

## **Using SightLogix Thermal AI**

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These instructions are for updating existing SightSensors with Thermal AI firmware for the first time. New SightSensors shipped from the factory are **already** enabled with Thermal AI capabilities and do not need to be updated.

However, all users may find the "AI Considerations" section below helpful for using SightLogix's Thermal AI capabilities.

## **Getting Started**

If you're familiar with installing and using SightLogix software, you can enable Thermal AI with the following four steps:

- 1. Install the AI-enabled firmware
- 2. Enable the Al Filter
- 3. Enable AI Recording
- 4. Save your settings

#### What You Need

• A Gen4 SightSensor

Note: SightSensor cameras shipped after 2018 and ending with -x20 part numbers are Gen4 and can be upgraded to AI firmware. If unsure, contact SightLogix (https://www.sightlogix.com/contact/).

- Access to your device's WebConfig interface
  - If you are using Classic SightMonitor (Java application) to manage your device, additional steps are required. Click here for instructions (https://portal.sightlogix.com/help/using-ai-firmware-in-gen-4-sightsensor-managed-bysightmonitor-classic) and then return to this page.

#### Step 1. Install the AI Enabled Firmware

- Create a Mask Zone over the camera's Field of View (<u>highly recommended</u> to avoid alarms during the AI firmware upgrade procedure). Note that your camera will be temporary restricted from detected intruders.
  - To do so: Click the Policy tab, press the '+' in the Policy table, change the Alarm zone to a Mask zone and click "Save"
- Reboot the camera (highly recommended as an initial step and after any upgrade failure)
- Install the Thermal AI firmware (refer to Upgrading SightLogix Software and Firmware (https://portal.sightlogix.com/help/upgrading-cs-and-firmware) for instructions)
- If your upgrade fails ("OSError: [Errno 28] No space left on device") install Bridge Firmware 16.2.124, then re-



#### install the AI firmware

## Step 2. Enable AI Filtering

Al Alarm Filtering is applied on objects that are within a pre-defined percentage of the inbound detection range of the SightSensor. This range is indicated by the area under the blue line in the snapshot.

• Click Policy on the sidebar to reveal the Zones tab, as shown

sightlogix* <	POLICY (	SL-26290)		
NETWORK	Zones Rule			
DEVICE				
CALIBRATION			2022/13/07	
POLICY			10.53.34	
MPEG / JPEG				
TRACKER		million million		
WEB SERVER				
MAINTENANCE		A Constant of the Constant		
INFO				
CAMERA NEIGHBORHOOD		a har and application of	and the second second	
RECORDING		And the second sec	2 Carton	
ONLINE HELP		Mar and the second second	an a	
LOGOUT				
	Refresh Image	Use Visible Background		
	Туре	Description	Alarm Condition	•
		field	Human Detection V	

• Click the Edit Rule button in the red bar to open the Rules tab, as shown

Туре	Description	Alarm Condition	+
Alarm 🗸	field	Human Detection V	edit rules ;

• Scroll down to the Al Alarm Filtering section, as shown.

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POLICY (sl-27642)							
Zones Rules							
Zone	2	one-e6b07d0260be					
Rule Type	_	Description	_				
Motion ~					×		
Duration (sec.)	1.5		From Zone	No Zone	*		
Target Height (feet)	Target Height (feet) Target Wid						
Min	2.999	Min	1.001				
Max		Мах					
Target Aspect Ratio (width/	Target Aspect Ratio (width/height) 🛛 🔨 Target Spe						
Min		Min					
Max		Мах					
Target Heading (degrees)	Al Alarm I	Filtering					
Min		Only alarm on					
Max		Alarm requires	Select •				
			Person				
Disarm Conditions							

To enable AI:

- Choose an option from the Alarm Requires drop-down menu to detect a Person, Vehicle, or both.
- To disable AI Alarm Filtering, uncheck both boxes.

## **Enable AI Recording**

It is recommended to enable AI Recording. This collects data if further refinement of the AI is needed for your site.

- Click the Device tab in the left-side navigation menu and scroll to the "AI Capture" section at the bottom of the page
- Click "Enable AI Recordings" as shown
- Once enabled, the system will begin to capture scene data to the camera's internal flash drive
- A total of five captures are stored, after which the sensor stops recording data.



sightlogix <sup>4</sup> <	DEVICE (SL-26290)						
NETWORK	Device Description						
DEVICE	Time Zone	(GMT-05:00 DST) Eastern	Time (U.S, Canada, Bahan	nas, Haiti)			
CALIBRATION							
POLICY	Device GPS Location						
MPEG / JPEG	Day/Night Mode	Auto Sense with LED		Sunrise Offset (min)		Sunset Offset (min)	
TRACKER							
WEB SERVER	Next Day/Night Event						
MAINTENANCE	Dual Sensor Analytics	Low False Alarm		■ Night DSA		Shock Detection	
INFO	VMS Type	ONVIF H.264			Relay Out Mode	Disabled	
CAMERA NEIGHBORHOOD	Motion On Event Servers	Custom			Video Out Mode	NTSC	
RECORDING							
	Motion Off Event Servers						
	Last Clip Timestamp	Alarm Test Clip Ban Thu Dec 7 13:42:00 2023	dwidth Stats				
Anti Ficker Ai Captures		Outdoor Mode				Z Enable Heater	
		Enable AI Recording for	SightLogix				

Step 4: Click Save to save your settings and enable AI on your device.



Once enabled, AI classification is applied on objects that are within a defined percentage of the SightSensor's Inbound Detection Distance (and indicated by the area **under the blue line** on the Calibration page).

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Thermal AI is now setup on your device. To learn more about Thermal AI operations, more details are provided below.

## To Send Capture Data to SightLogix:

• Click the blue filename to download the capture



- Do the same for all existing captures
- Once downloaded, click "del" to delete the capture(s)
- You can choose to pause the capture processing by unchecking the Enable box.
- Upload the captured files to SightLogix's secure DropBox account using the link provided in your email from SightLogix support

## Addressing AI Recording Privacy Concerns

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We have taken several steps to ensure the privacy of the capture taken by a SightSensor in the field:

- The file generated by the Capture tool is fully encrypted
- The capture is only taken from the thermal stream; no identifiable details are included (for example, no faces, clothing color, writing on signs, license plates, etc.)
- An example of an actual capture is below note the absence of any identifiable data:



## **AI Considerations**

SightLogix Thermal Al Alarm Filtering will analyze a detected target and filter out (ignore) objects that are NOT classified as a person, as a vehicle, or as a person or vehicle. The goal is to maintain our "above all, don't miss" detection architecture while reducing outdoor nuisance alarms.

It is available for both thermal-only and dual-sensor cameras.

New SightSensors shipped from the factory after January 2024 include Thermal AI.

For existing Gen 4 SightSensors in the field, it is enabled through a firmware update.

## How it Works

- The AI filter operates on the thermal stream of a SightSensor, even in thermal/visible devices. This enables AI target classification for more situations (e.g., at night).
- The AI filter is enabled on a Zone basis, similar to other analytic filters (target height, width, speed, etc.).
  - This also gives you the flexibility to draw Zones that have/don't have AI enabled, as your application requires
- Updating a device to the AI firmware will <u>not</u> overwrite any existing zones.



- However, if you choose to downgrade the device to an earlier firmware that does not include AI, you
  must reset the device to Factory Defaults, apply the downgraded firmware, and redraw the camera's
  zones.
- As always, be sure to back up your device before updating to the new AI firmware

## **General Considerations**

Al classification is applied on objects that are within a defined area of the inbound detection range of the SightSensor.

• This AI operating range is indicated by a line in the camera's field of view on the WebConfig Policy page

Objects that are beyond the AI operating range will <u>continue to be detected</u> according to the Zone's policies (i.e., Target Duration, size, etc.).

## **Target Visibility**

Classification accuracy can be improved by the following considerations:

- Targets should be mostly visible and not occluded by other objects
- Objects should be in their natural orientation, for example a car upside down on a trailer might be not be classified as a vehicle

#### Scene Contrast

Al classification requires enough contrast between targets and background. High humidity, fog, or other environmental conditions can reduce contrast.