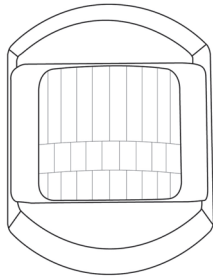


# PASSIVE INFRARED MOTION DETECTOR

## INSTALLATION INSTRUCTIONS

The Passive Infrared Motion Detector (2GIG-PIR1-345) is a wall-mounted unit with wide-angle motion protection. It communicates with the 2GIG Control Panel using the 345 MHz frequency. When set to High (HI) Sensitivity Mode, the PIR has a maximum range of 30 ft deep x 50 ft wide (9.1 m x 15.2 m). The PIR's pet-immune feature can be set to tolerate animals up to 55 lbs (25 kg).

**Figure 1** Passive Infrared Motion Detector



## Box Contents

Verify that the package includes the following (see *Figure 3 PIR and Mounting Bracket Detail* on page 2):

- 1—Passive Infrared Motion Detector (Part A)
- 1—Plastic Mounting Bracket (Part B)
- 1—Plastic Wall Mount (Part C)
- 1—Plastic Corner Mount (Part D)
- 2—Plastic Wall Anchors With Screws (not pictured)
- 1—Short Phillips Head Screw with Fender (not pictured)
- 1—Short Phillips Head Screw (not pictured)
- 1—Lithium Coin Battery (not pictured)

## Inserting and Replacing the Battery

To insert or replace the battery:

- 1 Unwrap the PIR and remove the screw from the case bottom.
- 2 Remove the backplate using a bottom-to-top lifting motion.
- 3 Insert the battery.  
Always match the plus (+) sign on the battery with the flat side of the compartment and the minus (-) sign on the battery with the spring side.
- 4 Replace the PIR cover.

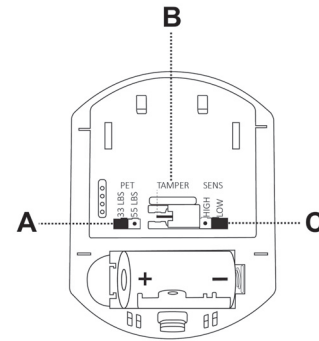
**WARNING:** Failure to follow these warnings and instructions can lead to heat generation, rupture, leakage, explosion, fire, or other injury, or damage. Do not insert the battery into the compartment in the wrong direction. Always replace the battery with the same or equivalent type (see *Specifications* on page 4). Never recharge or disassemble the battery. Never place the battery in fire or water. Always keep batteries away from small children. If batteries are swallowed, promptly see a doctor.

- Always dispose and/or recycle used batteries in accordance with the hazardous waste recovery and recycling regulations for your location. Your city, state, or country may also require you to comply with additional handling, recycling, and disposal requirements.

## Configuring the PIR Features

Ensure that you have inserted the PIR battery as described in *Inserting and Replacing the Battery*. Then configure the features as follows:

**Figure 2** PIR Pet Immune and Sensitivity Features



- A PET: This is the pet-immune tolerance setting [33 LBS (15 kg) or 55 LBS (25 kg)].
- B TAMPER: This is the tamper switch.
- C SENS: This is the sensitivity setting (High or Low).

## Step 1: Setting the Pet Immune Feature

To set the pet immune feature to an appropriate weight:

**NOTE:** Do not aim the PIR at stairs, furniture, or other surfaces that a pet may climb on. The PIR provides immunity when the room temperature is above 50° F (10° C) and below 90° F (32° C). When mounting the PIR with the plastic mounting bracket, for best protection ensure the PIR is mounted to the wall or corner with NO tilt (see *Lens Pattern and Tilt Angles* on page 3).

- 1 With the backplate off, locate the left jumper block immediately above the battery compartment. This is the block labeled PET (see *Figure 2 PIR Pet Immune and Sensitivity Features*).
- 2 Gently pull out the jumper and slip it over the desired pins to set one of the pet-immune tolerance settings:
  - **33 LBS.** Tolerates pets up to 33 lbs (15 kg).
  - OR
  - **55 LBS (Default).** Tolerates pets up to 55 lbs (25 kg).
- 3 Continue with the next step below.

## Step 2: Setting the Sensitivity Feature

- 1 Locate the right jumper block immediately above the battery compartment on the right. This is the block labeled SENS (see *Figure 2 PIR Pet Immune and Sensitivity Features*).
- 2 Gently pull out the jumper and slip it over the desired pins to set the desired sensitivity mode:
  - **LOW (Default).** Low sensitivity. This is the recommended setting for pets.
  - OR
  - **HIGH.** High sensitivity.
- 3 Continue with "*Step 3: Powering ON the PIR*" on page 2.

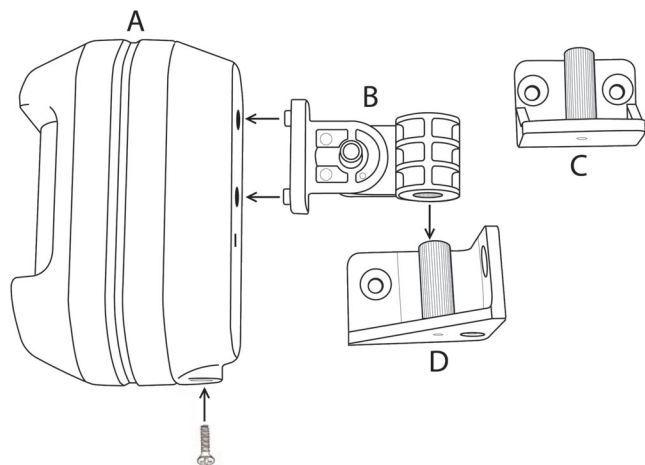
### Step 3: Powering ON the PIR

With the battery inserted (see "Inserting and Replacing the Battery" on page 1), press and release the switch labeled TAMPER. It takes approximately 10 seconds for the PIR to power ON.

### Mounting the PIR

There are two methods for mounting the PIR: *Option A: Bracket Mounting* or *Option B: Direct-to-Wall Mounting*. For both methods, always mount the PIR at a height of 7.5 ft (2.3 m).

Figure 3 PIR and Mounting Bracket Detail



- A PIR
- B Plastic Mounting Bracket
- C Plastic Wall Mount
- D Plastic Corner Mount

### Option A: Bracket Mounting

See Figure 3 PIR and Mounting Bracket Detail. If you plan to mount the PIR to either the Plastic Wall Mount or Plastic Corner Mount, you must first attach the Plastic Mounting Bracket to the PIR backplate.

#### Step 1: Attaching the Plastic Mounting Bracket to the PIR

- 1 Remove the PIR backplate.
- 2 Insert the two stubs on the Plastic Mounting Bracket into the corresponding holes on the exterior side of the PIR backplate.
- 3 On the interior of the PIR backplate (see Figure 4 PIR Backplate—Direct-to-Wall Mounting Guides), use the Short Phillips Head Screw (provided) to secure the Plastic Mounting Bracket to the backplate.
- 4 Replace the PIR backplate.
- 5 Reattach the screw that was removed earlier to the bottom of the PIR.
- 6 Continue with either Step 2: Wall Mounting Option or Step 2: Corner Mounting Option.

**NOTE:** For optimum pet immunity when using the Plastic Mounting Bracket, ensure that the PIR is mounted to the wall or corner with NO tilt (see "Lens Pattern and Tilt Angles" on page 3).

#### Step 2: Wall Mounting Option

See Figure 3 PIR and Mounting Bracket Detail. If using the Plastic Wall Mount (C), do the following:

**NOTE:** Ensure that you have attached the bracket to the PIR backplate (see Step 1: Attaching the Plastic Mounting Bracket to the PIR).

- 1 On the intended wall, use the two (2) Plastic Wall Anchors to hang the Plastic Wall Mount at a height of 7.5 ft (2.3 m).
- 2 Locate the barrel end of the Plastic Mounting Bracket. Locate the barrel end of the Plastic Mounting Bracket and carefully set it onto

the ribbed pin of the Plastic Wall Mount at the desired angle (see Lens Pattern and Tilt Angles on page 3).

- 3 From the topside of the Plastic Wall Mount, use the Short Phillips Head Screw with Fender (provided) to secure the mount to the barrel end of the bracket.

#### Step 2: Corner Mounting Option

See Figure 3 PIR and Mounting Bracket Detail. If using Plastic Corner Mount, do the following:

**NOTE:** Ensure that you have attached the bracket to the PIR backplate (see Step 1: Attaching the Plastic Mounting Bracket to the PIR on page 2).

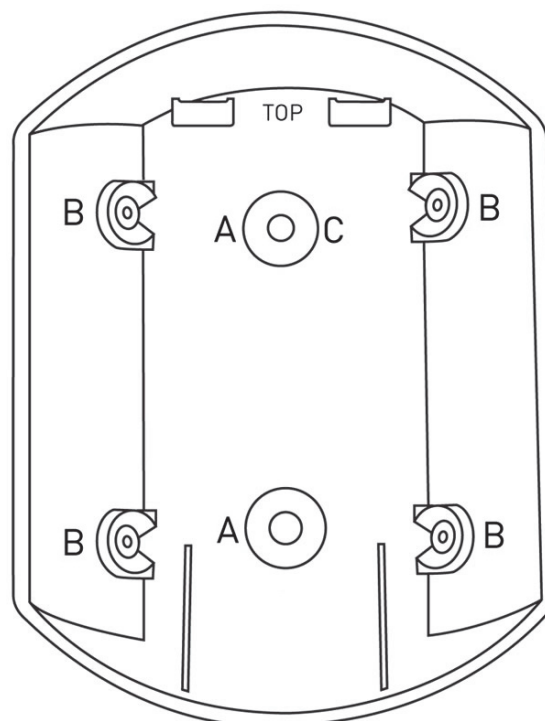
- 1 Use the two (2) Plastic Wall Anchors to hang the Plastic Corner Mount at a height of 7.5 ft (2.3 m).
- 2 Locate the barrel end of the Plastic Mounting Bracket and carefully set it onto the ribbed pin of the Plastic Wall Mount. Ensure that you set it at the desired angle (see "Lens Pattern and Tilt Angles" on page 3).
- 3 From the topside of the Plastic Wall Mount, use the Short Phillips Head Screw with Fender (provided) to secure the mount to the barrel end of the bracket.

### Option B: Direct-to-Wall Mounting

If planning to mount the PIR directly to a wall, use the built-in mounting guides on interior of the PIR backplate to screw the backplate into the wall.

- 1 Remove the PIR backplate.
- 2 Use the two (2) Plastic Wall Anchors to screw the PIR backplate into the wall at a height of 7.5 ft (2.3 m):
  - **Wall.** Use the wall mounting guides (see A below).
  - **Corner Mount.** Use the left- or right- corner mounting guides (see B below).

Figure 4 PIR Backplate—Direct-to-Wall Mounting Guides



- A Wall Mounting Guides (For Option B: Direct-to-Wall Mounting)
- B Corner Mounting Guides (For Option B: Direct-to-Wall Mounting)
- C Wall Mount Bracket Guide (For Option A: Bracket Mounting)

## Environmental and Other Useful Information

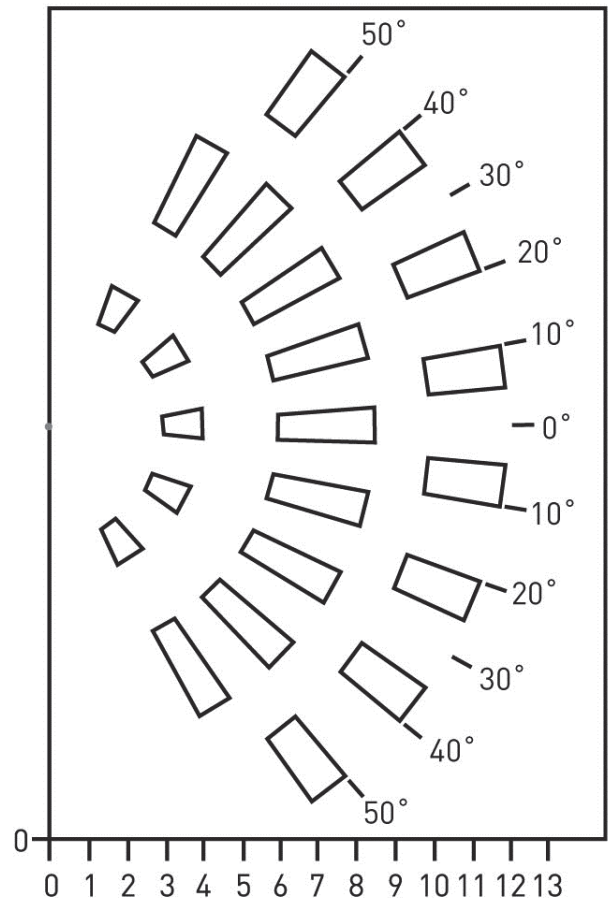
While the PIR is a highly reliable intrusion detection device, it does not guarantee against burglary. Any intrusion device is subject to a “failure to warn” for a variety of reasons. Consider the following when installing and setting up the PIR:

- 1 This PIR has built-in protection to keep bugs from getting into the sensor area and causing false alarms. Note that this protection does not prevent insects from crawling across the lens of the PIR, which could trigger the PIR.
- 2 Infrared energy can be reflected off any glossy surfaces such as mirrors, windows, floors, or counter tops with glossy finish, and slick-finished concrete. Some surfaces reflect less than others (e.g. the PIR can see a change in infrared energy off of reflective surfaces even if the heat or cold source is not within the PIR detection pattern).
- 3 Windows reflect infrared energy. They also allow sunlight or light from other sources (e.g., cars) to pass through to the PIR. The PIR can detect these changes in infrared energy. For example, if sunlight passing through a window shines onto a hardwood floor and the change in infrared energy is quick enough, the PIR can trigger an alarm. The same applies if the PIR area includes a window, even though the pattern of protection cannot “see” through glass. Lights from a passing car can also pass through the window at night and shine directly into the PIR’s lens.
- 4 Heating and air conditioning ducts are also important because if they blow air onto an object within the field of the PIR’s view, the temperature of that object could change quickly enough for the PIR to “see” a change in infrared energy. **PIR’s cannot see air current, only the change in temperature of a physical object.**
- 5 The PIR senses change in temperature. However, as the ambient temperature of the protected area approaches the temperature range of 95° to 120° F, the detection performance of the PIR decreases.
- 6 Ensure that the area you wish the PIR to cover is free of obstructions (for example, curtains, screens, plants, and so on.) that may block the pattern of coverage.
- 7 Anything that can sway or move due to air current can cause a change in infrared energy within the fields of view. Drafts from doors or windows can cause this to happen. Plants, balloons, curtains, and hanging baskets should never be left in the PIR’s field of view.
- 8 Do not mount the PIR on a surface that allows for any vibration. Vibrations not only cause the PIR to move a little, but it also causes the fields of view in a room to move with respect the PIR. A little vibration can cause havoc with the PIR’s field of view, thus the PIR may see a change in energy and trigger the alarm.
- 9 An installation often requires that the PIR is aimed at the door. The PIR may detect door movement before the door contact can initiate an entry delay, causing the alarm to trigger. If you install the PIR facing a door, then while programming the PIR, choose an appropriate sensor/zone type.
- 10 The PIR ONLY detects intrusion within the pattern of coverage.
- 11 The PIR does not provide volumetric area protection.
- 12 The PIR creates multiple beams of protection. Intrusion can only be detected in unobstructed areas covered by those beams.
- 13 The PIR cannot detect motion or intrusion that occurs behind walls, ceilings, floors, closed doors, partitions, glass doors, or windows.
- 14 Tampering with, masking, painting, or spraying of any material on the PIR lens or any part of the optical system can impair detection ability.
- 15 The PIR, like other electrical devices, are subject to component failure. Even though the PIR is designed to last as long as 10 years, the electronic components are subject to failure.

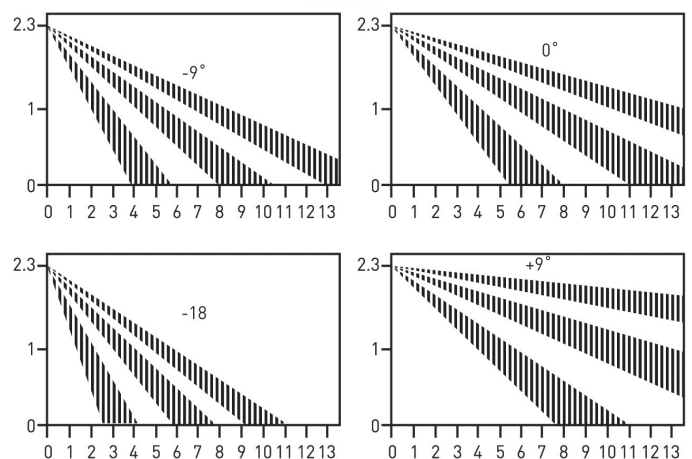
## Lens Pattern and Tilt Angles

The diagrams below show the lens pattern and tilt angles for the PIR in meters.

**Figure 5** Lens Pattern—Top View



**Figure 6** Tilt Angle—Side View

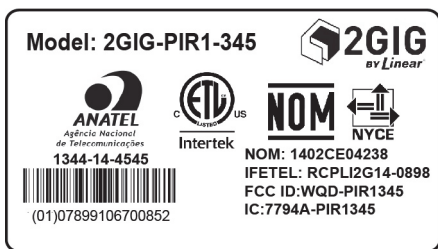


-9°	PIR tilted down one click
0°	PIR facing the opposite wall (Direct-to-wall or mounting bracket with no tilt adjustment).
-18°	PIR tilted down two clicks
+9°	PIR tilted up one click

# SPECIFICATIONS

<b>Wireless Signal Range</b>	350 ft (106.7 m), open air, with Wireless Control Panel
<b>Code Outputs</b>	Alarm, Alarm Restore, Tamper, Tamper Restore, Supervisory, Low Battery
<b>Transmitter Frequency</b>	345.00 MHz (crystal controlled)
<b>Unique ID Codes</b>	Over one (1) million different code combinations
<b>Supervisory Interval</b>	70 minutes
<b>Sensor Type</b>	Quad element
<b>Pet Immunity Selectable</b>	33 lb (15 kg) or 55 lb (25 kg; default)
<b>Sensitivity Jumper Selectable</b>	High or Low (default)
<b>Suggested Mounting Height</b>	7.5 ft (2.3 m)
<b>Sensor Range</b>	30 ft (9.1 m) x 50 ft (15.2 m)
<b>Maximum Horizontal Sensing Angle</b>	90°
<b>Dimensions (L x W x H)</b>	3.2 x 2.5 x 1.9 in (8.12 x 6.35 x 4.82 cm)
<b>Weight (including battery &amp; bracket)</b>	3.7 oz (104.9 g)
<b>Housing Material</b>	ABS Plastic
<b>Color</b>	White
<b>Operating Temperature</b>	32°-120 F° (0°-49° C)
<b>Relative Humidity</b>	5-90% Non-Condensing
<b>Battery (installed)</b>	One (1) CR 123A 3V or equivalent Lithium battery
<b>Certification</b>	Anatel, ETL, FCC, IC, IFETEL, and NOM

## REGULATORY INFORMATION



### FCC Notice

This device complies with Part 15 of the FCC's 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.

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.

This product complies with FCC radiation exposure limits for an uncontrolled environment. Avoid operating this product at a distance less than 20 cm from the user.

**NOTE:** Any changed or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## Industry Canada (IC) Compliance

*This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.*

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

## LIMITED WARRANTY

This Nortek Security & Control product is warranted against defects in material and workmanship for two (2) years. This warranty extends only to wholesale customers who buy direct from Nortek Security & Control LLC or through Nortek Security & Control LLC's normal distribution channels. Nortek Security & Control LLC does not warrant this product to consumers. Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any.

There are no obligations or liabilities on the part of Nortek Security & Control LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation. All implied warranties for functionality, are valid only until the warranty expires. This Nortek Security & Control LLC Warranty is in lieu of all other warranties expressed or implied.

### 2GIG

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Email: 2gigtechsupport@nortek.com

Visit [www.2GIG.com](http://www.2GIG.com) or [dealer.2gig.com](http://dealer.2gig.com) technical support hours of operation

#### For technical support outside of the USA and Canada:

Contact your regional distributor

Visit [www.nortekcontrol.com](http://www.nortekcontrol.com) for a list of distributors in your region

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