Interlogix Simon XT Image Sensor Version 3 - Installation Guide

Notice: Newly manufactured Interlogix Simon XT/XTi/XTi-5 modules will no longer support the Image Sensor effective in June 2022. These new modules can be identified by *Rev. G* on the product label or verify if the Image Sensor radio is built-in. For more information about verifying, see Verify which radios are built in to an Alarm.com module. All existing modules in the field will continue to support the Image Sensor.

This guide contains instructions for installing an Image Sensor Version 3 (ADC-IS-300-LP) on an Interlogix Simon XT panel.

Product summary and technical specifications

The Image Sensor is a pet immune PIR (passive infrared) motion detector with a built-in camera designed to capture images during alarm or non-alarm events when motion is detected.

Product features:

- Communicates wirelessly to the security control panel
- 35 foot detection range with a 90 degree horizontal FOV
- Configurable PIR sensitivity and pet immunity settings
- Image: VGA 640x480 pixels
- Color Images (except in night vision)
- Night vision image capture with infrared flash (black & white)
- Tamper detection, walk test mode, supervision
- All systems can support up to three Image Sensors
- UL 639 certified
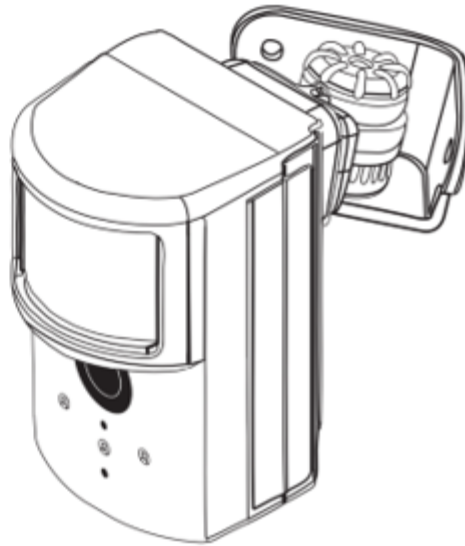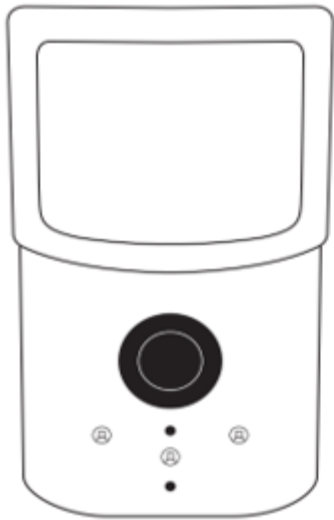
Technical specifications:

- Alarm.com Model Number: ADC-IS-300-LP
- Power Source: Recommended 2 AA 1.5v Energizer Ultimate Lithium Batteries.
- Batteries: Refer to the Batteries section for details
- Operating Temperature Range: 60° to 80°F
- Weight: 3.1 oz. (with batteries and without mounting accessories)
- Dimensions: 3.1'' h x 1.8'' w x 2.3'' d
- Supervisory Interval: 100 minutes (sensor), 3 hours (alarm hardwire)
- Wireless Signal Range: Greater than 400 ft open air
- Color: White
- Recommended Mounting Height and Angle: Refer to the Recommended Install Height and Angle Table
- Motion Profiles & Sensor Range: Refer to the PIR Sensitivity Settings Table

Hardware compatibility requirements

Security control panel	Interlogix Simon XT version 1.3+
Alarm.com module	Simon XT Module with firmware 146+

Extra required hardware	Requires Image Sensor Daughterboard for modules with firmware 185 or lower. Compatible with all daughterboard versions. **Note**: The Image Sensor radio is built into modules with firmware versions 187+, so modules with this firmware do not require a separate Image Sensor daughterboard to be installed. To enable local alarm activations, the blue daughterboard alarm wire is required regardless of the module firmware version.
Other	Daughterboard takes one zone

Service package requirement

Image capture features require a service package that includes one of the following Image Sensor add-ons:

- *Images - Alarms:* Includes upload of images from panel alarm events only.
- *Images - Limited*: Includes uploads of images from panel alarm events and disarm events.
- *Images - Plus:* Includes upload of images from panel alarm events, disarm events, and non-alarm events.

For additional information about Image Sensor add-ons, see What image captures are included in each Images service package?.

Installation: Preparing panel for enrollment

Create Alarm.com customer account

Select service package (including an *Images* add-on) and register the Alarm.com module serial number on the Partner Portal or MobileTech app.

Install Image Sensor daughterboard if necessary

To verify if a daughterboard is needed, see Hardware compatibility requirements.

To install the Image Sensor daughterboard:

1. Locate the connector on the back of the daughterboard.
2. Remove the green backing from the daughterboard mounting adhesive.
3. While the module is powered down, align the daughterboard and module connector. Press to secure.
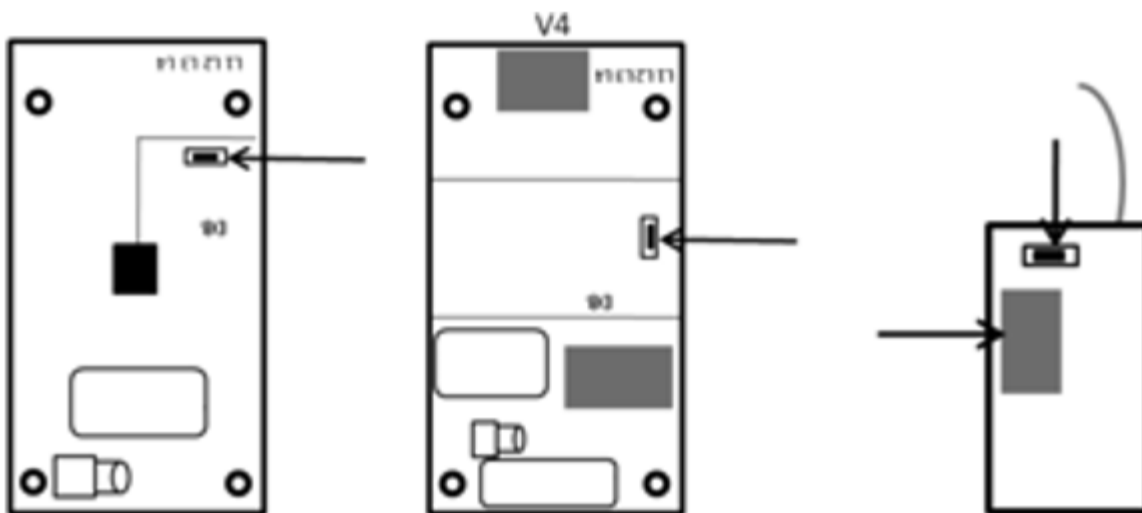
Install alarm hardwire inside control panel

For Simon XT panels, connect the daughterboard alarm wire. When using the Simon XT panel, it is required to connect the included blue alarm wire from the *HW* hardwire output located on the daughterboard (use *HW*, do not use *C*) to the *HW2 IN* (terminal 3) slot on the Simon XT panel to enable local alarm activations.
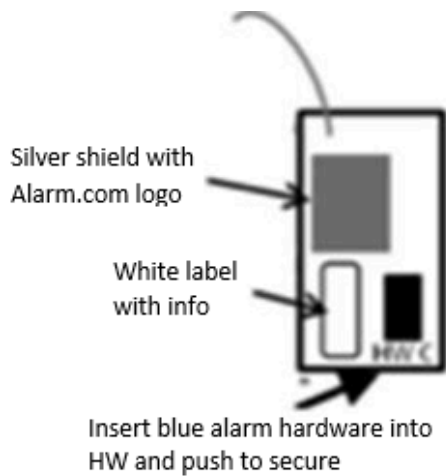
Note: If using a module with firmware version 187+, the *HW* hardwire output is located on the Simon XT cellular module to connect to the *HW2 IN* (terminal 3) slot on the Simon XT panel. Insert the blue alarm wire in the side where *HW* is labeled.

Once an Image Sensor has been enrolled into the Simon XT panel, a hardwire zone is automatically programmed as *Sensor 39: ISHW*. To ensure alarms are tripped properly on Image Sensors according to their enrolled group, the hardwire sensor group is automatically configured. Do not alter the sensor group of Sensor 39 ISHW.
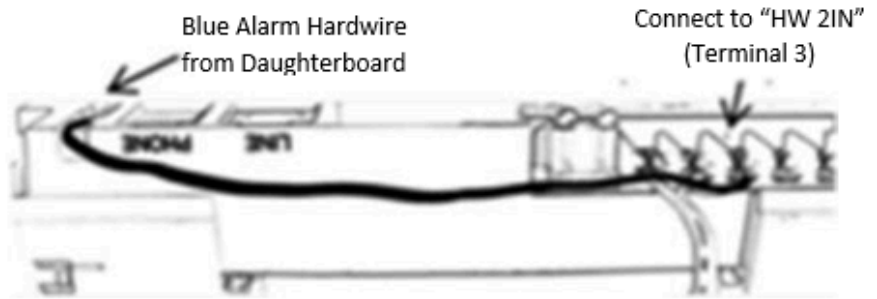
On the Simon XT, the panel screen displays *Sensor 39: ISHW Alarm* regardless of which Image Sensor tripped the alarm. The Alarm.com Website and notifications, and the monitoring station report indicates the specific Image Sensor that tripped the alarm.

Note: On the Simon XTi panel, the blue alarm hardwire is not required and should not be connected.

Silver shield with
Alarm.com logo

White label
with info

Insert blue alarm hardware into
HW and push to secure

**Top of Image Sensor
Daughterboard**

Blue Alarm Hardwire
from Daughterboard

Connect to "HW 2IN"
(Terminal 3)

Bottom of Simon XT Panel

Route daughterboard antenna

It is important to verify that the daughterboard antenna is pulled away from the Alarm.com module. Follow the panel-specific antenna routing guidelines to optimize sensor range.

For the Simon XT, the antenna should be pulled down off the Alarm.com module and routed in a J shape to the left towards the corner of the panel when looking at the panel from behind.
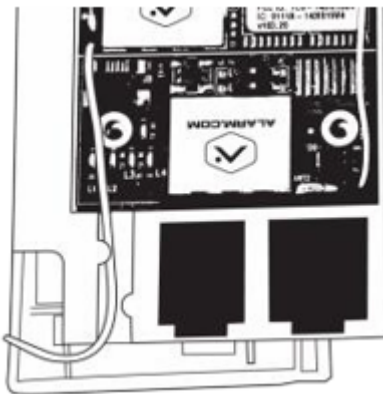
Register module and test

Power up the panel and initiate a communication test to ensure the Alarm.com module is properly installed and communicating with Alarm.com. For information about performing a communication test, see Send a communication test from an Interlogix Simon XT.

Installation: Enrolling Image Sensor to panel

Image Sensors can be enrolled remotely using the Partner Portal or MobileTech app, or locally using the panel. For

information about enrolling Image Sensors remotely, see [Enroll an Image Sensor on an Interlogix Simon XT](#).

To enroll the Image Sensor locally on a Simon XT:

Important: For smoothest installation, learn in one Image Sensor at a time. Insert batteries only after initiating learn mode at the panel.

1. Begin with the batteries removed from the Image Sensor.
2. Put the panel into add mode using the keypad.
    a. Go to the home screen.
    b. Scroll to *System Programming,* then press **[OK]**.
    c. Enter the installer code (default is 4321), then press **[OK]**.
    d. Scroll to *Interactive Services,* then press **[OK]**.
    e. Scroll to *Image Sensor Setup,* then press **[OK]**.
    f. Scroll to *Image Sensor Learn Mode,* then press **[OK]**. The screen should display *Power up or set I. S. Mode.*
3. Insert the batteries into the Image Sensor. The LED on the Image Sensor progresses from blinking red to solid red to blinking yellow. This indicates the Image Sensor is in learn mode.
4. Wait approximately 20 seconds for the Image Sensor to enroll to the panel. The screen on the panel displays the following: *I.S. [x] Added as Sensor [y].* The LED on the Image Sensor turns solid yellow indicating that it has successfully found the panel.
5. After the Image Sensor LED has turned solid yellow, exit Add Mode on the panel. The Image Sensor LED alternates between green and yellow while the customer's device list is updated with Alarm.com. The LED turns solid green when the Image Sensor has been successfully added to the customer's account.

    Note: If the Image Sensor is moved (tampered) after the LED has turned solid green, the Image Sensor enters test mode for three minutes which is indicated by a red LED when motion is detected. Continue with the mounting portion of the installation when in test mode. See the [Image Sensor LED Reference Chart](#) for more details.

6. After enrollment, be sure to keep the sensor and panel powered so the sensor can complete an initialization process with the Alarm.com Network Operations Center. This process takes several minutes. Images cannot be captured until initialization is complete. Check by verifying if the rules are confirmed on the Partner Portal or MobileTech app.

The sensor is now learned into the panel. Sensors are enrolled in group 17 by default. To change the sensor group, use the Sensors menu in Programming. Image Sensors may be enrolled in groups 15, 17, or 25. (No chime issued for group 25)

Note: Alarm.com does not recommend using sensor group 20 for Image Sensor Installations.

Installation: Mounting Image Sensor

1. Choose the desired location and mounting angle for the Image Sensor using the information in the chart. There are three options:

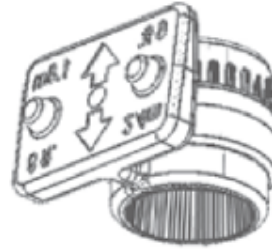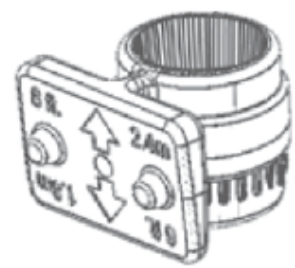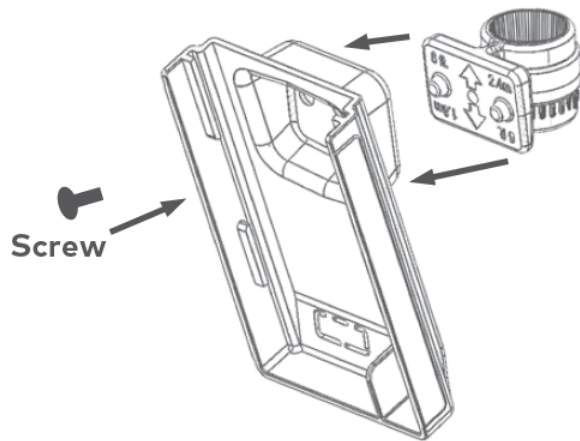| Intended Operation	Pet Immunity	Larger Rooms	Smaller Rooms
Mounting Height	6 Feet	8 Feet	8 Feet
Angle	Shallow, 6°	Shallow, 6°	Deep, 18°
Bracket Orientation	Teeth Up	Teeth Up	Teeth Down
Coverage Distance	30 to 35 ft.	30 to 35 ft.	15 to 20 ft.
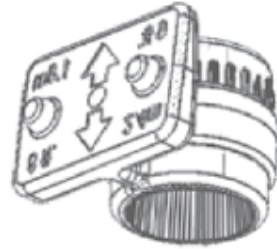
2. Screw the bracket to the backplate of the Image Sensor.

3. Determine the location to mount the sensor.
   ◦ Best practices for installing Image Sensors: Do's and Don'ts

| Do	Don't
- Center the target capture area in the middle of the frame. - Enroll and install within 100 ft. of panel. Installation site conditions can reduce range considerably. - Make sure people will walk across the sensor coverage area instead of directly toward the sensor. - Avoid backlit conditions (for example, facing a window or other light source) because it may result in poor image quality.	- Set sensor on a flat surface. - Set sensor across from mirrors or reflective surfaces. - Face sensor toward or close to areas that have metallic objects or electronics (to avoid interference with RF communication). - Install in an area where there are obstructions in front of or around the camera lens (for example, walls and ceilings within 90 degrees and 2 ft. around the camera). This type of installation will result in washed out night captures. - Install outdoors. Sensor is for indoor use only.

4. Choose applicable mounting bracket. The sensor hardware packet contains two mounting brackets for different mounting scenarios. Use the provided large screws and anchors to attach the bracket to the wall. Leave at least 3 inches of clearance above the sensor to allow for battery replacement without uninstalling the mounting bracket.
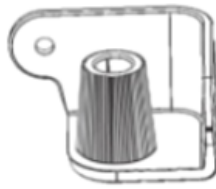
Flat Wall Mount   Corner Wall Mount

5. Place and secure the Image Sensor on the arm and secure the arm on the mounting bracket in the desired location. Adjust the horizontal positioning of the sensor to point towards the desired coverage area.

6. Secure the mounting arm location by sliding lock pin into the hole. Use the washer and remaining small screw to secure the lock pin by screwing upwards through the bottom of the hole in the mounting bracket.
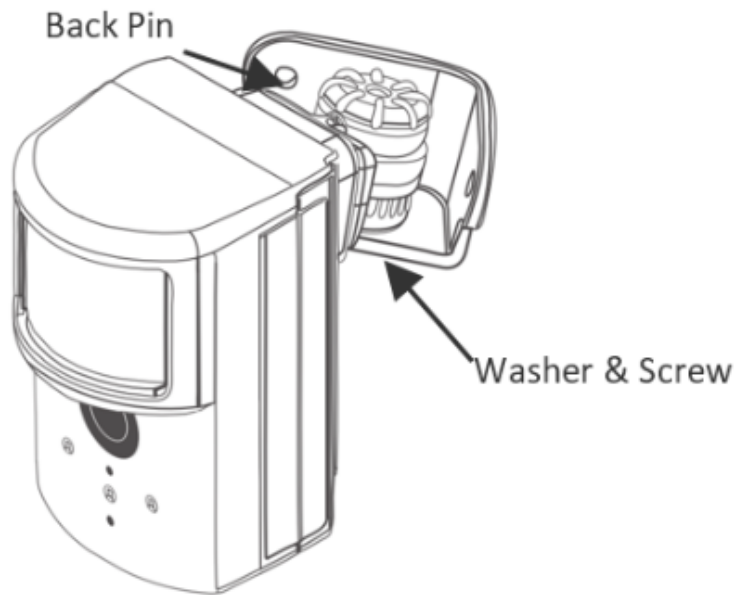
7. Set the PIR Sensitivity Settings using the panel or remotely using the Partner Portal or MobileTech app. For information about setting the PIR Sensitivity Settings, see [Change Image Sensor sensitivity](#).

   The following three options can be set:

Normal	Default setting
High	More sensitive motion profile with potential higher risk of false alarm.
Low	Less sensitive profile with pet immunity for pets up to 40 lbs.

Verify and test Image Sensor setup

1. Verify that rules are confirmed via the Partner Portal or on MobileTech app.
   ◦ Look for the word *Yes* in the Image Sensor Equipment List in the *Rules Confirmed* section. Resend rules if they are not confirmed.
2. Verify RF Coverage by checking that the signal strength is above 40%. The signal strength must be greater than 30% for sensor to function properly.
3. Conduct a walk test and test image captures.
   ◦ To conserve the customer's monthly image upload quota, automatic alarm uploads are disabled for the first four hours after any new sensor (Image Sensor or other) is installed into the system. Installers can also test by requesting image uploads and motion image uploads via MobileTech app. Installers are required to be onsite to test by running a comm test at the panel.
4. Test night image captures by darkening the room as much as possible (turn off the lights and close the shades).

Expand all

Other feature compatibility ^

Simon XT 2WTTS compatibility

When using a Two Way Talking Touchscreen with the Simon XT panel, Image Sensor activity is not reported or visible on the touchscreen, except in alarms. When alarms are tripped on an enrolled Image Sensor, the alarms are reported and displayed on the 2WTTS through the sensor 39 hardwire zone. Periodic activations on hardwire zone 39 appear on the touchscreen as a result of the hardwire supervisions.

Two-Way Voice compatibility

Images cannot be transmitted while a Two-Way Voice call is in session. When the Image Sensor is installed on a system with Two-Way Voice over the cellular network, image transmission during an alarm may be interrupted by the two-way session. The image transmission resumes once the call has terminated.

Pet immunity settings

Two parts to making the Image Sensor pet immune:

1. Set PIR sensitivity settings to *Low.*
2. Mount set at a height of 6 feet, and install the sensor with the 6 degree mounting angle.

PIR activation and test mode

By default, the image sensor LED does not illuminate when activated by motion unless the sensor is in test mode. The LED can be enabled by tampering the device or on the panel for each Image Sensor on a customer's account. The Image Sensor must have successfully completed the enrollment process with a panel. When enabled, the red LED illuminates for 3 seconds upon motion activations (at most every 3 minutes while disarmed).

To test the Image Sensor's PIR using the panel:

1. Scroll to *System Programming*, then press **[OK]**.
2. Enter the installer code (default is 4321), then press **[OK]**.
3. Scroll to *Interactive Services*, then press **[OK]**.
4. Scroll to *Image Sensor Setup*, then press **[OK]**.
5. Scroll to *Image Sensor Settings*, then press **[OK]**.
6. Scroll to the *I.S. Zone* # to test, then press **[OK]**.
7. Scroll to *Test PIR*, then press **[OK]**. The screen displays *I.S.* [y] *in test for next 3 min* to indicate the test mode command has been sent.

Note: It may take up to 30 seconds for test mode to take effect after requesting *Test PIR* at the panel.

Tamper

A built-in accelerometer detects movement or repositioning of the Image Sensor and will initiate a tamper whenever a change in sensor orientation is detected. The tamper automatically clears after the sensor is returned to the upright position and no movement has been detected for 5 minutes. A tamper can also be cleared by resetting the sensor.

Trouble conditions

By default, trouble conditions (malfunction, tamper & low battery) are displayed on the panel LCD. Enable or disable trouble condition messages on the control panel LCD via the Alarm.com Partner Portal. Trouble conditions are always reported to the Alarm.com Customer Website and customers will receive tamper/low/malfunction notifications if they are subscribed, regardless of the panel setting.

Batteries ^

|	
Battery type	The Image Sensor uses 2 AA 1.5v Energizer Ultimate Lithium batteries (UL compliant).
Expected battery life	Approximately 4 years with lithium batteries.
Voltage thresholds	With lithium batteries, low battery alerts are issued at 3.05V. The sensor cannot operate when the voltage reads below 2.30V.
Low battery notification	Panel displays a low battery alert for the sensor and/or notifications are issued via the Alarm.com platform if the customer has subscribed to this notification type.

Replacing batteries

To replace the sensor batteries, slide the front of the sensor up off the sensor-back. Dispose of used batteries per the battery manufacturer instructions and following local regulations.

Hold Here

Slide Up
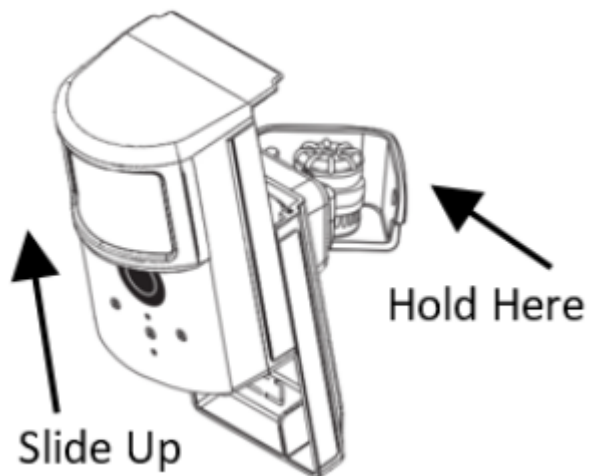
LED Reference Guide

Status

🔴 **Blinking Red**
Sensor Power Up | ~3 seconds

🔴 **Solid Red**
Memory Check | ~10 seconds

🟡 **Blinking Yellow**
Searching for Unknown Network | ~2 minutes

🟢 **Blinking Green**
Searching for Known Network | ~2 minutes

🔴 **Intermittent Rapid Blinking Red**
Network Connectivity Error | Continuous
See Troubleshooting section on page 9.

🟡 **Solid Yellow**
Sensor Found Network | ~5 seconds

🟡 **Blinking Yellow & Green**
Syncing | Up to 5 minutes

🟢 **Solid Green**
Connected and Synced | ~5 seconds

Troubleshooting

🔴 **Rapid Blinking Red**
Network Reset | Hold the Reset button for
10 seconds or until the LED blinks rapidly.

LED Status Chart

LED Pattern Key

● Solid　　◐ Blinking　　◑ Multi-color Blinking　　◔ Rapid Blink

```
┌─────────────────────┐
│ Insert Batteries /  │
│    Power Cycle      │
└─────────────────────┘
                         ┌──────────────────────┐
  ── TO TROUBLESHOOT ──  │                      │
⊕    Network             │   Sensor Power Up    │
      Reset              │                      │
└─────────────────────┘  └──────────────────────┘
                                     │
                         ┌──────────────────────┐
                      ●  │   Memory Check       │
                         └──────────────────────┘

┌──────────────────────┐      ┌──────────────────────┐
◐  Searching for       │   ◑  Searching for       │
│  Unknown Network      │      │  Known Network        │
└──────────────────────┘      └──────────────────────┘

        ┌──────────────────────┐
INTERMITTENT  Network           │
  ⊕     Connectivity Error      │
        └──────────────────────┘
                   │
            TROUBLESHOOT

        ┌──────────────────────┐
     ●  │   Sensor Finds        │
        │      Network          │
        └──────────────────────┘

        ┌──────────────────────┐
     ◑  │      Syncing          │
        └──────────────────────┘

        ┌──────────────────────┐
     ●  │  Connected and        │
        │     Synced            │
        └──────────────────────┘
```
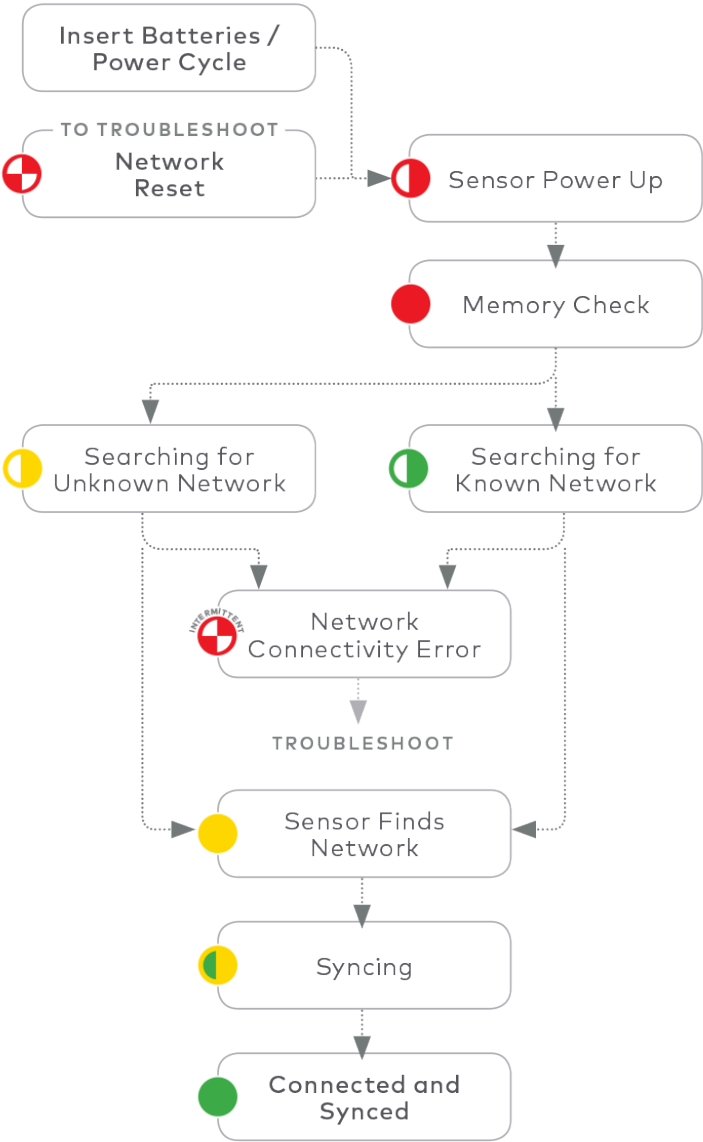
Resetting the Image Sensor ^

There are two ways to reset the Image Sensor.

Power Cycle

If you have issues connecting the Image Sensor to the account, power cycle the Image Sensor in one of two ways:

- Take out and reinsert the batteries, or
- Use a paperclip to quickly press and release the Sensor Reset button. Only press the reset button if the LED has been off for at least 10 seconds and the panel is not in Add mode.

After a successful power cycle, the Image Sensor will enter the Sensor Power Up state (Blinking Red) followed by the memory check state.

Network Reset

An Image Sensor must be network reset when it has been previously enrolled on a different panel. The Image Sensor indicates that it is enrolled on a panel by blinking green after the memory check.

Important: A network reset only works if the Image Sensor is not actively communicating with a network. If the Image Sensor is within range of the original panel, it is required that the Image Sensor first be deleted from the panel it was previously learned into before being able to perform a network reset on the Image Sensor. See instructions on how to properly delete the Image Sensor from the panel.

To perform a network reset:

1. Power up the Image Sensor.
2. Press and hold the reset button down with a narrow tool (such as a paperclip) for a full 10 seconds or until the red LED flashes rapidly.
3. Release the reset button as soon as the red LED starts flashing rapidly. A successful network reset results in the LED blinking yellow after the memory check. Panel association is now cleared from the Image Sensor's memory and it should be available for enrollment.

After releasing the reset button, the Image Sensor enters sensor power-up mode (blinking red LED) followed by memory check (solid red LED) followed by either a blinking green or blinking yellow light. For the full list of status indicators and expected behaviors, see the Camera LED reference chart.
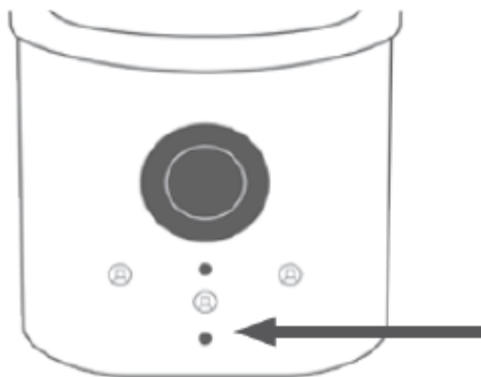
Insert paperclip to access reset button.

Deleting Image Sensor from panel ^

Instructions on how to properly delete and Image Sensor from a system. It is important to do the steps in order.

1. Delete the Image Sensor from the account using the panel's Interactive Services, Partner Portal, or MobileTech app.
2. Perform a network reset of the Image Sensor. This can only be completed after the Image Sensor is deleted from the account, or if the Image Sensor is out of range of its current network.
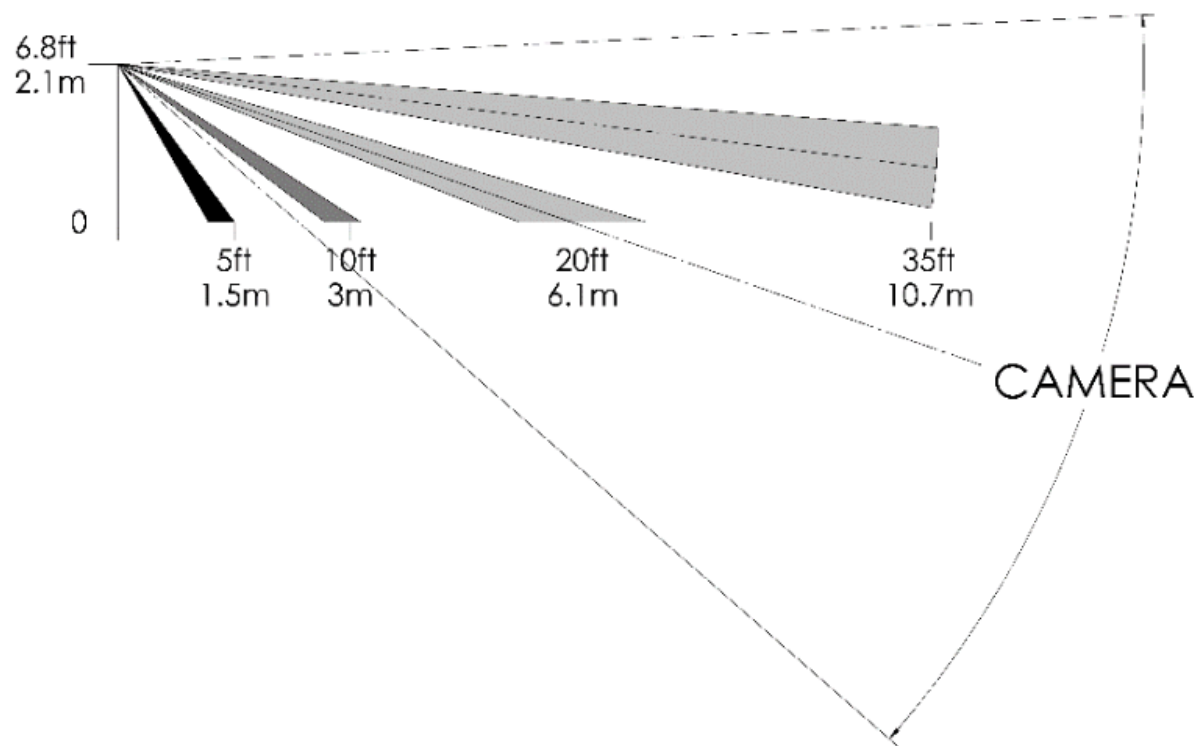
PIR lens and camera coverage diagrams ⌃

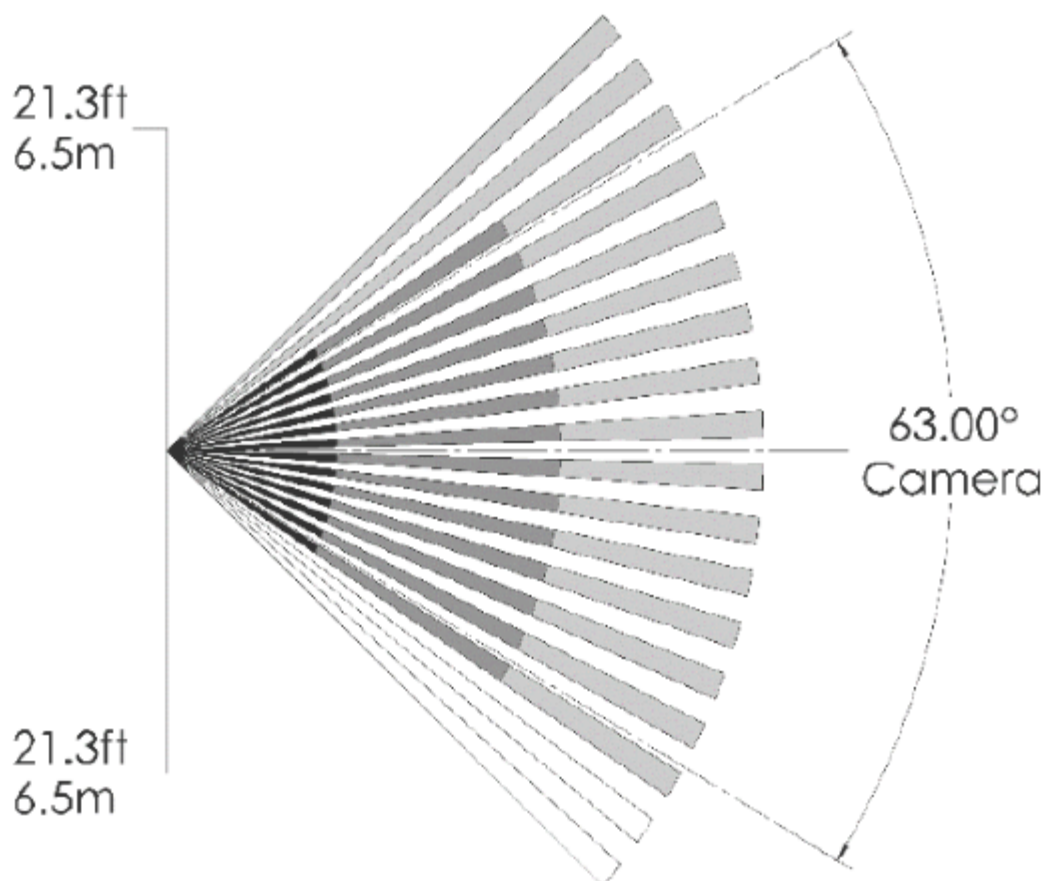*Figure 3. Side View: PIR Lens Coverage*

Figure 4. Top View: PIR Lens Coverage

As indicated in Figure 4, the camera coverage area is narrower than the PIR coverage area. When installing, mount sensor where subjects are likely to be centered in or across PIR and camera field of view.

Troubleshooting⌃

General troubleshooting steps

- Verify module signal strength
- Verify Image Sensor RF signal strength: The signal strength must be above 30% for the sensor to function properly.
- Verify Images service package: Image capture functionality depends on the customer's service package. Verify the proper Image Sensor service package is selected.

Enrollment

- Verify sensor is receiving power: After inserting batteries, the sensor LED should illuminate or flash within 10 seconds.
- Verify sensor is not communicating with another network: If the sensor has been previously enrolled in a different

system or daughterboard, delete the sensor from the system and hold the sensor reset button for 10 seconds to clear the sensor from the old network before attempting to enroll the sensor in a new network. The sensor cannot be cleared if it is currently communicating with its network. In this case, the sensor must be deleted from the system first through the control panel or remote command.

Sensor non-responsive

- Verify range: Verify in the panel's Image Sensor menu that the sensor is registering a strong signal. If the signal strength is low, move the non-responsive sensor closer to the control panel, verify signal strength, and see if communication resumes. If applicable, verify the Image Sensor daughterboard antenna is correctly routed as described in the installation procedure.

- Replace batteries: Check the battery level in the panel's Image Sensor menu, and install fresh Energizer Ultimate Lithium batteries if needed.

Images not captured

- Verify sensor rules: Verify the Image Sensor initialization process has been completed. Verify rules have been confirmed in the *Rules Confirmed* column on the Partner Portal or MobileTech app. If not, resend Image Sensor rules. For more information about resending rules, see Image Sensor Rules Not Confirmed.

- Enable auto uploads: During the first four hours after any sensor is enrolled onto the system, alarm images will not automatically be uploaded to Alarm.com. Automatic uploads are automatically enabled after four hours. For more information about enabling uploads sooner, see Configure automatic Image Sensor uploads.

False motion activations

- Check Environmental Elements: Heating or cooling elements may adversely affect sensor performance. Test sensor with and without these elements to determine interference. Check if there are any reflective surfaces facing the device (e.g., mirror).

- Check Sensor Positioning: The sensor may not be properly positioned to capture the desired motion. Check horizontal positioning of sensor and re-mount as necessary.

- Check PIR Sensitivity Setting: Verify that the proper sensor motion profile has been selected through the setup menu or select a less sensitive profile.

Regulatory information ^

Changes or modifications not expressly approved by Alarm.com can void the user's authority to operate the equipment.

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 form that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC 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 device must not be collocated or operating in conjunction with any other antenna or transmitter.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

This device complies with Industry Canada licence-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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC ID:YL6-143IS300   IC: 9111A-143IS300