GE Interlogix

ITI® SAW PIR and Pet Immune SAW PIR Motion Sensors with 1.5 Volt Lithium Batteries

Installation Instructions

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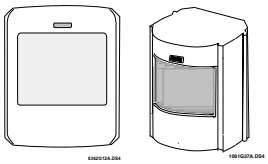
Product Summary



Model No. 60-639-02-95R
60-807-02-95R

A motion sensor (passive-infrared or PIR) detects movement within a specific area by sensing the infrared energy emitted from a body as it moves across the sensor's field of view. When this motion is detected, the sensor transmits an alarm signal to the control panel.

Use these motion sensors to protect locations where door/window sensors are impractical or not needed. For example, use a motion sensor to protect large areas or open floor plans. Motion sensors also provide backup protection for door/window sensors.

The Pet Immune SAW PIR utilizes advanced signal processing, a new custom designed lens, and a new custom designed sensing element. The combination of these improvements provides false alarm immunity for pets with a combined weight of up to 40 pounds while still providing superior human catch performance.

These wireless motion sensors include the following features:

Note *Use only AA 1.5 Volt Lithium Iron Disulfide batteries (part # 60-931) with this product. Do not substitute any other brand/type of batteries.*

- 35 feet by 40 feet coverage area.
- Masking kit provided to block portions of the coverage area (60-639-02-95R).
- Three minute transmitter lockout time after an alarm that helps extend battery life.
- Cover-activated tamper (optional wall-activated tamper is included).
- Supervisory signals transmitted every 64 minutes to the control panel.
- Sensor low battery reports (trouble) to the control panel.
- Field-selectable sensitivity options (60-639-02-95R).

Installation Guidelines

Use the following guidelines for installing motion sensors.

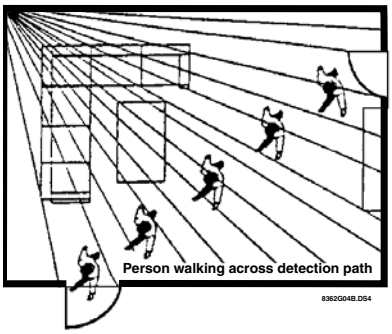


Figure 1. Overhead Detection Path

- If possible, locate sensors within 100 feet of the panel. While a transmitter may have a range of 500 feet or more out in the open, the environment at the installation site can have a significant effect on transmitter range. Sometimes a change in sensor location can help overcome adverse wireless conditions.
- The recommended mounting height is 7 1/2 feet, but the sensor can be mounted from 5 to 8 feet high in the corner of the area you want to protect. See the animal alley lens guidelines for mounting the optional animal alley lens (60-639-02-95R only). Higher mounting provides better range (up to 35 feet), and lower mounting provides better protection close to the motion sensor (see Figures 2 and 3). The optional swivel mount (part #60-737) can be used for difficult mounting locations with the SAW PIR (60-639-02-95R) only.
- Position the sensor to protect an area where an intruder would be most likely to walk *across* the detection pattern (see Figure 1).
- Mount the motion sensor on a rigid surface which is free from vibrations.
- The pet must not be allowed to climb on objects such as furniture, boxes, etc. within the field of coverage. See Figure 2 to determine the sensor's field of coverage.

- Do not aim the sensor at windows, fireplaces, air conditioners, area heaters, forced air heating vents, or place it in direct sunlight. Sudden changes in temperature may trigger a false alarm from these devices.
- Do not mount the sensor near duct work or other large metallic surfaces which may affect the RF signals (see RF Testing). Actual acceptable transmitter range should be verified for each installation.
- Mount the sensor permanently on a flat wall or in a corner. Do not set it on a shelf.
- Windows should be closed in any area which has an armed motion sensor.
- A pet will trigger a (60-639-02-95R) motion sensor. See animal alley lens guidelines to use a motion sensor when pets are present, or use the Pet Immune PIR (60-807-02-95R).

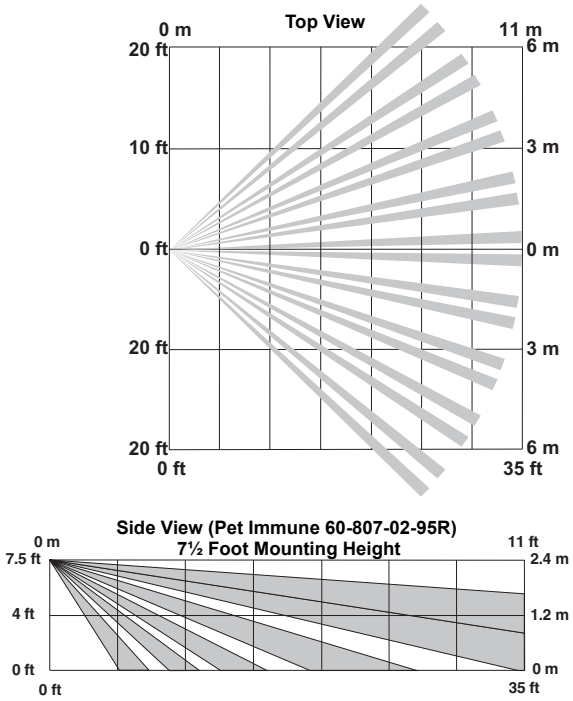


Figure 2. The top and side view of the lens coverage area for the motion sensor's standard and animal alley lens.

- Mount the motion sensor on an insulated, outside wall facing in.
- The sensor (60-807-01-95R) must be incline-mounted on a wall surface or incline mounted in a corner at a mounting height of 7.5 feet. (see Figure 5).
- The sensitivity switch must be set to Standard (60-807-01-95R).
- Room temperature must be kept between 60° and 120° F.
- Position the sensor so it faces a solid reference point, like a wall.

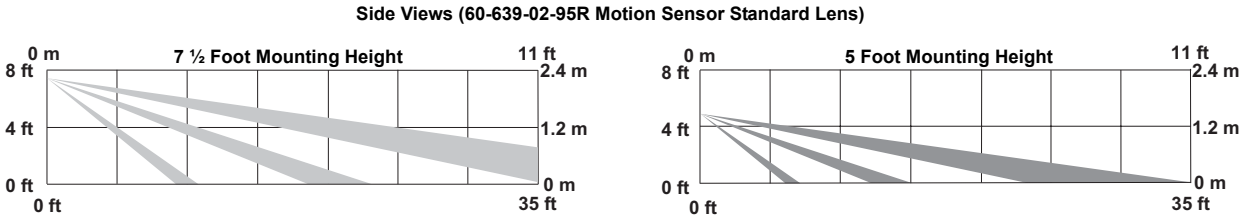


Figure 3. Side view shows the differences in the coverage area when using the motion sensor's standard lens mounted at different heights.

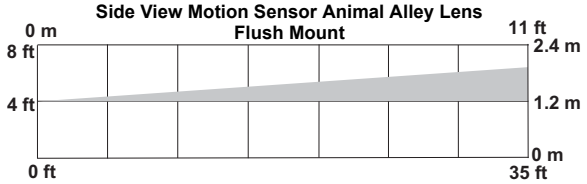


Figure 4. Shows the side view of the motion sensor's animal alley lens when the flush-mount position is used.

Mounting

The sensor can be flush-mounted, incline-mounted, or corner-mounted depending on the lens used (see Figure 5). Also, the optional swivel mount (ITI #60-737) can be used for difficult mounting locations for the SAW PIR (60-639-02-95R).

➢ **To mount the sensor:**

1. Remove the mounting plate by depressing the button on the top of the sensor body. With the opposite hand pull the mounting plate away from the body of the sensor.
2. Punch out the mounting holes that best fit your application. See Figure 5 for wall mount options. See also Figure 6 to determine which knockouts to use when mounting the motion sensor. Use the lower-side holes for corner mounting, or the lower-back holes for surface mounting with the standard lens.
3. For applications with pets, use the upper mounting holes and the optional animal alley lens, or the lower holes for the Pet Immune PIR.
4. If you desire wall-tamper functionality, remove the wall-tamper knockout (see Figure 6).

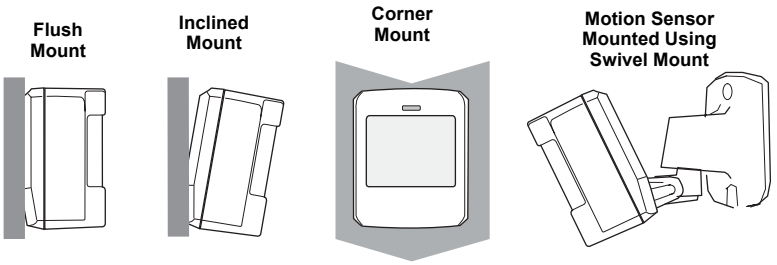


Figure 5. Wall Mount Options: Use the inclined position for surface or corner mounting with the standard lens. Use the flush position for surface or corner mounting with the animal alley lens. The optional swivel mount installation is also shown.

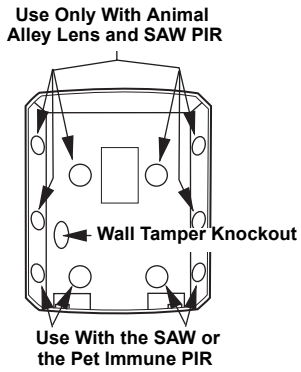


Figure 6. PIR Mounting Plate Knockouts

5. Mark the location of the required holes on the mounting surface.
6. Use wall anchors and screws to secure into place. Attach the sensor to the mounting plate.
7. When testing is completed the PIR can be securely attached to its mounting plate by screwing the smallest enclosed screw into the hole at the top of the mounting plate.

Lens Replacement

1. To change the lens, first remove the sensor from its mounting plate by depressing the button on the top of the sensor.
2. Remove the cover by depressing the two tabs on the top and the one tab on the bottom of the sensor body and sliding the cover off (see Figure 7).
3. Remove the installed lens by gently placing pressure on the lens from the outside of the lens.
4. Replace with the appropriate lens by aligning its notches with the appropriate tabs in the cover.
5. Install the new lens with the smooth side facing out and the grooved side facing in.
6. Replace the cover and then replace the sensor in its mounting plate.

Animal Alley Lens Guidelines

The optional animal alley lens (part #60-709) can be used with the SAW PIR (60-639-02-95R). It provides protection in installations where pets move about freely. See figures 2 and 4 for coverage.

- Allowed mounting height is between 3 and 5 feet.
- Be sure to use the flush-mount position or the corner mount position with the back of the PIR parallel to the walls. Do not use the inclined mount position since this would tilt the PIR's field of view downward.
- Position the sensor to have a clear line of sight across the protected room.

- For best results, install the sensor higher than the highest point that the pet might reach in the detection area.
- If the detection area contains furniture or other objects upon which the pet could climb or jump, either remove these objects, mount the PIR a safe distance above these objects, or mask these areas.

Setting the Sensitivity

Note If the shorting jumper is not used or is placed incorrectly, the sensor defaults to standard sensitivity.

The PIR is set to standard sensitivity at the factory. This sensitivity is preferred for most applications and provides the best immunity to false alarms.

For pet applications, the PIR must be set to standard sensitivity.

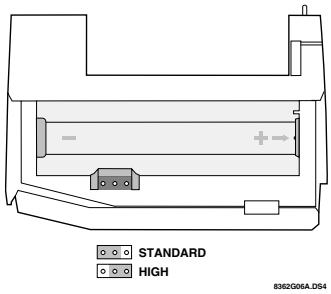


Figure 7. Sensitivity Pins Locations

Caution *High sensitivity should only be used in extremely quiet environments where thermal transients are not expected.*

1. Locate the sensitivity pins by first removing the mounting plate and the sensor cover as described in steps 1 and 2 of Lens Replacement process.
2. Locate the sensitivity pins under the battery on the right side of the PIR when looking at the front of the PIR.
3. To change to high sensitivity move the shorting jumper to the pair of pins that are closer to the top of the PIR (see Figure 7).
4. Walk test the PIR to verify the sensitivity.

Testing

Walk Testing

Caution *Excessive use of the walk test mode may reduce battery life. Use only for initial setup and maintenance testing.*

Walk testing should be done to determine the sensor's actual coverage area. The edge of the coverage pattern is determined by the first flash of the LED. This may change slightly depending upon the sensitivity setting. Walk test the unit from both directions to determine the pattern boundaries.

1. Remove the sensor body from the mounted mounting plate, activate the tamper switch, and then remount the body to activate the 60 second walk test mode.
2. Walk across the coverage pattern to determine the coverage area, indicated by LED activation. Each activation extends the walk test mode for an additional 60 seconds.

After 60 seconds without motion the walk test mode and the LED will no longer activate when motion is detected.

Note When the walk test mode has ended, an alarm can be transmitted only after 3 minutes have passed since the previous alarm. This 3 minute lockout time reduces unnecessary RF transmissions in high traffic areas thereby extending battery life.

Environment Testing

Turn on all heating or air conditioning sources which would normally be active during the protection period. Stand away from the sensor and outside the coverage pattern and watch for alarms. When testing the Pet Immune PIR also verify the pet(s) allowed in the coverage pattern do not trip the PIR.

Coverage Masking

After walk testing and environment testing are completed, masking labels can be applied to the sensor's lens to block detection of problem areas. The masking labels provided are cut to match the corresponding lens segments.

1. Determine which detection zone/lens segment needs a masking label.
2. Peel the desired mask label from its backing and apply to the inside of the lens segment to be blocked.

Programming

Refer to the panel installation instructions for information on programming the sensor into the panel.

➢ **To trip the sensor:**

1. Remove the PIR from its mounting plate activating the tamper switch.
2. Exit the panel's programming mode.
3. Return the PIR to its mounting plate.

Final Testing

Final testing should be done to verify radio signal integrity and confirm control panel programming and response. The actual transmitter range can be determined by performing a sensor test as follows:

1. After the sensor has been mounted, remove it from its mounting plate and activate the tamper switch to start the walk test mode.
2. Replace the sensor in its mounting plate.
3. Place the control panel in test mode. Move across the detection pattern until the sensor's LED turns on. STOP your motion.
4. Listen for the appropriate system response. If the system does not respond, proceed to the "Troubleshooting" section.

Maintenance

At least once a year, the range and coverage should be verified for proper operation. The end user should be instructed to put the sensor in walk test mode and walk through the far end of the coverage pattern to verify proper detection.

Replacing Batteries

Only 1.5V AA Lithium Iron Disulfide batteries (#60-931) can be used with this product. When battery replacement is necessary, observe proper polarity (as shown in the battery compartment) when installing the new battery. The sensor may be damaged if installed incorrectly. Be sure to note that as you look at the battery compartment, on the left side the positive battery end is down and on the right side the positive end is up. When the battery is replaced, wait at least 3 minutes after installing the battery before activating the walk test mode. Always replace both batteries. See Figure 8 for battery locations.

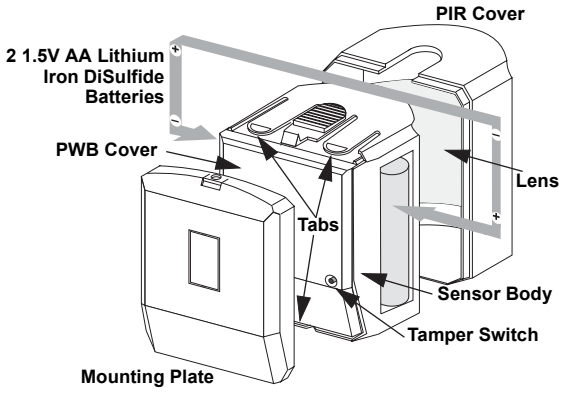


Figure 8. PIR Components, Battery Locations, & Tamper Switch

Troubleshooting

Use the following guidelines if the system does not respond correctly when the sensor is activated.

- Check programming and re-program sensor into panel if necessary.
- Move the sensor to another location and test for correct response.

➢ **To relocate a sensor:**

1. Test the sensor a few inches from the original position.
2. Increase the distance from the original position and retest until an acceptable location is found.
3. Mount the sensor in the new location.
4. If no location is acceptable, test the sensor as described below:
   - Test a known good sensor at the same location.
   - If the system does not respond, avoid mounting a sensor at that location.
   - If the replacement sensor functions, return the problem sensor for repair or replacement.

Specifications

Power source: ..... Two 1.5V AA Lithium Iron Disulfide Batteries (ITI part # 60-931, six pack of batteries)

Typical battery life: ..... 2-5 years at 68° F (20° C)

Temperature range: ..... 32° to 120° F (0° to 49° C) Non-pet applications
60° to 120° F (16° to 49° C) Pet applications

Dimensions: ..... 2.875” (7.303 cm) x 2.375” (6.033 cm) x 1.875” (4.763 cm) (L x W x H)

Notices

These devices comply with part 15 of the FCC rules. Operation is subject to the following two conditions:

- These devices may not cause harmful interference.
- These devices must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the users’ authority to operate the equipment.

GE Interlogix

ITI
2266 Second Street North
North Saint Paul, Minnesota 55109
651-777-2690 800-777-2624 Fax: 651-779-4890