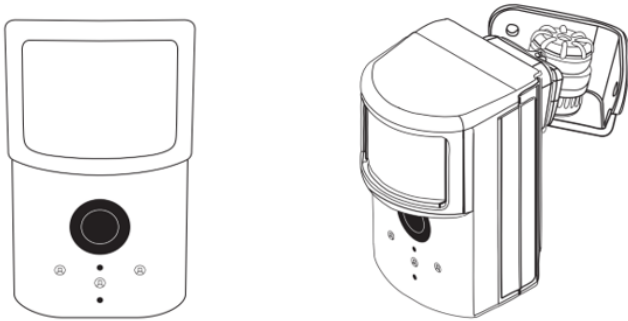


Interlogix Simon XT Image Sensor Installation Guide - ADC-IS-300-LP



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 two 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 hardware)
Wireless signal range	Greater than 400 feet open air
Color	White
Recommended mounting height and angle	Refer to the Mounting Image Sensor
Motion profile and sensor range	Refer to the PIR sensitivity settings diagrams

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 an Image Sensor daughterboard to be installed.
Other	Daughterboard takes one zone

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 hardware zone. Periodic activations on hardware zone 39 appear on the touchscreen as a result of the hardware 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 six feet, and install the sensor with the 6 degree mounting angle.

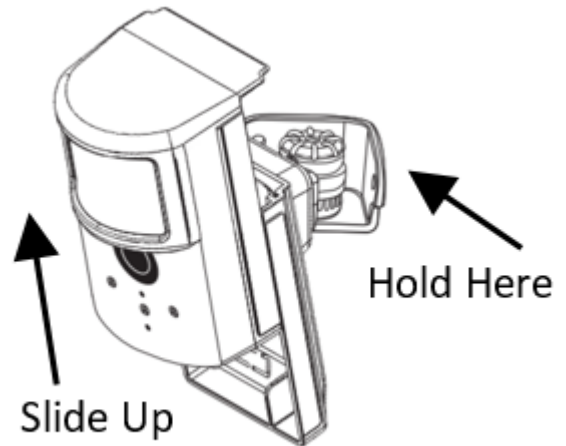
Batteries

Battery type	The Image Sensor uses two AA 1.5v Energizer Ultimate Lithium batteries (UL compliant).
Expected battery life	Approximately four 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.











Camera LED reference chart

Refer to the following guide and chart to understand the camera LED patterns.




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

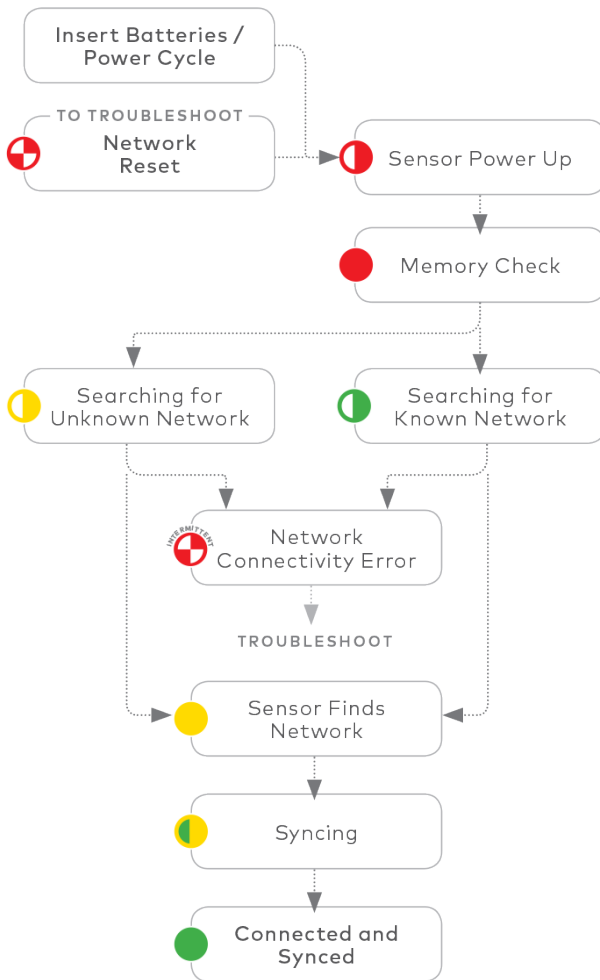
-  **Rapid Blinking Red**
Network Reset | Hold the Reset button for 10 seconds or until the LED blinks rapidly.



LED Status Chart

LED Pattern Key

● Solid ● (with vertical line) Blinking ● (with horizontal line) Multi-color Blinking ● (with cross) Rapid Blink



Resetting the Image Sensor

There are two ways to reset the Image Sensor.

Power cycle

A power cycle can be done by one of two ways:

- Take out and reinsert batteries.
- Press and release the sensor reset button.



https://answers.alarm.com/ADC/Partner/Installation_and_Troubleshooting/Image_Sensor/Image_Sensor_Version_3/Alarm.com_

Updated: Tue, 26 Mar 2019 18:36:40 GMT

Only initiate a power cycle if the LED has not been active in the last 10 seconds. After a power cycle, the Image Sensor enters sensor power up state 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.

To perform a network reset:

1. Press and hold the reset button for a full 10 seconds or until the red LED flashes rapidly.
2. Release as soon as there is a rapidly flashing red LED. A successful network reset results in the LED blinking yellow after the memory check (solid red LED).

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.

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](#).



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, via the Partner Portal, 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 three seconds upon motion activations (at most every three minutes while disarmed).

To test the PIR using the Simon XT:

1. Scroll until the screen displays *System Programming*, and press **OK**.
2. Enter the installer code (default is 4321), and press **OK**.
3. Scroll up to *Interactive Services*, press **OK**.
4. Scroll down to *Image Sensor Setup*, press **OK**.
5. Scroll to *Image Sensor Settings*, press **OK**.



6. Scroll to *Image Sensor [y] Test PIR*, 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 and trouble conditions

Tamper

A built-in accelerometer detects movement or re-positioning of the Image Sensor and initiates 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 five 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 using the Partner Portal. Trouble conditions are always reported to the Customer Website and customers receive tamper/low/malfunction notifications if they are subscribed, regardless of the panel setting.

Service package requirements

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

Images - Alarms- Includes upload of images from alarm events only.

Images - Plus- Includes upload of images from alarm events and non-alarm events

Installation: Preparing panel for enrollment

Create Alarm.com customer account

Select service package (see [Service package requirements](#)) and register the Alarm.com module serial number on the Partner Portal.

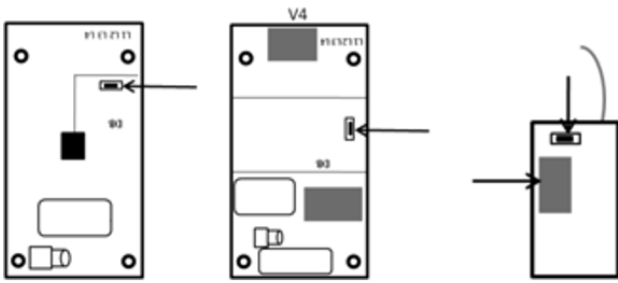
Install Image Sensor daughterboard if necessary

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.





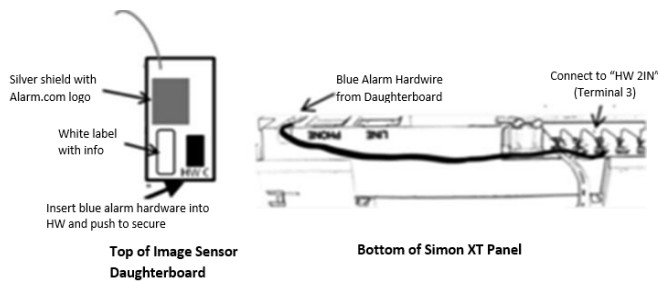
Install Alarm.com module inside control panel

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.

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 Customer Website and notifications, as well as 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.

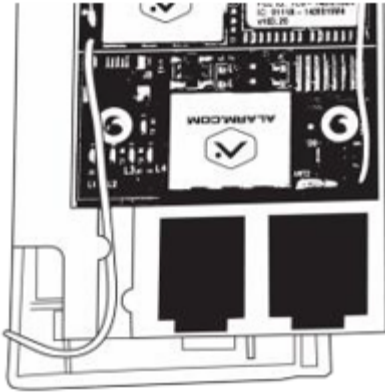


Route daughterboard antenna

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

1. Put the panel into Add Mode.
 - a. Go to the home screen.
 - b. Scroll to *System Programming* then press **OK**.
 - c. Enter the installer code.
 - 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**.
 - g. Screen should display *Power up or set I. S. Mode*.
2. 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.
3. 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.
4. 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.

5. 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.

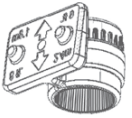
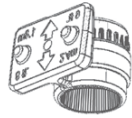
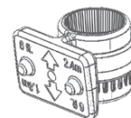


The sensor is now learned into the panel. Sensors are enrolled in group 17 by default. To change the sensor group, use the Sensors menu in Programming. Image Sensors may be enrolled in groups 15, 17, or 25. (No chime issued for group 25)

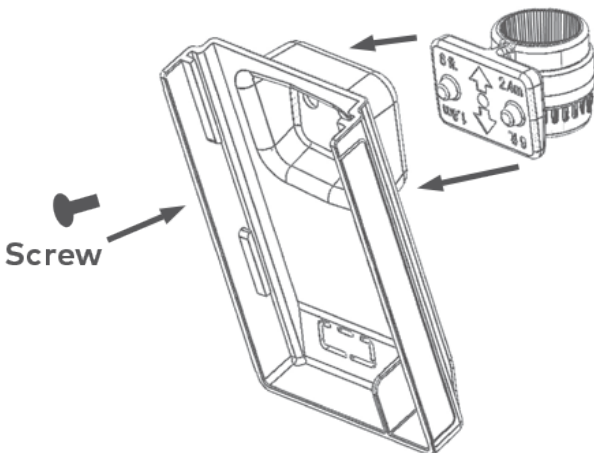
Note: Alarm.com does not recommend using sensor group 20 for Image Sensor Installations.

Installation: Mounting Image Sensor

1. Determine the desired mounting angle – 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 bracket to back plate.



3. Determine location to mount sensor.

Best Practices for Installing Image Sensor: Do's and Don'ts



DO:

- 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.



DON'T:

- 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.

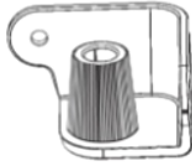
- The sensor hardware packet contains two mounting brackets for different mounting scenarios. Use the provided large screws and anchors to attach the bracket to the wall. Leave at least three inches of clearance



above the sensor to allow for battery replacement without uninstalling the mounting bracket.

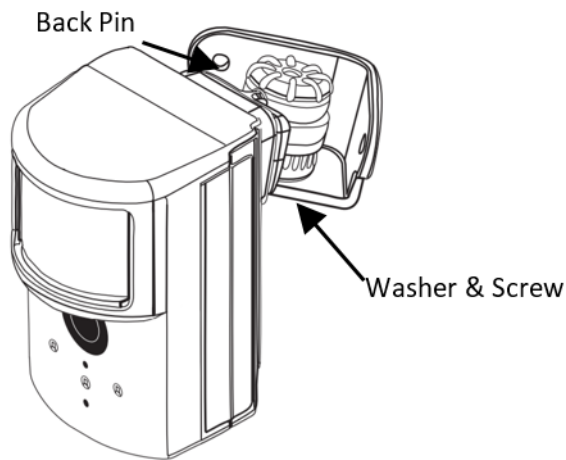


Flat Wall Mount



Corner Wall Mount

5. Place sensor with arm on mounting bracket. 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 PIR Sensitivity Settings – Three options for PIR sensitivity can be set through the panel or on the Partner Portal:

PIR Sensitivity Settings Table	
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.



8. Verify and test Image Sensor setup

- a. Verify that rules are confirmed via the Partner Portal or on MobileTech. Resend rules if they are not confirmed.
- b. 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.
- c. Conduct walk test - 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. Installers are required to be onsite to test by running a communication test at the panel.
- d. Test night captures.

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, i.e. Partner Portal or MobileTech.
2. Perform a network reset of the Image Sensor. For instructions on how to network reset an Image Sensor, see [Network reset](#). 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

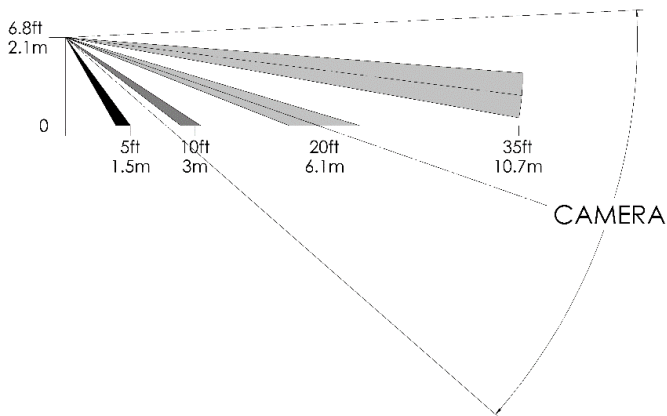


Figure 3. Side View: PIR Lens Coverage



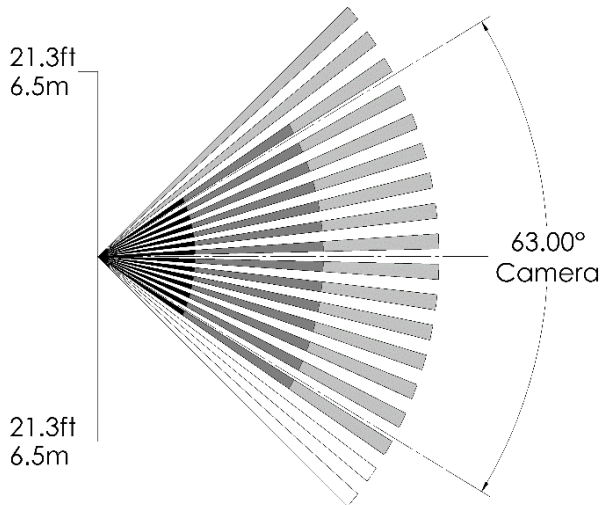


Figure 4. Top View: PIR Lens Coverage

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 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: Under the *Image Sensor Setup* menu, scroll to *Image Sensor Settings* select the sensor and verify under *Signal* that the sensor is registering a strong signal. If signal strength is low, move non-responsive sensor



closer to control panel, verify signal strength and see if communication resumes. Be sure that Image Sensor daughterboard antenna is correctly routed.

- **Replace Batteries:** Verify the battery level at the panel under *Image Sensor Settings* and install fresh sensor batteries.

Images not captured

- **Verify Sensor Rules:** Verify the sensor initialization process has been completed. On the Partner Portal, verify rules have been confirmed using the *Rules Confirmed* column. If not, resend Image Sensor rules.
- **Enable Auto Uploads:** During the first four hours after any sensor is enrolled onto the system, alarm images do not automatically upload to Alarm.com. Automatic uploads are automatically enabled after four hours. Enable uploads sooner from the Partner Portal.

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 from 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

