GPI Korea
AI Control User Manual

June. 2023

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2. Introduction

AI Control supports the detection of Person, Car, Motorcycle, Bicycle, Truck and Bus, which are data learned through AI, and displays them on a web browser. Additional, it also provides the capability to recognize and display human faces using Face Detection.

In addition, if you set the Intrusion and Line Cross functions using the Video Analytics function, This allows you to detect objects that intrude into specific area or count objects that across designated lines.

The AI Control function is optimized for the Google Chrome Browser and also available in Edge Browser.

※ Up to 16 objects can be detected

Note: Instructions and information described in this manual are for GPI cameras using ru /rv firmware

3. Enter to Menu

When accessing the camera through a web browser, the main page as shown below appears. Click the ADMIN icon on the top left to enter the administrator page for the product.

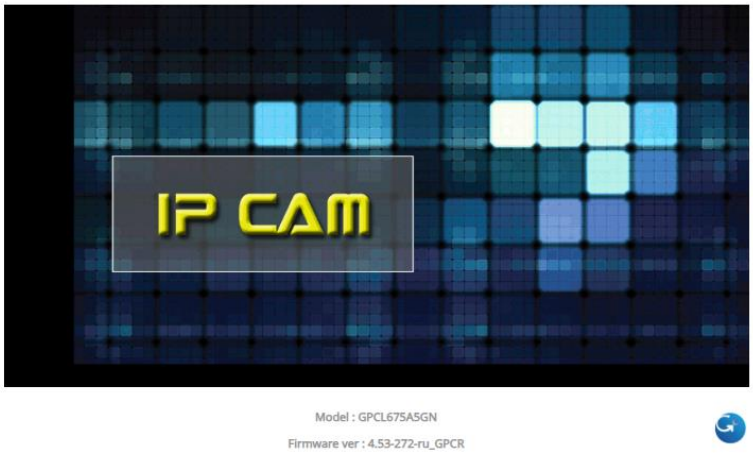
※ In order to use this function, the IP settings of the camera must be set in advance. You can set camera IP by using IP Installer PLUS

3.1 Enter to Web Admin Page

To log in to the Web Admin Page, execute the following.

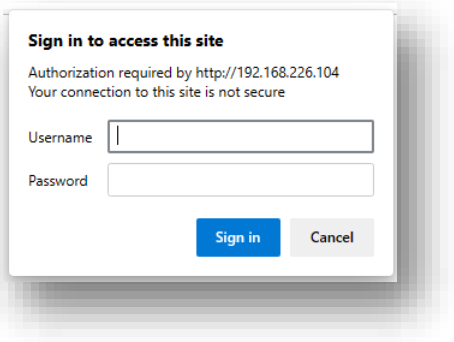
1) Connect by entering the IP address of the camera in the address bar of your web browser.

2) When connected, the following homepage screen is displayed.

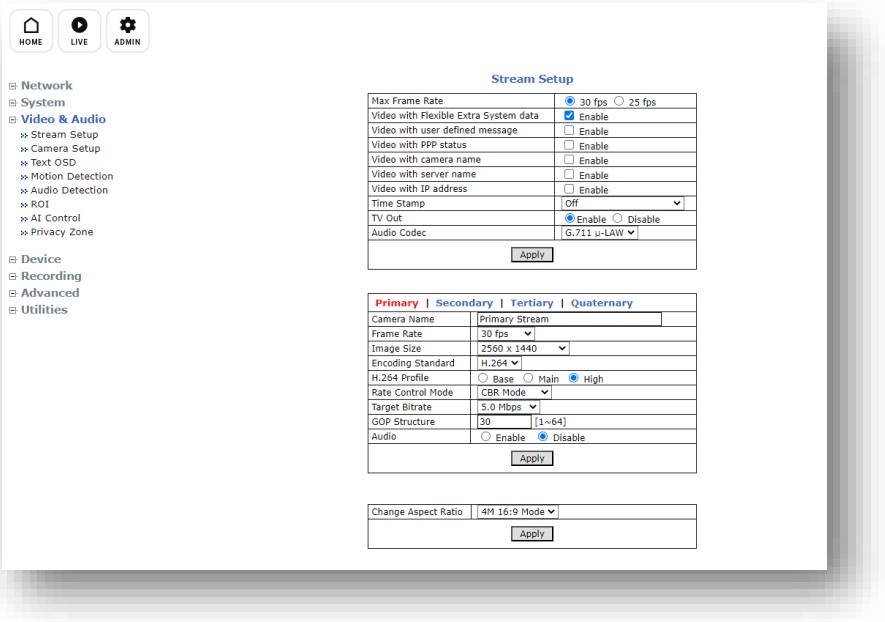


3) Click on ADMIN in the upper left corner.
4) Enter username and password (Default : root / root) and click the Login button.

Note: The default User Name and Password is "root" / "root".



5) When login is successful, the Web Admin page appears as shown below.



The Web Admin menu may appear differently depending on the camera model.
You can use the AI function by clicking the AI Control menu shown in the tree menu on the left.

3.2 Structure of AI Control Menu

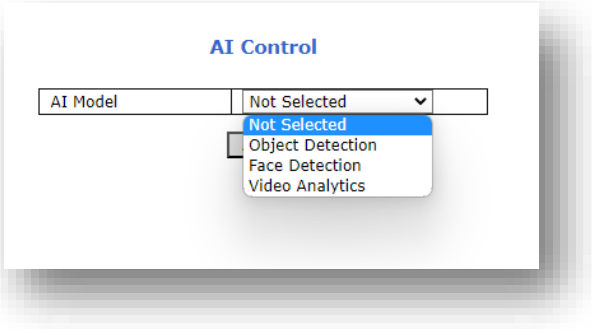
AI Control Menu structure is composed as follows.

Category	Main Menu	Sub Menu	Remark
Video & Audio	AI Control	Not Selected	No Use
		Object Detection	Setup of Object Detection
		Face Detection	Setup of Face Detection
		Video Analytics	Setup of Video Analytics

※ Object Detection, Face Detection, and Video Analytics functions in the submenu operate independently and cannot be used simultaneously.

4. AI Control

This menu is responsible for settings related to Object Detection, Face Detection, and Video Analytics..



4.1 Not Selected

AI function is not activated. After selecting the desired item except for Not Selected in the AI Model, click the Apply button to apply the function and become active.

Set to Not Selected if AI function is not used.

4.2 Object Detection

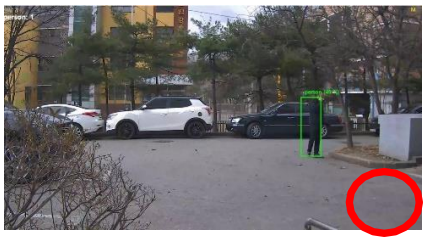
This function uses AI to analyze pre-learned objects (people, cars, motorcycles, bicycles, trucks, buses) and then displays the analyzed data..

Note: The recognition rate may change depending on the camera angle, object size, direction, screen brightness, etc. Usually, the front, side, and back sides can be recognized, but it may not be recognized when shooting from above, when the object is covered, or when a large number of objects overlap

* recognizable screen

Car & Truck

Car & Truck



Person

* unrecognizable screen

Car & Truck

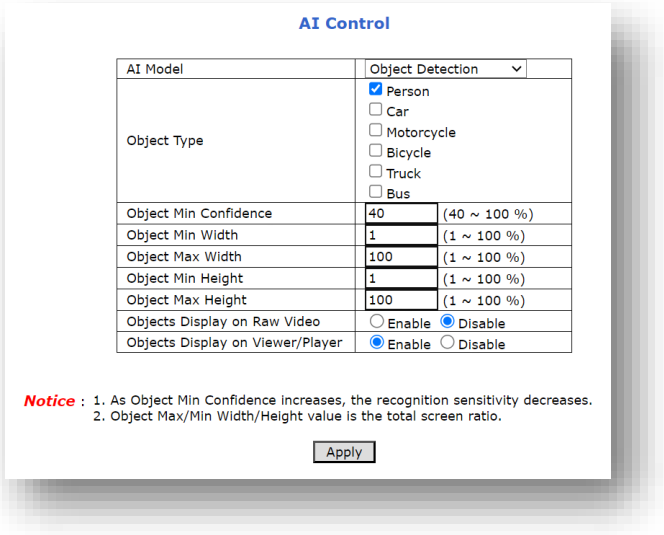
Car & Truck

Bicycle

Up to 16 objects can be detected and displayed.

The recognition rate of each analyzed object is displayed in %, and the number of detected objects is displayed at the top left of the Viewer..

4.2.1 Setup of Object Detection



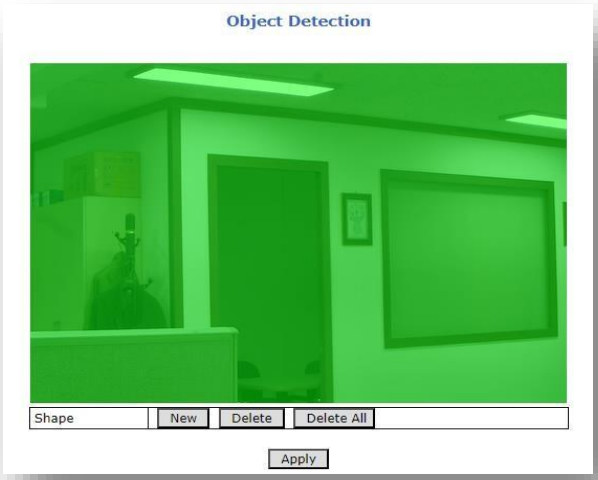
Menu	Description
Object Type	Select the Object Type to display. 1) Person : Recognizes and displays people. (Indicated by a green box.) 2) Car: Recognizes and displays cars. (Indicated by a blue box.) 3) Motorcycle : Recognizes and displays motorcycles. (Indicated by an orange box.) 4) Bicycle : Recognizes and displays bikes. (Indicated by a red box.) 5) Truck : Recognizes and displays bikes. (Indicated by a red box.) 6) Bus : Recognizes and displays bikes. (Indicated by a red box.) * Multiple objects can be selected.
Object Min Confidence	You can set the reliability of the object. The criterion is %. You can reduce errors by adjusting this value. If set to 70, it is displayed when the reliability of the set object is over 70%. (The minimum value is 40.)
Object Min Width	Sets the minimum value for object width. (The minimum value is 1.) The size of the recognition area is set in proportion to the size of the original image.
Object Max Width	Sets the maximum value for object width. (The maximum value is 100.) The size of the recognition area is set in proportion to the size of the original image.
Object Min Height	Sets the minimum value for object height. (The minimum value is 1.) The size of the recognition area is set in proportion to the size of the original image
Object Max Height	Sets the maximum value for object height. (The maximum value is 100.) The size of the recognition area is set in proportion to the size of the original image.
Object Display on Raw Video	This function displays and transmits recognized objects when the camera transmits video. You can use this function in various clients (NVR, VLC, etc.).
Object Display on Viewer/Player	This is a function to display or not display recognized objects in the camera's Viewer/Player.

4.2.2 Object Detection Area Setting

One full zone is set by default. The area marked in green is the detection area..

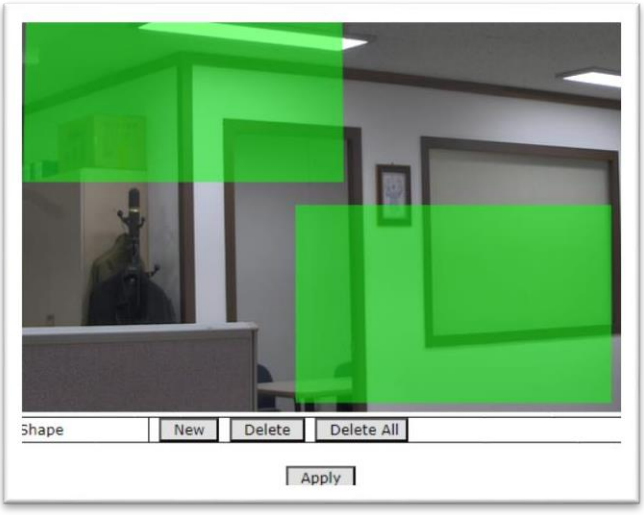
You can select and move the detection area or change its shape using the corner.

Can be divided into up to 4 areas.

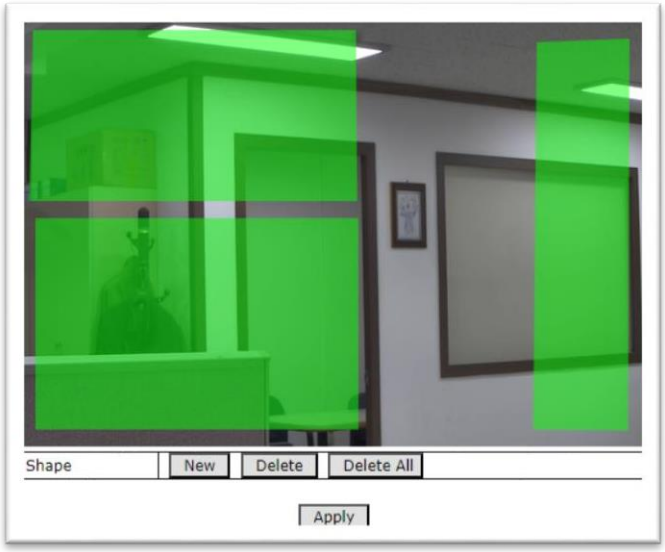


Name of Button	Description
New	Add a new area.
Delete	Delete the set area.
Delete All	Delete all areas.
Apply	Apply the settings. (If the area is changed, you must click the Apply button.)

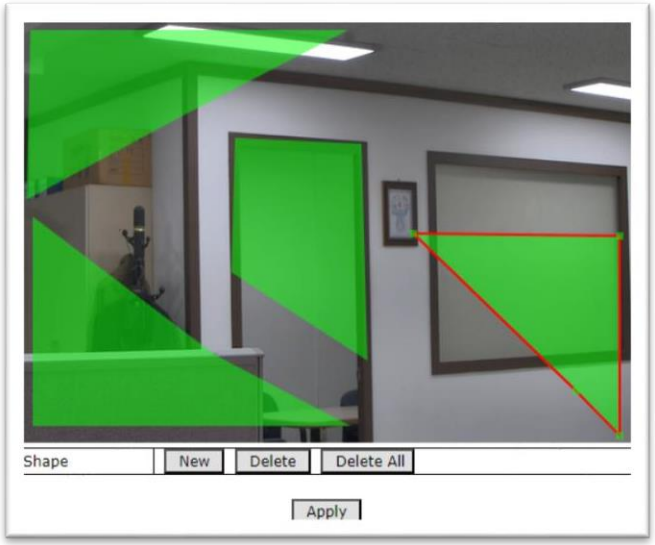
No setting area



Set into two areas



Set into three areas and change the shape of the area



Set into four areas and change the shape of the area

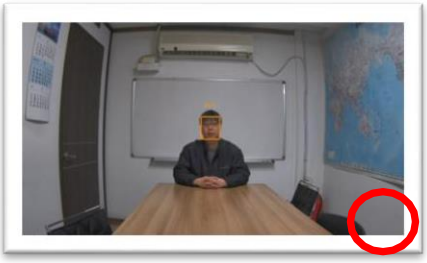
4.3 Face Detection

This function detects and displays a person's face. Up to 16 faces can be recognized and displayed.

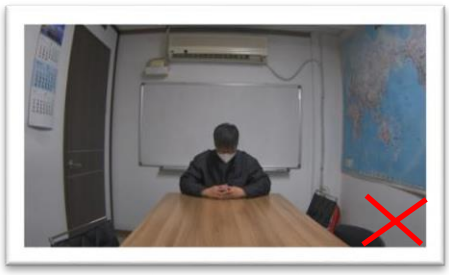
If a face is detected, an orange box is displayed, and the confidence level is displayed in %.

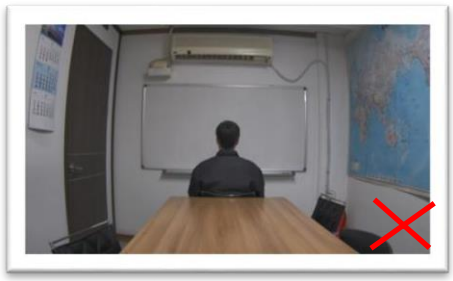
Note: Recognition rate may drop if the size of the face displayed on the screen is remarkably small, profile, or wearing a hat or mask.

* recognizable screen

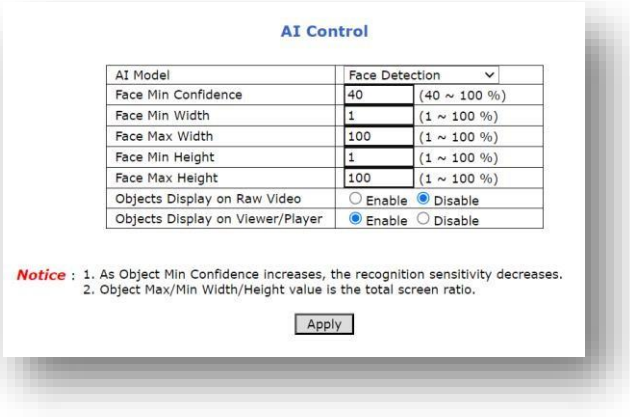


* unrecognizable screen





4.3.1 Face Detection Setting



Menu	Description
Face Min Confidence	You can set the level of confidence for the detected human face. The criterion is %. You can reduce errors by adjusting this value. If set to 70, it is displayed when the reliability of the detected human face is over 70%. (The minimum value is 40.)
Face Min Width	Sets the minimum value for object width. (The minimum value is 1.) The size of the recognition area is set in proportion to the size of the original image.
Face Max Width	Sets the maximum value for object width. (The maximum value is 100.) The size of the recognition area is set in proportion to the size of the original image
Face Min Height	Sets the minimum value for object height. (The minimum value is 1.) The size of the recognition area is set in proportion to the size of the original image.
Face Max Height	Sets the maximum value for object height. (The maximum value is 100.) The size of the recognition area is set in proportion to the size of the original image.
Object Display on Raw Video	This function displays and transmits recognized objects when the camera transmits video. You can use this function in various clients (NVR, VLC, etc.).
Object Display on Viewer/Player	This is a function to display or not display recognized objects in the camera's Viewer/Player.

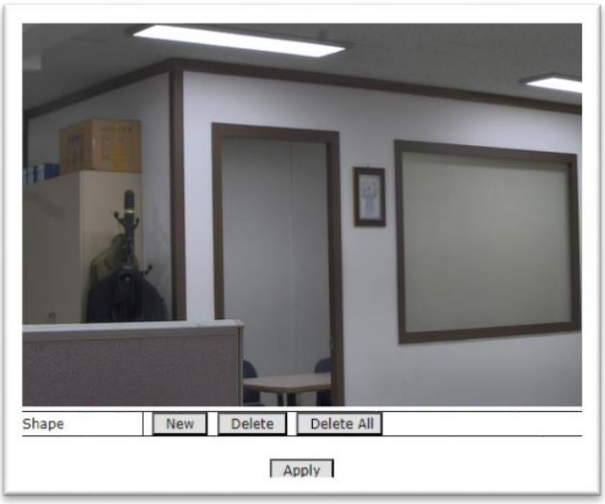
4.3.2 Face Detection Area Setting

One full zone is set by default. The area marked in green is the detection area.

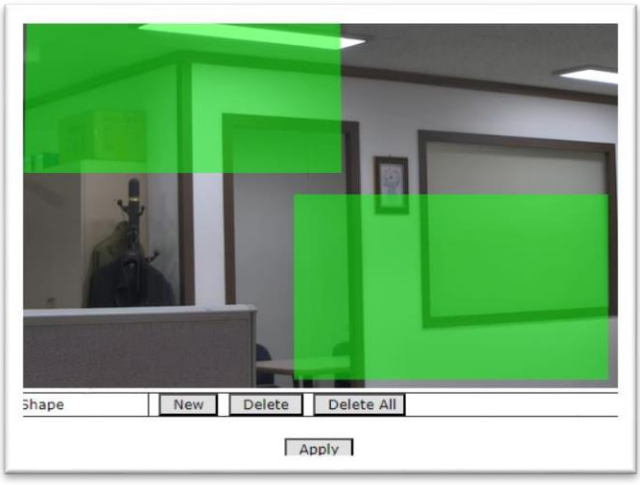
You can select and move the detection area or change its shape using the corner.

Can be divided into up to 4 areas.

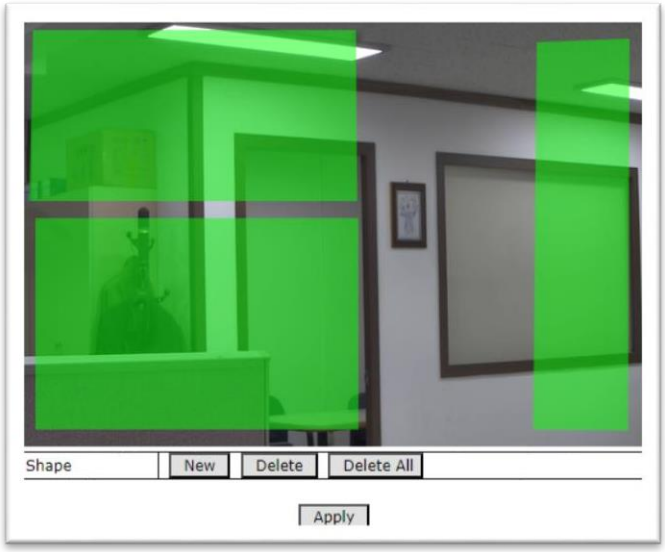
Name of button	Description
New	Add a new area.
Delete	Delete the set area
Delete All	Delete all areas
Apply	Apply the settings. (If the area is changed, you must click the Apply button.)



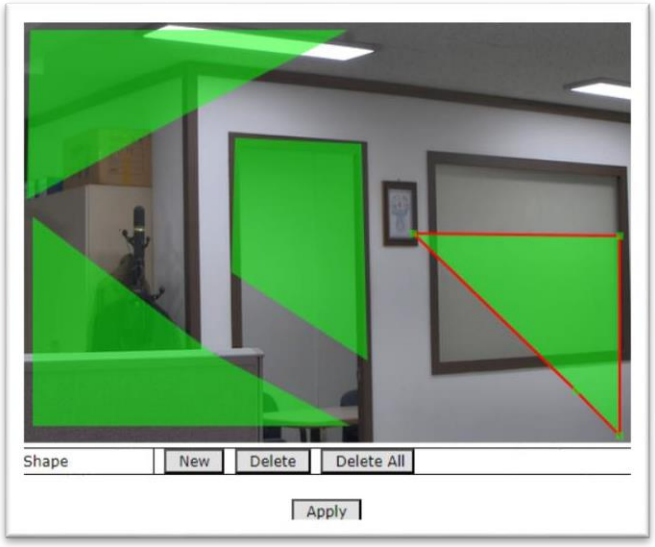
No setting area



Divide into two areas



Divide into three areas and change the shape of the area



Divide into four areas and change the shape of the area

4.4 Video Analytics

This is a menu to set Intrusion, Line Cross, and Tempering.

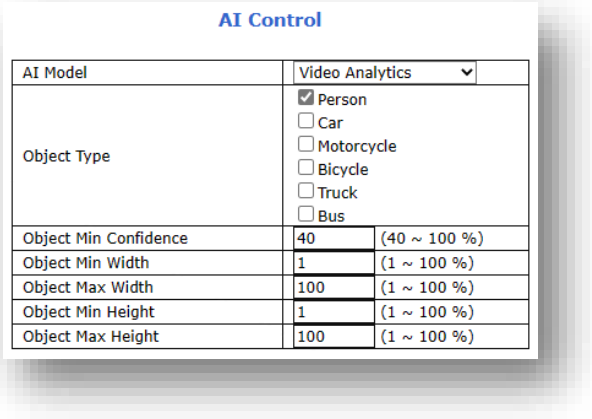
If the set object is satisfied, movement indication is supported, and if invasion or line crossing is set, numbers are displayed when the area is passed.

The above functions can be used simultaneously, and up to 4 can be set.

Note : Count function is not supported in setting window

4.4.1 Video Analytics Setting

4.4.1.1 Object Type setting

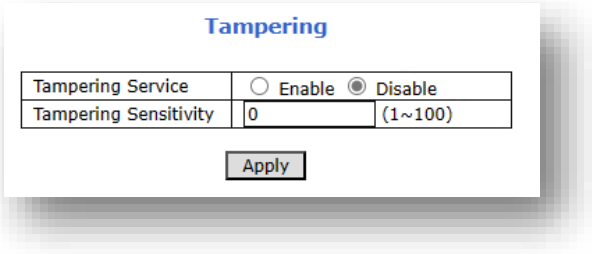


Menu	Description
Object Type	Select the Object Type to be used for video analysis. 1) Person: Recognizes and displays people. 2) Car: Recognizes and displays cars. 3) Motorcycle: Recognizes and displays motorcycles. 4) Bicycle: Recognizes and displays bicycles. 5) Truck: Recognizes and displays trucks. 6) Bus: Recognizes and displays the bus. * You can select multiple objects.
Object Min Confidence	You can set the reliability of the object. The criterion is %. You can reduce errors by adjusting this value. If set to 70, it is displayed when the reliability of the set object is over 70%. (The minimum value is 40.)
Object Min Width	Sets the minimum value for object width. (The minimum value is 1.) The size of the recognition area is set in proportion to the size of the original image
Object Max Width	Sets the maximum value for object width. (The maximum value is 100.) The size of the recognition area is set in proportion to the size of the original image.
Object Min Height	Sets the minimum value for object height. (The minimum value is 1.) The size of the recognition area is set in proportion to the size of the original image.
Object Max Height	Sets the maximum value for object height. (The maximum value is 100.) The size of the recognition area is set in proportion to the size of the original image.

4.4.1.2 Tampering setting

This function displays on the screen when a sudden change in the image (angle change, sudden darkening or brightening, etc.) is detected.

If detected, the entire screen is displayed in a red tint for 5 seconds.



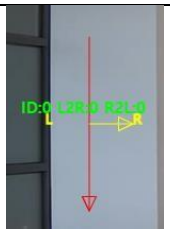
Menu	Description
Tampering Service	Enable : Use the tampering function. Disable : Disable the tampering function
Tampering Sensitivity	Sets the sensitivity to be used for tampering. (The higher the number, the more sensitive it is.)

4.4.1.3 Video Analytics setting (Intrusion / Line Cross)

Menu	Description
Shape	Intrusion / Line Crossing-Left to Right / Line Cross – Right to Left / Line Crossing – Bi-direction
New	Add the function selected in Shape
Delete	Delete the selected function.
Delete All	Delete all set functions.
Apply	Apply the set function. (If you add a function or change a location, you must apply it by clicking the Apply button.)
Clear Count	Initialize the number counted in the viewer

4.4.1.4 Shape setting

Function	Description
Intrusion	It is an invasion function, and it is a function that counts when an object touches the marked area. Counts I2O (objects moved out of the area) and O2I (objects moved from outside the area). Can be repositioned or resized.
Line Crossing-Left to Right	This is the line cross function. This function counts objects moving from left to right.

	 It can be repositioned or resized.
Line Cross – Right to Left	This is the line cross function. This function counts objects moving from right to left It can be repositioned or resized.
Line Crossing – Bidirection	This is the line cross function. This function counts objects moving in both directions It can be repositioned or resized..