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WBOX TECHNOLOGIES 0E-PIR433 433MHz Wireless PIR Motion Sensor User Guide

Contents

WBOX TECHNOLOGIES 0E-PIR433 433MHz Wireless PIR Motion Sensor

FEATURES

The 0E-PIR433 is state-of-the art motion sensor that directly converts the infrared detector signal into digital form, for best reliability and stability. Additionally, it provides "best-in-class" false alarm rejection with excellent intruder detection.

Sensor Initialization

Following power-on, the 0E-PIR433 Motion sensor is fully operational after a one-minute warm-up.

Walk Test Note:

The sensor should be tested once per year. The LED should turn ON (for Alarm) after about two to four normal steps. Each time the LED turns ON, wait for it to turn OFF. Then, wait 12 seconds before continuing the walk test. When there is no motion in the monitored area, the LED should remain OFF. It can be turned off after 5 mins, so it doesn't continue to consume power.

Alarm Processing

Dual-element detector fields-of-view alternate between (+) and (-) polarity. HighBar™ – qualified signal events are counted as "pulses" exclusively when polarity alternates. Depending on sensitivity setting, (+,-), (-,+), (+,-,+) or (-,+,-) will cause an alarm.

Pet Immunity

The sensor is designed to allow the presence of pets (60 lbs or lighter) without signaling an alarm. It includes a special microelement lens array that produces much stronger optical signals for humans than for pets 60 lbs or lighter. Furthermore, the optical sensitivity of each sensor is factory-calibrated to ensure accurate discrimination between humans and pets.

Note: Pets come in many varieties. Some pets (especially larger ones with very short hair, even if lighter than 60 lbs) may produce enough infrared radiation to cause alarms. 0E-PIR433 users are strongly advised to test the

sensor with their own pets, in order to verify that the sensor will not signal an alarm when their pets are moving within its fields of view. This diagram shows the 0E-PIR433 zones of greatest human/pet discrimination. The 0E-PIR433 should be mounted so that pets will occupy
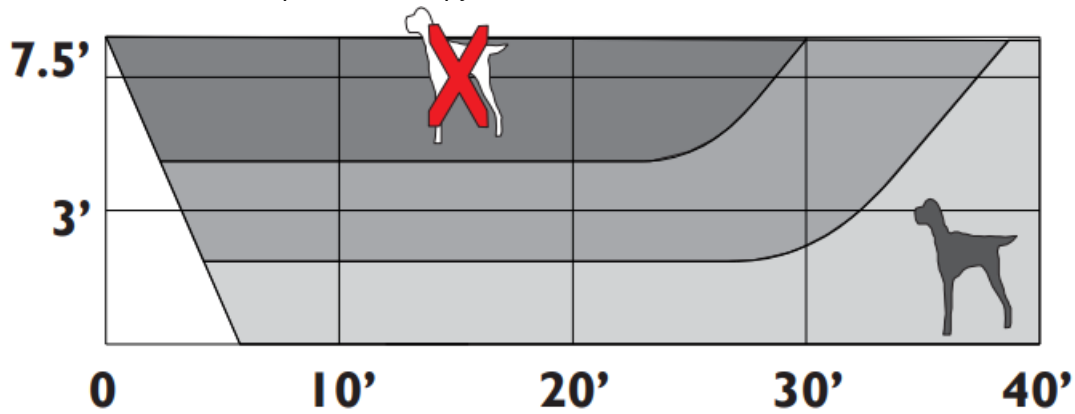
Sensor Optical View Pattern (side view, in feet)
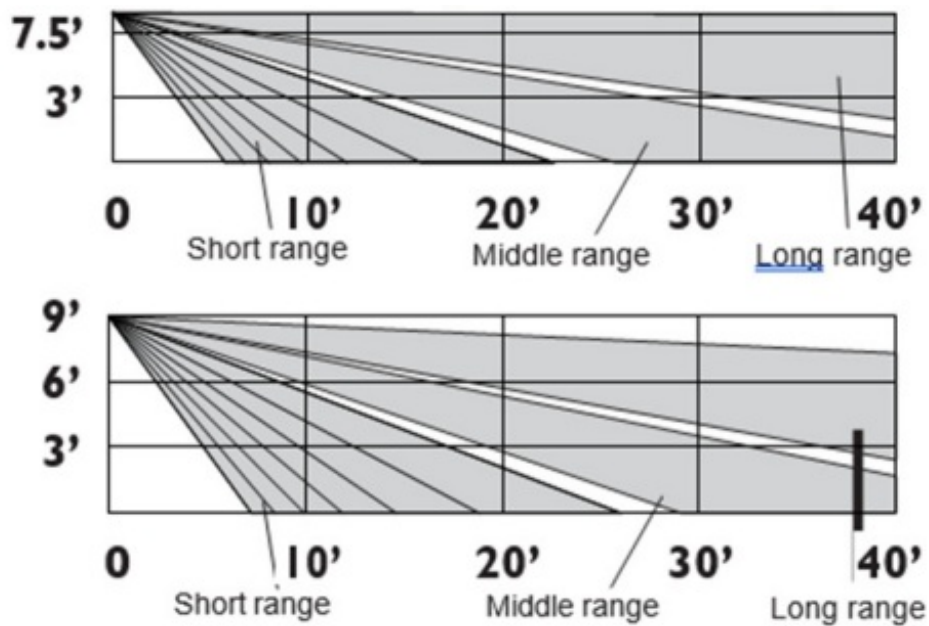
Sensor Optical View Pattern: (top view, in feet)

One FOV (field of view)

room_layout-001-V0
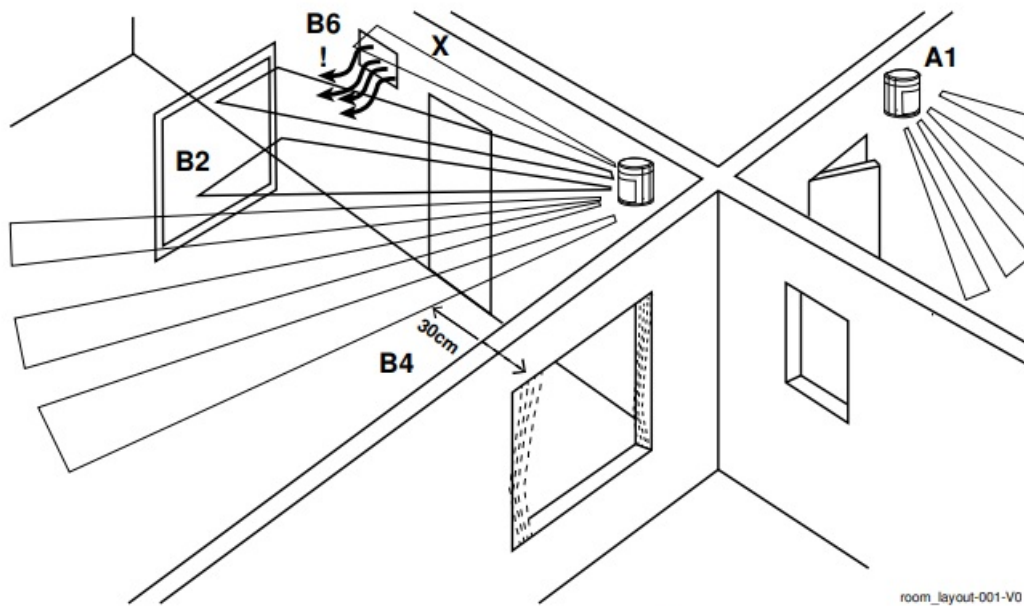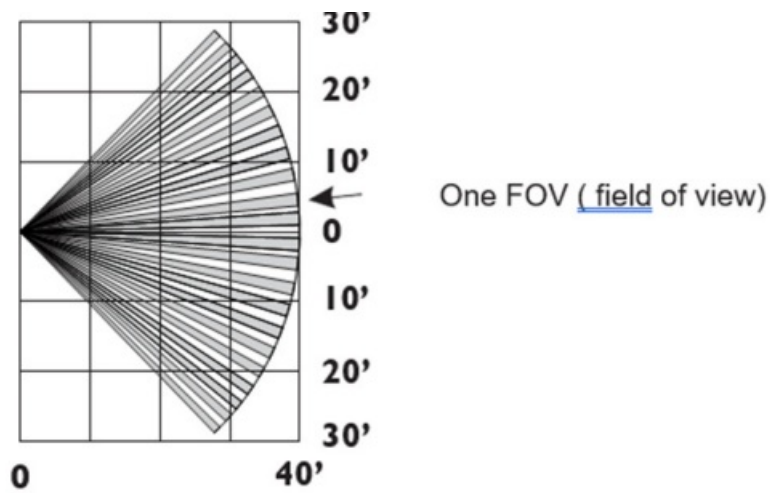
Installation Instructions

- **Mounting Location**
  - Wall Mounting
  - Sensor base installed flat on vertical wall (+/- 2 degrees)
- **All Mounting**
  - Height = 7.5′ or 10′ above floor of monitored area
  - Clear line-of-sight from sensor to monitored area
  - Note: Glass will block the sensor's view.
  - Wall temperature similar to walls/floor of monitored area
  - Sensor aimed away from windows and reflected sunlight
  - Sensor aimed away from heaters or heater/cooler outlets
  - Sensor aimed away so that it covers likely intruder paths
- **Sensor Disassembly**
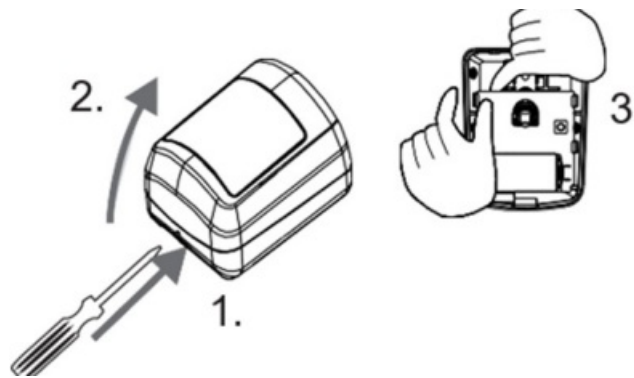
- Insert a screwdriver or thumbnail in the slot at the bottom of sensor
- to push inward on cover latch. Remove cover
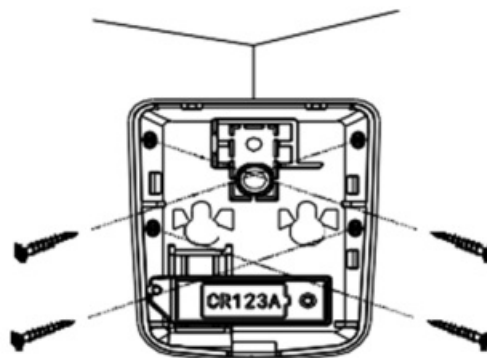- At the right side of the sensor base
- , push outward on circuit board latch. Using the circuit board battery holder as handle, gently lift circuit board right side and remove.

- **Base Hole Preparation**

- Identify necessary holes on diagram;
- For wall mounting, knock out hole covers.
- For corner or 45 degree wall mounting, use a drill to open at least two holes at base side depressions.

- **Wall Mounting**
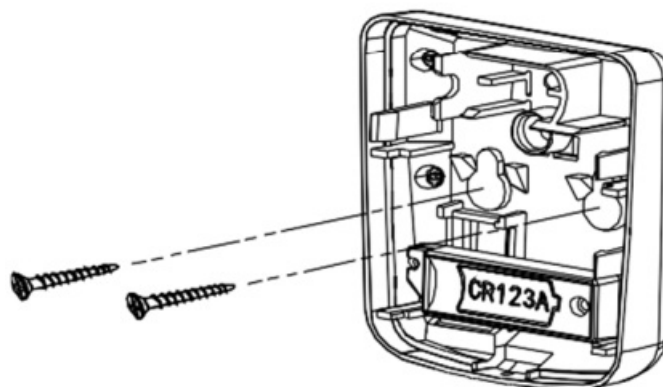
- Use screws to mount on wall or in a corner.

- **Strips Installation**

- Install the three adhesive strips (3M).

- **Circuit Board and Battery Installation**
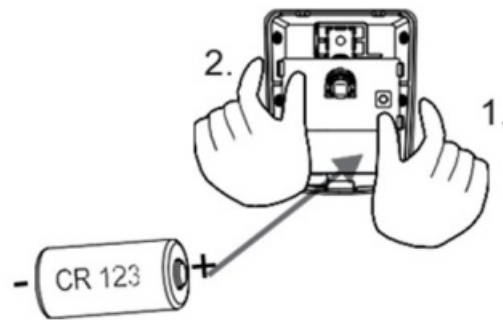
- To replace circuit board:
- Insert circuit board right edge into two lefthand mounting slots in sensor base.
- On right-hand side, gently press circuit board into place until latch snaps over circuit board.
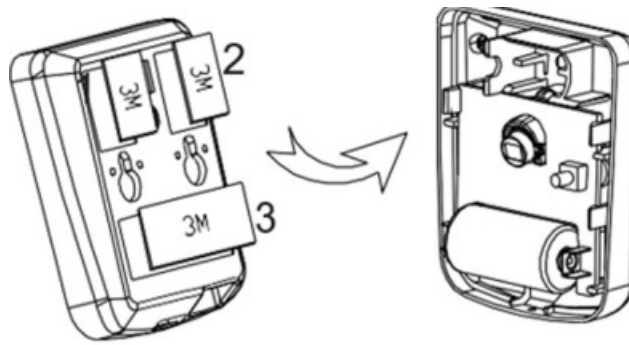- Insert the CR123 battery in the battery holder.
- Be sure that the (+) is in the correct position.

- **Operation Programming**

- Use High-Sensitivity if there is a way for intruders to pass only a very short distance in the sensor's view, or if aggressive detection is required. Otherwise, normal sensitivity is fine for ordinary applications. Factory-set positions are shown below in gray. NOTE: LED turn on is for test only. Continual LED use will shorten battery life.

OE-PIR433 Motion			
		1-3	2-1
Sensitivity	J4	Normal	High
Frequency	S3	ON	OFF
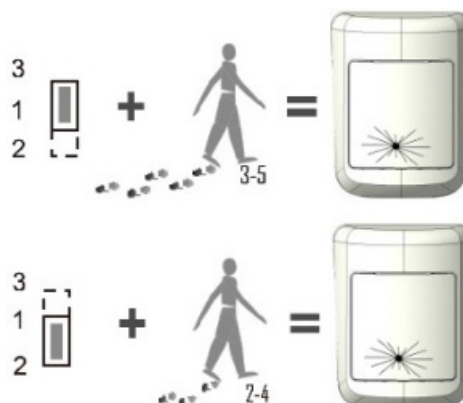
- **Motion Distance Sensitivity**

- Set J4 (Sensitivity setting) according to need. Normal sensitivity – detection occurs in 3 to 5 steps. High sensitivity – detection occurs in 2 to 4 steps.
- **Operation Programming**
  - The table below provides possible LED indications.

0E-PIR433 Motion	
Sensor State	**LED Display**
Warm-up	OFF
Alarm	ON (2 seconds)
Normal	OFF

SPECIFICATION

IR Sensor: .... Dual Elements
Optical Fields-of-View .... Long-Range 44', Mid-Range 36', Short-Range 18'
Events Detection: .... High Bar™ false alarm rejection processor
Sensitivity: ....Selectable: 2-event or 3-eventPower Supply
Range:... 40' in sensor-facing direction, 40' at 45° angle from sensor-facing direction
Power Supply: .... CR123A 3V Battery
Power Supply Current: ....22uA (no alarm)
RF Immunity:.. 20 V/m, 10-1,000MHz. 1 V/m, 1-2
White Light Immunity:...6,500 lux
Tamper Switch: ....Sealed dome-contact
Operating Temperature:..-40˚C to +50˚C
Pet Immunity: 60lb
Housing Material: .... High-impact ABS
Dimensions: ....2.9" x 2.4" x 1.7" (H x W x D

FEDERAL COMMUNICATIONS COMMISSION STATEMENTS

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment

CAUTION

This device complies with Part 15 of the FCC rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
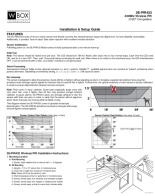
- this device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment. This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. 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 or more 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.

Documents / Resources

[WBOX TECHNOLOGIES 0E-PIR433 433MHz Wireless PIR Motion Sensor](#) [pdf] User Guide
0E-PIR433, 0EPIR433, 2AD9X0E-PIR433, 2AD9X0EPIR433, 433MHz Wireless PIR Motion Sensor, 0E-PIR433 433MHz Wireless PIR Motion Sensor

References

- [ADI Global Distribution](#)