Started
  - Pull out the battery insulator to activate battery.
  - Put the Control Panel into learning mode; refer to Control Panel manual for details.
  - Press the test button on the PIR.
  - Refer to Control Panel manual to complete the learn-in process.
  - After the PIR is learnt-in, put the Control Panel into "Walk Test" mode, hold the PIR in the desired location, and press the Test button to confirm this location is within signal range of the Control Panel, refer to Control Panel manual to complete Walk Test.
   **When you are satisfied that the PIR works in the chosen location, you can proceed to mounting.**

Installation

- *Mounting Height and PIR Detection Coverage*
  - The PIR has detection coverage of a 120° cone to the front. When mounted at 1.2m to 2.1m height and facing forward, the PIR has maximum range of 10 meters.
  - The PIR direction can be changed by simply rotating the PIR on the base. After changing direction, make sure to test the detection function to confirm the new detection coverage.

- *Assembly*
  - The PIR is comprised of a front cover and a back cover. The back cover must be separated for battery installation and learn-in process.
  - To separate the back cover, hold the PIR in both hands and turn according to picture below to open the PIR.
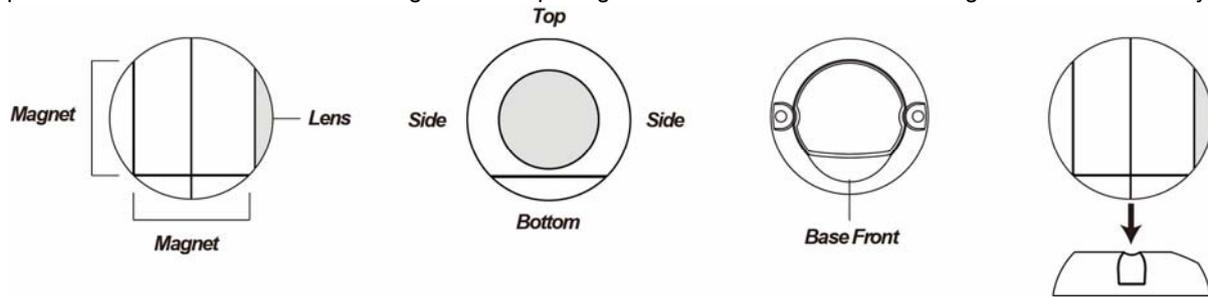

Lens
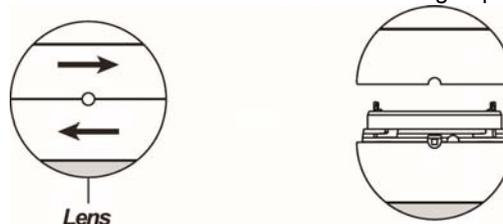
- *Installation*
  - The PIR main body has internal magnet at bottom and back, which attaches the main body to PIR magnet base when

placed on the base. The magnet locations are identified by the circle mark on the casing.
- The PIR's movement detection function is directional. It is more sensitive to movement from side, and less sensitive to vertical movement from top to bottom. Use the location of the bottom magnet as a reference to determine the horizontal and vertical direction of the PIR.
- The PIR base has 2 mounting holes used for installation on surface with fixing screws and plugs provided. The base also has magnet within. One side of the base has an opening to mark the front side of the base. The main body should be placed on the base with the lens facing the front opening to ensure PIR's detection coverage is not obstructed by the base.

1. Use the 2 mounting holes on PIR base as template, drill holes in the surface.
2. Insert the wall plugs if fixing it into plaster or brick.
3. Screw the base into the wall plugs.
4. Place the PIR on the base. The magnet within PIR and base will ensure the PIR stays attached to base.
5. Rotate the PIR to adjust detection coverage according to expected intruder movement path. Make sure the intruder would move across the PIR detection coverage from side to side.

● *Installation Guideline*

- **It is recommended to install the PIR in the following locations.**
  - In a position such that an intruder would normally move across the PIR's field of view from side to side, avoid installing where intruder moves across the detection coverage from PIR top to bottom.
  - Between 1.9 and 2m above ground for best performance when facing forward.
  - Where its field of view will not be obstructed e.g. by curtains, ornaments etc.
- **Limitations**
  - Do not install the PIR at location exposed direct sunlight, or close to heating/cooling appliance and vent
  - Do not point the PIR at heat source such as heater, radiator and window.
  - Do not point the PIR at window.
  - Avoid large obstacles in the detection area, and avoid moving objects such as curtain.
  - Avoid locations where pet may climb on and compromise pet immunity, such as stairway.

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.