ENERGY EYE™
Control Your Resources

Energy Eye™ IR-05
Advanced Wireless RF PIR Motion Sensor

Installation & Operations Manual

For Use With:
EE-IR-05 Ceiling Mounted Wireless PIR Sensor
12/2006

ENERGY STAR PARTNER

1.0 IMPORTANT – PLEASE READ THIS SECTION FIRST

Please read through the important information below before getting started with the IR-05 WIRELESS CEILING MOUNTED PIR MOTION SENSOR

- Carefully follow the instructions in this manual when installing, setting up and programming the IR-05 SENSOR. Failure to follow these directions and recommendations may result in voiding your Limited Warranty
- Take special notice of any specified notes, bullet points, and so on throughout this manual
- **Please take the following precautionary measures while handling, using and installing the IR-05 SENSOR:**

    1. Keep the SENSOR away from water or damp areas.
    2. Do not install the SENSOR in direct sunlight or near extreme heat.
    3. Do not install the SENSOR near strong electrical current or magnetic force.
    4. Avoid dropping the SENSOR or placing it in an area with strong vibration.
    5. Do not disassemble the product – Doing so will void the Limited Warranty.
    6. USE ONLY APPROVED BATTERIES
    7. The SENSOR should be installed by qualified personnel only.
    8. The Energy Eye™ receiver and sensors contain sensitive electronic components, DO NOT attempt to repair or clean with chemicals or abrasives.
    9. Never remove components from their original packaging until you are ready for installation. Doing so may cause damage that will VOID your Limited Warranty.
    10. Be careful with any tools near or around your working/installation environment.

NOTE: The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss, whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.

1.1 Required Tools

- Philips Screwdrivers (various sizes)
- Flat head Screwdriver (small)
- Special Concrete Screws (Necessary ONLY for Mounting on a Concrete Surface)
- Tall ladder

NOTE: Additional tools might be required depending on property construction type, local environment, accessibility etc...

1.2 Introduction

The Energy Eye IR-05 Wireless Ceiling Mounted PIR sensor has been created using a proprietary design to appease the most discerning hotel operations. This Ceiling mounted motion sensor features a wide coverage detection pattern to make sure that guests are accurately detected within the room, even while in bed.

The special design has been created to replicate the standard smoke detector found in hotel guestrooms. This design helps keep the Energy Management operation discreet and reduces the incidence for guests discomfort or the possibility of confusing the motion detector with a camera device.

This sensor has been designed with the same proprietary radio coding that is found in other high quality Energy Eye wireless components and will not interfere with other sensors or wireless devices within the guestroom. The sensor is designed solely for use with the Energy Eye Controllers (EERX/EERXS) and does not function with any other wireless components or security systems.

1.3 General Specifications

RF Transmitter	315 MHz
Voltage Input	4.4V ~ 6V
Current Draw (Sleep Mode)	115uA
Current (Transmit)	6mA
Transmission Range	30 Feet ~ 100 Feet
Transmission Encoding	Internal IC w/ 4 Billio Combinations
Battery Specifications	(2) X LiMn02 CR123/ 1400mAH
Recommended Batteries	Sanyo/Panasonic/En rgizer
Calculated Battery Life	1 year @ 60 Tx/Hou
Dimensions (Diameter X Height)	10.5 cm x 5 cm
Certifications	FCC Part 15B, Indus ry Canada RSS

2.0 Installation – Determine Proper Location for Wireless PIR Sensor

Always follow these guidelines before mounting the PIR

- The sensor should be centered over the beds on the ceiling of the main sleeping area if possible.

- If you were to draw an imaginary line straight down from the center of the sensor to the floor, the edge of the bed should not be more than four feet from this line.

- PIR should never be more than 6 feet away from the bed

- Avoid locating the detector facing a window or where it is exposed to or facing sunlight.

- Avoid locating the detector in areas which contain objects likely to produce a rapid change in temperature, such as central heating, ventilator, radiator. Boiler, ducts etc.

- Avoid locating the detector in a position where it is subject to excessive vibration.

- Make sure the detection area is not obstructed by curtains, large furniture, ceiling fans or plants which etc which may block the pattern of coverage.

- Avoid installing 2 PIR detectors in one room protecting the same area.

- Like all Energy Eye wireless components, PIR should be less than 30 feet (10 meters) from Controller Unit.

- Optimal PIR detection range coverage: 16 feet wide, 10 feet high.

- PIR cannot be exposed to steam (example: do not install unit in bathrooms).

- When the battery is first connected to the PIR a 2~3 minutes period must be allowed for "Warming up."

- It is recommended that the PIR DOES NOT include the main entrance in its coverage pattern but in a position that still allows for it to detect movement as the occupant enters the room. It is important that the PIR is mounted so that it will ONLY see the movement of the occupant AFTER the entry door has been CLOSED.

- The IR sensor includes a special function to preserve battery life. Therefore, it is not expected to send an occupancy signal to the Controller unless it has NOT SEEN ANY MOVEMENT for AT LEAST 10 seconds.

- Avoid locating the sensor directly next to the rooms smoke detector so that it does not confuse the guest as to why two smoke detectors are mounted in the same proximity.

With the guidelines in mind you should be able to determine the optimal mounting location. Please refer to the images below as an example. Once you have determined the optimal location you can move on to section 5.1 MOUNTING WIRELESS PIR SENSOR.
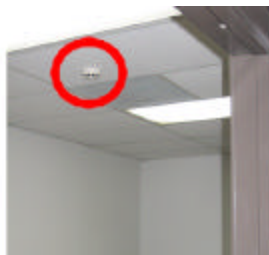
2.1 Installation – Mounting Wireless PIR Sensor

Use the supplied Mounting kit to mount the sensor according to the guidelines listed in Section 2.0 of this User Manual.

1. Remove PIR sensor from its original packaging or container. Use the supplied anchors and screws mount the base plate to the ceiling. If the ceiling is made from Concrete it may be necessary to use a specialized drill or tool.

2. You should always try to anchor the two (2) mounting screws into the ceiling to ensure that the sensor is securely mounted and will not fall. A falling sensor could damage the sensor or create a potential hazard for the room occupants. Energy Eye will not Warranty a sensor that has been damaged due to improper mounting and the resulting damage.

3. Once the plate is mounted to the ceiling and ready for sensor installation it will be necessary to insert the batteries and "learn" the sensor into the Controller (EERX/EERXS).

4. Please refer to Section 6.0 – *Installation Step 6* – Programming Wireless Sensors on page 34 in your Energy Eye Installation and Operations Manual in order to learn how to program the PIR sensor into the Controller (EERX/EERXS)

5. Once you arrive to section 2.2 "Programming the PIR Sensor" (Example) please refer to the following instructions instead of those printed in the manual:

2.2 Programming the Passive Infrared (PIR) sensor (EXAMPLE)

1. Depress and hold the LEARN button while pressing the S4 TACT button THREE (3) TIMES, then release. You will notice the RED LED above position S4 flashing very slowly.

2. The Controller is now "looking" for the PIR sensor. Test your CR123A Camera battery with a voltmeter or battery tester before installing to ensure that it has >3V power. Although every effort is made to ensure the highest quality batteries they can short or lose power during storage and transportation. *ANY BATTERY SHOWING LESS THAN 3V SHOULD BE DISCARDED AND REPLACED WITH A NEW PART.*

3. Go to the PIR sensor and remove the back plate. The back plate can be removed using your fingernail or a small flat head screwdriver. You will notice three (3) security prongs that hold the back plate in place, push this inward and remove the plate.
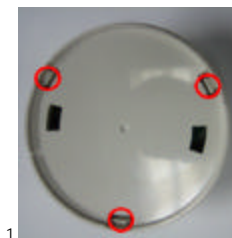
1.

2.

3.

4. Insert the first CR123A camera type battery provided with your system into the battery cradle. Then insert the second CR123A battery into its cradle.

5. The sensor will have sent a "learning in" signal upon first power up and should now be programmed into position S4.

6. If you have difficulty with this method you may alternatively depress the small round BLACK button inside the sensor. This will "force" a learning signal only.

7. Verify that the sensor is learned into place as indicated by a SOLID RED LED over position S4 on the Controller.

8. Once the sensor has been learned in you will need to test the signal transmission. Please skip to section 6.4 TESTING YOUR SENSORS on page 40 of your Energy Eye Installation and Operations Manual. PLEASE IGNORE POINTS 8 and 9 as they do not apply to the EE-IR-05 Sensor.

9. After the sensor has been learned in, and the signal transmission has been verified you the jumpers located inside the PIR MUST be programmed. By altering the jumper settings you will change the LED flashing patterns which greatly affects battery life. During jumper programming always ignore the 7 prongs on the far edge of the sensor.

    a. ECONOMICAL SETTING – This setting turns OFF all LED activity on the PIR. This setting will yield the longest battery life for the sensor. REMOVE THE JUMPER MARKED "P3" and make sure the 3 pronged jumper marked "P2" next to it is in the lower position (see following picture).

b.   SMOKE DETECTOR SETTING – This setting turns OFF LED activity for movement and transmission indication (YELLOW LED = MOVEMENT, GREEN LED = TRANMISSION), however FLASHES THE RED LED EVERY 85 SECONDS mimicking the indicator common to smoke detectors. This will most closely resemble the action of a typical guestroom smoke detector. To activate this setting leave jumper "P3" in place and make sure jumper "P2" is in the lower position (see following picture).

c.   LED INDICATION ("TEST") SETTING – This setting allows the LED's to indicate movement and transmission. This is most commonly used for test purposes (YELLOW LED = MOVEMENT, GREEN LED = TRANMISSION). To activate this setting leave jumper position "P3" in place and make sure jumper "P2" is in the upper position (see following picture).

10. Once the sensor has been learned in and the proper jumper settings have been selected it will be necessary to attach the sensor to the base plate which you should have already mounted to the ceiling. Simply line up the two mounting points and turn counter clockwise to mount the sensor (see following picture).

11. The sensor is now ready for use! Proceed to Section 7.0 *Installation Step 7 – Testing and Operation* on page 42 of the Energy Eye Installation and Operations Manual to complete the installation of your Energy Eye System.

Contact Information for Energy Eye™ :

Energy Eye, Inc.
9833 Pacific Heights Blvd.
Suite H
San Diego, CA 92121 USA

Toll Free. 1 866 463 3135
Ph.   01 858 202 0001
Fax.   01 858 202 0008
Web.   www.energy-eye.com
Email: info@energy-eye.com

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