Indoor/Outdoor PIR Motion Sensors
Installation Instructions

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Introduction

This is the GE *Indoor/Outdoor PIR Motion Sensors Installation Instructions* for model numbers:

- 60-639-95R (indoor)
- 60-639-95R-OD (outdoor)
- 60-639-43-EUR (indoor, not investigated for use by UL)
- 60-639-43-ERT-OD (outdoor, not investigated for use by UL)

Passive-infrared (PIR) motion sensors detect movement within a specific area by sensing the infrared energy emitted from a body as it moves across the sensor's field of view, causing a temperature change in the sensor's zones. When the sensor detects this motion, it transmits an alarm signal to the control panel.

Use the indoor sensors to protect large areas and open floor plans or as backup protection for door/window sensors.

Use the outdoor sensors to identify motion in a protected outdoor area. Detected motion in this protected area can sound chimes or turn on outside lights. Do not use the outdoor sensors for intrusion protection.

Features include:

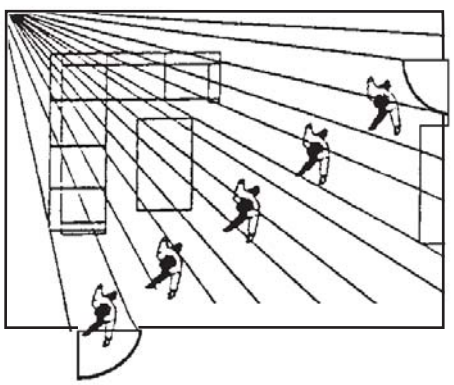
- 35 by 40 ft. (10.7 x 12.2 m) coverage area for standard and optional pet alley lenses;
- masking kit to block portions of the coverage area;
- three-minute transmitter lockout time after an alarm to extend battery life;
- cover-activated tamper (an optional wall-activated tamper is provided);
- supervisory signal transmitted every 64 minutes to the control panel;
- sensor low battery reports (trouble) to the control panel; and
- field-selectable sensitivity options.

Indoor sensor installation

Use the following installation guidelines:

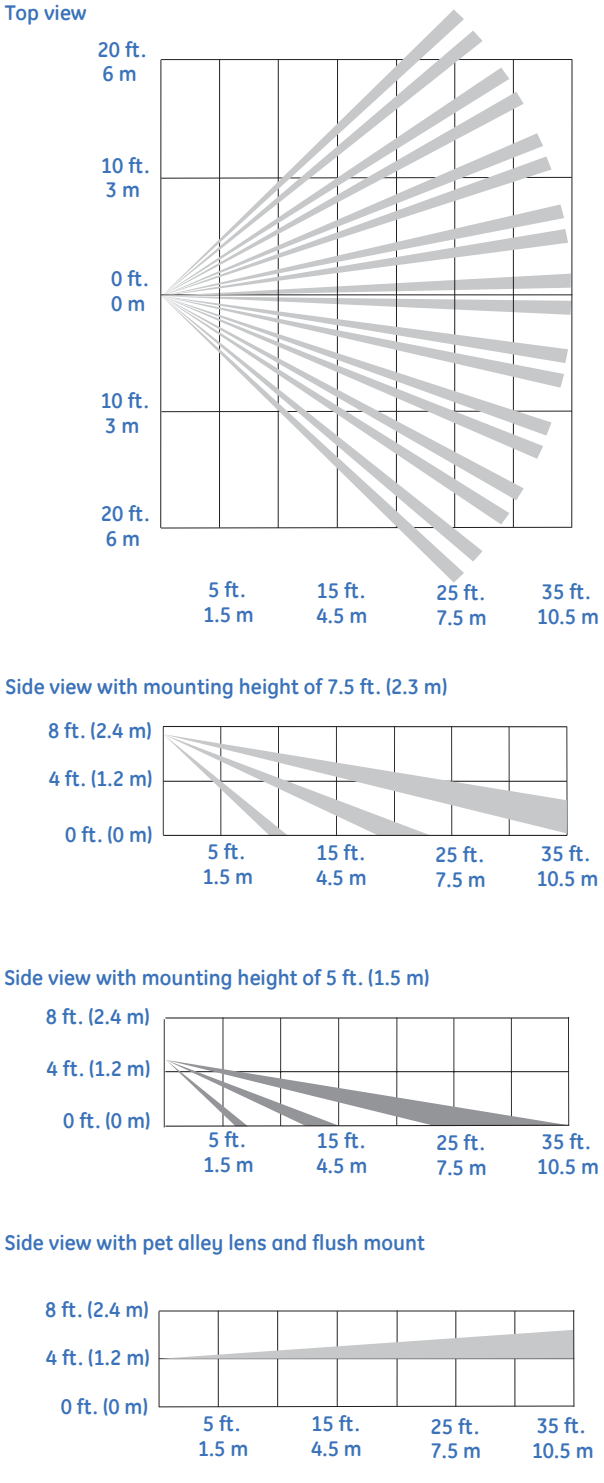
- If possible, mount the sensor within 100 ft. (30.5 m) of the panel. While the transmitter may have a range of 500 ft. (152.4 m) or more out in the open, the environment at the installation site can have a significant effect on transmitter range.
- Position the sensor to protect an area where an intruder is most likely to walk across the detection pattern. (*Figure 1*).

Figure 1. Overhead detection pattern



- Mount the sensor between 5 and 8 ft. (1.5 and 2.4 m) from the floor (*Figure 2*). We recommend a height of 7.5 ft. (2.3 m). Higher mounting provides better range, and lower mounting provides better protection close to the sensor. See *Pet alley lens* on page 3.

Figure 2. Detection pattern

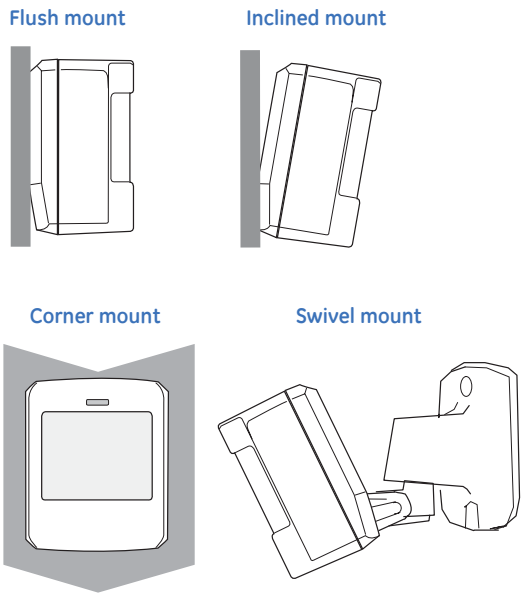


- Mount the sensor on a rigid surface that is free of vibrations.
- Do not aim the sensor at windows, fireplaces, air conditioners, area heaters, or forced air heating vents. Do not place it in direct sunlight. Sudden changes in temperature may trigger a false alarm.
- Do not mount the sensor near duct work or other large metallic surfaces that may affect the RF signals (see *Testing* on page 4). Verify actual transmitter range for each installation.
- Mount the sensor permanently on a flat wall or in a corner. Do not set it on a shelf.
- Mount the sensor on an insulated, outside wall facing in.
- Position the sensor so it faces a solid reference point, such as a wall.
- Close all windows in an area with an armed motion sensor.
- A pet will trigger a motion sensor. See *Pet alley lens* on page 3 to use a motion sensor when pets are present.

You can flush-mount, incline-mount, or corner-mount the sensor depending on the lens used. Use the optional swivel mount (part number 60-737) for difficult mounting locations (*Figure 3*).

Note: The wall-tamper switch cannot be used when you mount the sensor in a corner or on the swivel mount.

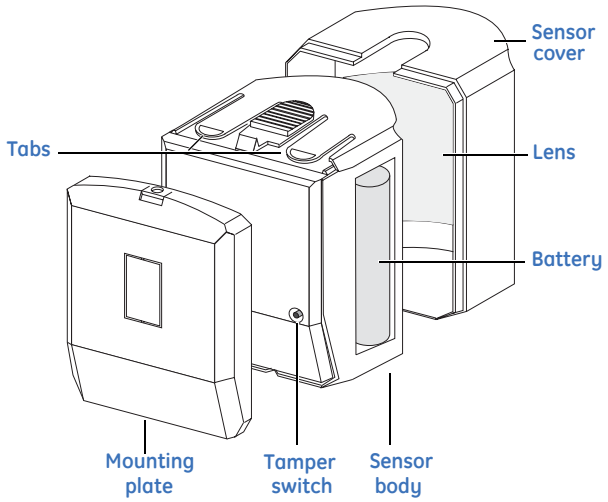
Figure 3. Mounting options



To mount the sensor, do the following:

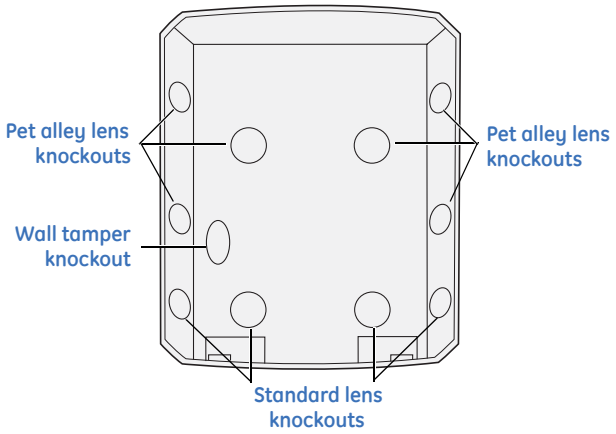
1. To remove the mounting plate, depress the button on the top of the sensor (*Figure 4*) and pull the mounting plate away from the sensor.

Figure 4. Sensor parts



2. Punch out the mounting holes applicable for your installation (*Figure 5*). Use the lower-side holes for corner mounting, or the lower-back holes for surface-mounting with the standard lens. For applications with pets, use the upper mounting holes and the optional pet alley lens.

Figure 5. Mounting plate knockouts



3. If you want wall-tamper functionality, remove the wall-tamper knockout (*Figure 5*).
4. Mark the location of the required holes on the mounting surface.
5. Use wall anchors and screws to secure the mounting plate in place. Attach the sensor to the mounting plate.
6. Test the sensor in place (see *Testing* on page 4), then screw the housing screw (the smallest screw provided) into the hole at the top of the mounting plate.

Lens replacement

To change the lens, do the following:

1. Depress the button on the top of the sensor and pull the sensor from the mounting plate.
2. Depress the two tabs on the top and the one tab on the bottom of the sensor body and slide the cover off (*Figure 4* on page 2).
3. To remove the lens, gently place pressure on the lens from the outside of the lens.
4. Align the new lens's notches with the tabs in the cover. Install the new lens with the smooth side facing out and the grooved side facing in.
5. Slide the cover on the sensor and attach the sensor to the mounting plate.

Pet alley lens

The optional pet alley lens (part number 60-709) provides protection in installations where pets move about freely. See *Figure 2* on page 1 for the coverage pattern.

Follow these guidelines for installations with the pet alley lens:

- Mount the sensor 3 to 5 ft. (0.9 x 1.5 m) high. For best results, install the sensor higher than the highest point the pet might reach in the detection area.
- If the detection area contains furniture or other objects that the pet can climb or jump on, either remove these objects, mount the sensor a safe distance above these objects, or mask these areas.
- Be sure to flush-mount or corner-mount the sensor with the back of the sensor parallel to the walls. Do not use the inclined-mount position because this will tilt the sensor's field of view downward.
- Position the sensor so that is has a clear line of sight across the protected room.

Sensitivity settings

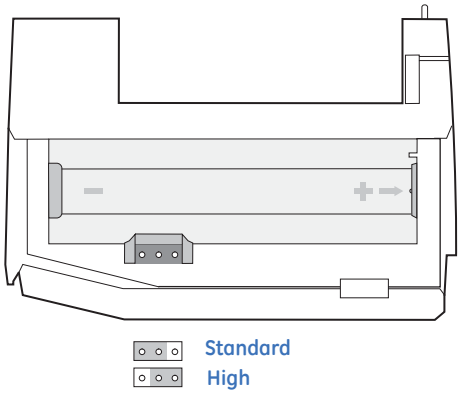
The sensor is set to standard sensitivity at the factory. This sensitivity is preferred for most applications and provides the best immunity to false alarms.

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

To change the sensitivity setting, do the following:

1. Depress the button on the top of the sensor and pull the sensor from the mounting plate (*Figure 4* on page 2).
2. Depress the two tabs on the top and the one tab on the bottom of the sensor body and slide the cover off (*Figure 4* on page 2).
3. Looking at the front of the sensor, locate the sensitivity pins under the battery on the right side (*Figure 6*).

Figure 6. Sensitivity pins



4. To change to high sensitivity, move the shorting jumper to the pair of pins that are closer to the top of the sensor (*Figure 6*).

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

5. Walk test the sensor (see *Testing*) to verify sensitivity. Slide the cover on the sensor and attach the sensor to the mounting plate.

Outdoor sensor installation

Use the following guidelines for outdoor installations:

- Use the outdoor sensors for outdoor applications with a temperature of 10 to 120°F (12 to 49°C).
- Do not use outdoor sensors for intrusion protection because any human, pet, or heated mechanical motion such as an automobile can activate the sensor.
- Follow the indoor sensor installation guidelines (see *Indoor sensor installation* on page 1), except for the last four items.
- Do not aim the sensor at objects that may be heated excessively by the sun, such as blacktop or dark-colored objects.
- The sensor housing is water-resistant, but not water-proof. Mount the sensor underneath eaves or porch coverings to prevent exposure to rain, ice, and direct sunlight.

To mount the sensor, do the following:

1. Determine the mounting location for the sensor. Leave at least 4 in. (10 cm) of room above the wall mount plate to attach the sensor.
2. Use the supplied screws and anchors to attach the wall-mount plate with the opening for the swivel mount facing downward.
3. To attach the sensor assembly to the wall-mount plate, screw the sensor assembly up into the opening in the wall-mount plate.
4. To remove the sensor for testing or battery replacement, slide the front cover of the sensor upward until you can remove the sensor.

Filter installation

A 1 in. (2.5 cm) piece of lens material is included with the outdoor sensors. The filter reduces the sensors' sensitivity to white light sources (sunlight and head lights) and infrared sources. Install the filter when you experience unwanted sensor activations due to these sources.

To install the filter, do the following:

1. Slide the front cover upward untill you can remove the sensor from its enclosure (*Figure 4* on page 2).
2. Depress the button on top of the sensor to remove the mounting plate.
3. Depress the two tabs on the top and the one tab on the bottom of the sensor and slide the cover off.
4. Place the sensor on its back and drop the filter into the lens chamber covering the sensor's detector.
5. Replace the cover, making sure the filter remains in the lens chamber and does not interfere with the attachment of the cover.
6. Replace the sensor's mounting plate and install the sensor in its enclosure.

Programming

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

Testing

Testing the sensor includes a walk test, an environment test, and a final test with the control panel.

Walk test

Walk test the unit from both directions to determine the pattern boundaries. The edge of the coverage pattern is determined by the first flash of the LED. This may change slightly depending on the sensitivity setting.

To walk test the sensor, do the following:

1. Remove the sensor from the mounting plate to activate the tamper switch and remount the sensor on the mounting plate to start the 60-second walk test mode.
2. Walk across the coverage pattern to determine the coverage area, indicated by the LED activation. Each activation extends walk test mode for an additional 60 seconds. After 60 seconds without motion, walk test mode and the LED will no longer activate when motion is detected.

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

Note: Excessive use of walk test mode may reduce battery life. Use only for initial setup and maintenance testing.

Environment test

For indoor sensors, turn on all heating or air conditioning sources that are normally active during the protection period. Stand away from the sensor outside the coverage pattern and watch for alarms.

For outdoor sensors, verify that the sensor's coverage area does not extend into undesired areas that might cause unwanted activations. These areas include undesired human, pet, and automobile motion.

Coverage masks

After you complete the walk test and environment test, you can use the masking labels provided to block detection of problem areas. The masking labels are cut to match the corresponding lens segments.

To mask coverage areas, do the following:

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

Final test

Do a final test to verify radio signal integrity and confirm control panel programming and response.

To test the sensor with the control panel, do the following:

1. Remove the sensor from the mounting plate to activate the tamper switch and the sensor's walk test mode.
2. Replace the sensor on the mounting plate.
3. Place the control panel in sensor test mode. Walk across the sensor's 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 properly, see *Troubleshooting* on page 5.

Maintenance

Test the sensor at least once a year to verify proper range and coverage. Instruct the end user to put the sensor in walk test mode and walk through the end of the coverage pattern to verify proper detection.

Battery replacement

When you replace the batteries, observe proper polarity (as shown in the battery compartment) to avoid damage to the sensor.

CAUTION: Replace only with two AA 1.5 V alkaline batteries. Dispose of used batteries according to the manufacturer's instructions and local government authorities.

To replace the batteries, do the following:

1. Remove the sensor from the mounting plate and slide the cover off the sensor to reveal the battery compartment.
2. Remove the batteries and replace with the new ones. Be sure to observe polarity. As you look at the battery compartment, on the left side the positive end is down and on the right side the positive end is up (*Figure 4* on page 2).
3. Wait at least three minutes after installing the batteries before you activate walk test mode.

Troubleshooting

If the system doesn't respond correctly when the sensor is activated, follow these guidelines:

- Check sensor programming (refer to the panel's programming instructions) and reprogram the sensor if necessary.
- Move the sensor to another location and test for correct response.

To relocate the sensor, do the following:

1. Test the sensor a few inches from the original position.
2. Increase the distance and retest until you find an acceptable location.
3. Mount the sensor in the new location.

If no location is acceptable, do the following:

1. Test a known good sensor at the same location.
2. If the system does not respond, avoid mounting a sensor at that location.
3. If the replacement sensor functions, return the problem sensor for repair.

Specifications

Compatibility	Concord, Concord Express, International Concord, Simon, Euro Simon, Quik Bridge 1 and 2 Channel Receiver, Quik Bridge Euro Repeater SAW, Quik Bridge International Loop Receiver, SuperBus 2000 RF Receiver, SuperBus 2000 433 MHz Receiver
Power source	2 AA 1.5 V alkaline batteries
Typical battery life	2 to 4 years at 68°F (20°C) not verified by UL
Transmitter frequency	319.5 MHz
Operating temperature	
Indoor sensor	32 to 120°F (0 to 49°C)
Outdoor sensor	10 to 120°F (12 to 49°C)
Storage temperature	-30 to 140°F (-34 to 60°C)
Maximum relative humidity	90% relative humidity noncondensing
Dimensions (L x W x H)	2.9 x 2.4 x 1.9 in. (74 x 61 x 48 mm)

Sensor models 60-639-43-EUR and 60-639-EUR-OD are approved for use in the following countries:

Austria	Italy
Denmark	Netherlands
France	Portugal
Germany	Spain
Ireland	Sweden

CE **Manufacturers Declaration of Conformity**

Product identification:

Model/type	60-639-43-EUR and 60-639-43-EUR-OD
Category	Indoor and outdoor PIR motion sensors
Brand	GE Security
Manufacturer:	GE Security 1275 Red Fox Road Arden Hills, MN 55112
EU representative:	GE Security, B.V. Kelvinstraat 7 6003 DH Weert The Netherlands

Concerning	R&TTE	
A sample of the product has been tested by:	Mike Product Services	KTL Arnhem
Standards used:	I-ETS 3000 220 (10.1993)	EN50130-4 (1995) EN50130-4/A1 (1998) EN60950, 1992 (A1, A2, A3, A4, A11) IEC950, 2nd ed. (A1, A2, A3, A4)
Test report:	T14152-1-02SM	98639220 98639250

Means of conformity

We declare under our sole responsibility that this product is in conformity with Directive 93/68/EEC (CE Marking) and complies to the essential requirements of 1999/5/EC (R&TTE) based on test results using (non)-harmonized standards in accordance with the Directives mentioned.