Web Guide

The Extension Software (AI-VMD/AI count application for omni-directional cameras)

Ver 4.20.0

Contents

1 Introduction

1.1 Introduction

This manual explains how to register the Extension Software (hereinafter referred to as this product) with an AI omni-directional network camera (sold separately), the settings required before starting operation, and how to operate it during operation.The camera must be registered before use. Be sure to read the camera's instruction manual when using the camera.
Depending on the camera model used, the display of the camera may differ from that used in this manual.
The settings shown in this manual may differ depending on the camera model used and the i-PRO Configuration Tool (iCT) version.
In this manual, personal computers are referred to as personal computers or PCs.
The "<Control No.: C****>" in this document is the number used to search for the appropriate information in our support website.
→Technical information

1.1.1 Product Overview

This product is software for more convenient use of AI omni-directional network cameras (sold separately, hereinafter referred to as camera). The following functions can be selected by installing the product on the camera and registering the release key.

- Counting by [Cross Line Counting function], which counts the number of people across lines
- Counting by [Area Counting function], which counts the number of people in the area
- Alarm generated by the "[Occupancy Detection function (hereinafter referred to as "Occupancy Detection")] that detects the congestion of people
- Counting by [Heat Map function (hereinafter referred to as "Heat Map")] to visualize passage and retention
- Alarm generated by the [AI-VMD function (AI-VMD)], which automatically determines the detected movement

Use i-PRO Configuration Tool (hereinafter referred to as "iCT") for the setting of the product.

・See the following URLs for iCT.
→Click here for more information on iCT

・This product is required for each camera.
・Refer to the following URL for information on the compatible models and software versions of this product.
Equipment compatibility

1.1.2 Features

■ Cross Line Counting

You can count people across lines and provide statistics on the number of people counts.

■ Area Counting

The number of people detected in the area can be counted to provide statistical information on the number of people counted.

■ Occupancy Detection

The alarm can be generated by counting the persons detected in the area.

■ Heat Map

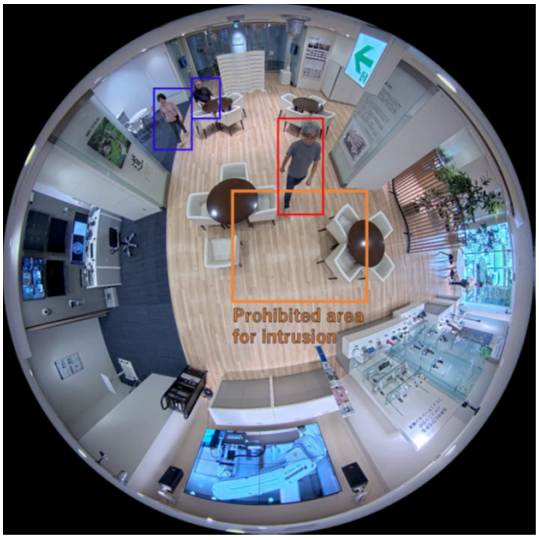
It is possible to count the persons who have passed or stayed within the image angle range of the camera and to provide map information that statistics the number of people counted.

■ AI-VMD

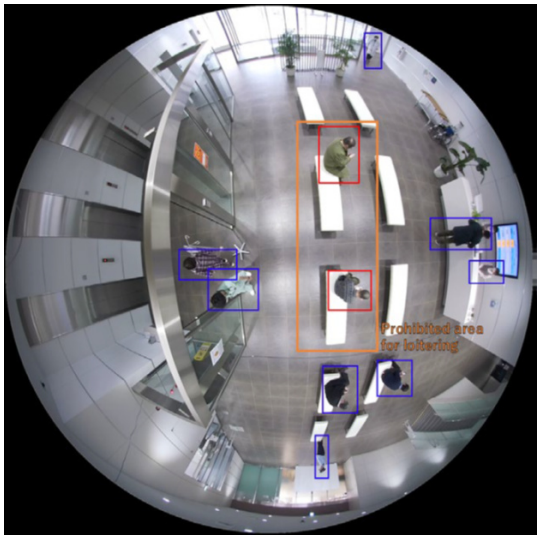
The AI technology determines whether the detected motion object is an automobile (four-wheel vehicle) or a person.

The following three modes can be used to detect and generate alarms.

- Intruder : When a moving object enters a pre-set area
- Loitering : When a moving object stays in the pre-set area for more than a certain period of time.
- Cross Line: When a moving object exceeds the preset line in the specified direction



Intruder: An alarm is generated when a moving object enters the set area.



Loitering: Alarm is generated by detecting the accumulation of moving objects in the set area.

Cross Line: The alarm is generated by detecting that the set line has exceeded the specified line.

1.2 Notes

1.2.1 General Information

Mount the cameras for installing the [Ext. software] on the ceiling so that they are horizontal to the ground. It is also recommended that the camera mounted on the ceiling be installed at a height of 2.5 m to 5.0 m to increase the detection accuracy of the subject.
In the following cases, it may be difficult to detect the subject, or it may cause an error, false alarm, or a decrease in the accuracy of the number of people measurement.

- The difference in brightness between the background and the subject (the difference in brightness) is small.
- Image brightness is low, such as at night.
- The subject is out of focus.
- The subject is blurred.
- The subject moves too fast or too slowly.
- The subject is too small or too large.
- The subject is white or blackened.
- The subject is moving toward or away from the camera at the periphery of the fish-eye image.
- Only a part of the subject is hidden in the privacy zone or other subject. (Reference: Only 2/3 or less above the shoulder in the case of a person)
- The person lies or falls.
- The person is short. (Reference: 120cm or less)
- The person has a big baggage. (e.g., pushing the bed, baby stroller, wheelchair)
- The person is not walking independently. (e.g. an infant)
- Too many subjects. (Guideline: 50 or more)
- Multiple subjects intersect.
- Light conditions, such as outdoors and windows, are easily changed.
- External light such as sunlight and car headlights, and reflection of light such as water pools and glass come in.
- Strong external light is inserted to create a subject and other shadows.
- Illumination fluctuates when the lamp is turned on or off.
- The weather is extremely bad.
- Animals and insects are seen.
- You see posters and mannequins of people and vehicles.

- The camera lens is wet or dirty.
- The camera is swinging.

Other precautions are described below.

- Set the camera height accurately. By setting the exact value, the signal and measurement performance can be improved.
- If there are false detection factors on the screen, such as people or vehicle posters, mannequins, trees, roads where cars frequently travel, or water levels, mask area can be used to reduce false detection.
  Refer to the following pages for mask area settings.
  →3.6 Mask area
- When there are many subjects on the screen, setting the mask area on the outside of the set area or the area other than the periphery of the line improves signal and measurement performance.
  Refer to the following pages for mask area settings.
  →3.6 Mask area
- Before setting, be sure to check the operation of the camera after setting the area and line according to the camera installation and expected movement of the subject. In particular, if the installation environment such as illumination changes significantly during daytime and nighttime, check the operation during both hours.
  Refer to the following pages for line settings.
  →3.2 Cross Line Counting
  Refer to the following pages for area settings.
  →3.3 Area Counting/Occupancy Detection
- The signal and measurement performance may deteriorate for approximately 1 minute after turning on the power, after changing the camera settings, or when the camera image angle changes.
- The alarm is repeatedly activated every specified time while the target is on the screen. Thus, e-mails and proprietary alarms are also notified at intervals (see [Alarm deactivation time] on the [Alarm] tabs in the Camera Settings window).
- If the processing load of the camera body is high, such as the following settings, it may be difficult to detect the subject, or may cause failure, false alarms, or a decrease in the accuracy of the number measurement.
  - When the imaging mode is [Fisheye+Double Panorama] [Fisheye+Quad PTZ]
  - When multiple functions of the camera body such as data encryption and SD Memory Card are operated simultaneously

- Depending on your camera, the delivery frame rate is limited by using the AI-VMD /AI count application. Refer to the following URL for details.
  →Equipment compatibility
- When using [Fisheye+Double Panorama] [Fisheye+Quad PTZ] for imaging modes, set the resolution of JPEG(1) or streams(1) to [Fisheye/1280×1280].
- The corresponding imaging mode of this product is as follows. Set the camera image mode to one of the following.
  - Fisheye
  - Fisheye + Double Panorama
  - Fisheye + Quad PTZ
  - Fisheye + Corridor
- In no event shall we be liable for any inconvenience, damage, or damage incurred by any of the settings or results of this product.
- The function of this product is not to prevent theft, fire, etc. We will not be liable for any accident or damage.

1.2.2 Supplementary Information for Cross Line Counting

Use this function at the indoor entrance with stable illumination. It is also recommended to use a 5MP camera.
In the following cases, the precision of counting the number of people may be reduced.

- The distance from the camera to the point of measurement such as the entrance door is too close or too far. (Recommended distance: 1.0 m or more)
- Too many people pass through the measurement point. (Estimate: more than 5,000 passes per hour (2,500 in-store and 2,500 out-of-store)
- Accumulation occurs near the measurement point. (e.g., information corners or store shelves near the measurement point stagnate visitors)
- Persons who are not subject to measurement pass near the measurement point. (e.g., if you have a camera at the store entrance and want to count the number of people entering/exiting the store, someone crosses the measurement line (without entering/exiting the store).
- The person to be measured does not pass over the set line. (e.g., by bending to the left before passing through the line set at the store entrance)

2 Preparation

The flow to operation is as follows. This chapter describes ① and ②.

① Determine the camera installation position
→2.1 Determine the camera installation position

② Install the product
→2.2 Install the product

③ Configure the required settings.
→3 Setting

④ Start of operation

2.1 Determine the camera installation position

First, determine the location of the camera.

Determine the installation location according to the following conditions. Check the precautions as well.

Refer to the following pages for precautions.

→1.2 Notes

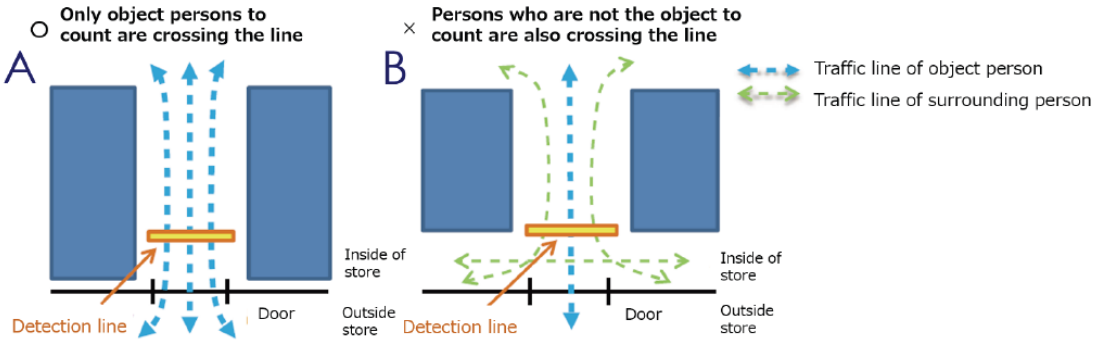
- Location of the camera

  When considering the installation location, observe the flow line of the person to be counted and the flow line of the person passing through the area in advance.

  In the case of operation as shown in Fig. B, it is recommended to install a camera near the entrance of the facility as much as possible, since the number of cases in which persons other than entrance and exit passes through the counter line increases.

- Camera installation height

  Height from floor: 2.0 m to 5.0 m



- Camera installation position

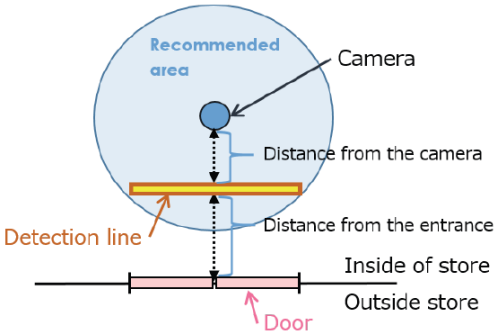
  Distance from inlet: 1.0 m or more
- Camera installation

  Install the screen so that the entrance can be seen in one of four directions (up, down, left, and right).
- Count line setting position

  Distance from camera: within recommended range

  Distance from inlet : 1.0 m or more
- Count line width

  Length within recommended range



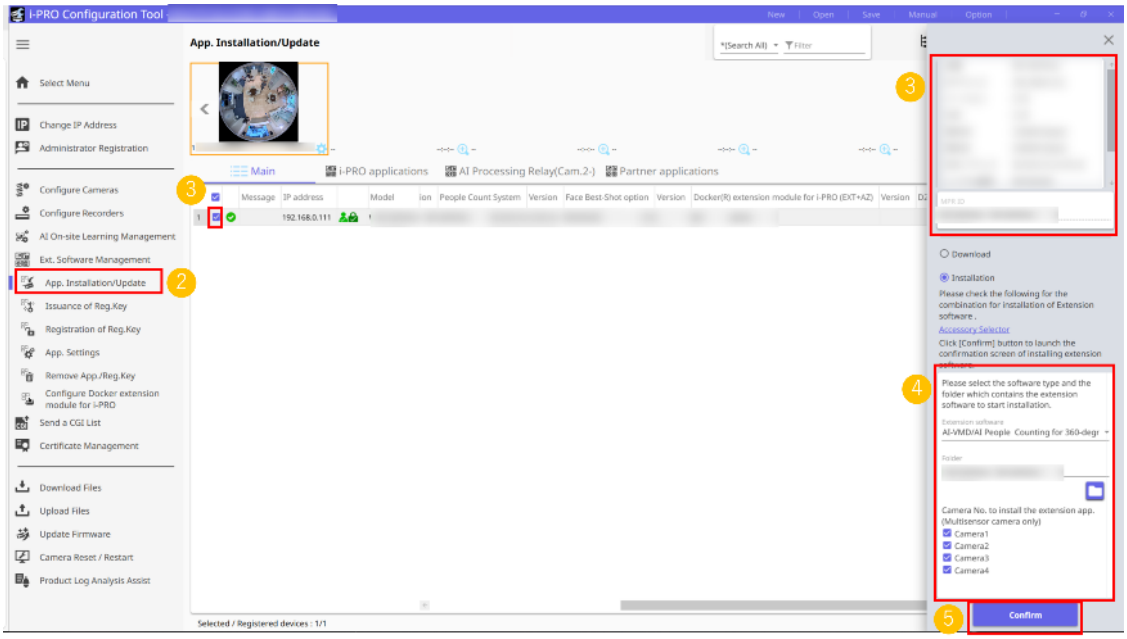
・The distance from the camera at the count line setting position and the recommended range of the count line width depend on the camera installation height. Refer to the following pages for details.

→3.2.2 Line setting (automatic line setting)

・For the distance from the camera at the count line setting position, the closer to the center of the camera image screen (directly below the camera), the better the counting accuracy.

2.2 Install the product

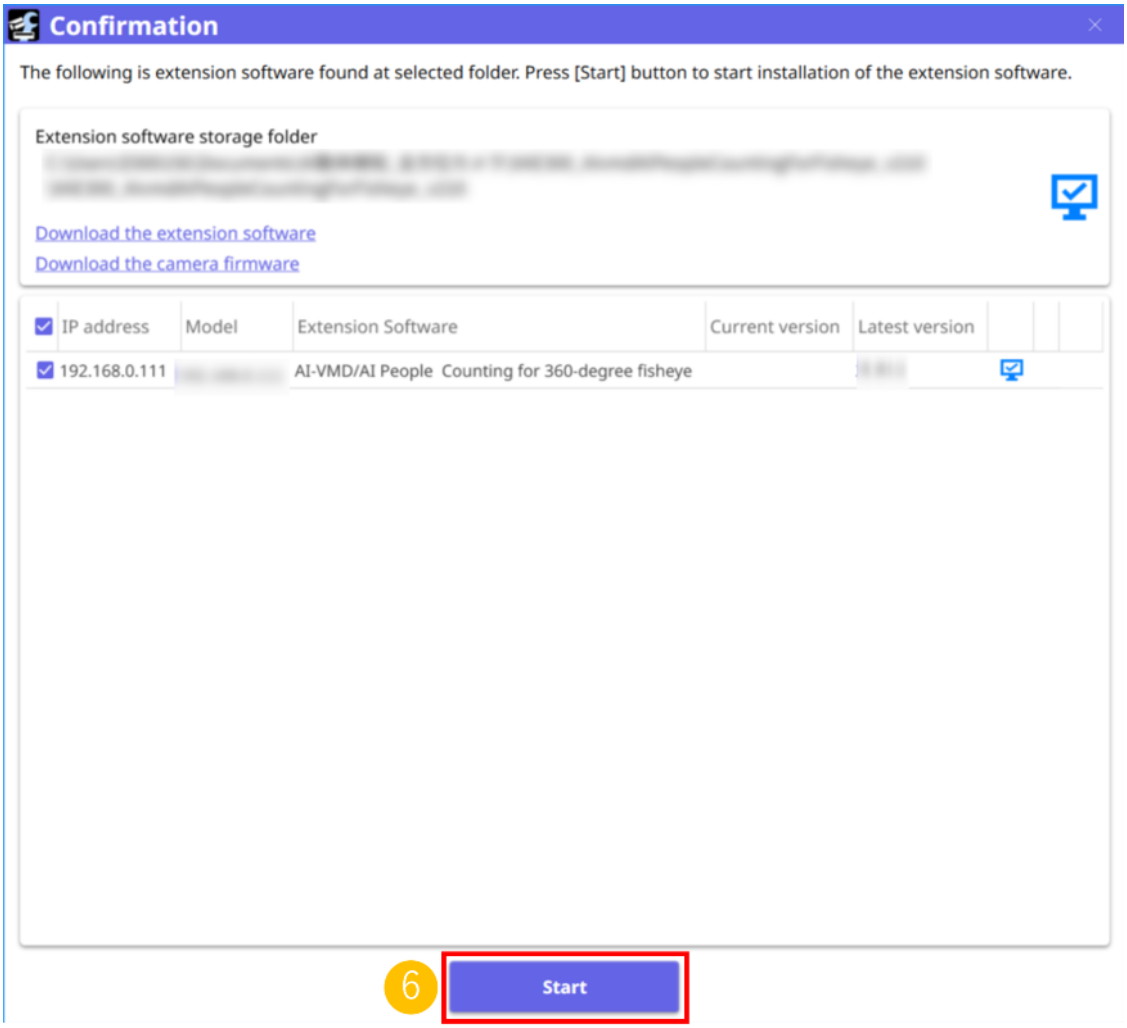
Download the product and install it on your camera according to the following procedures.



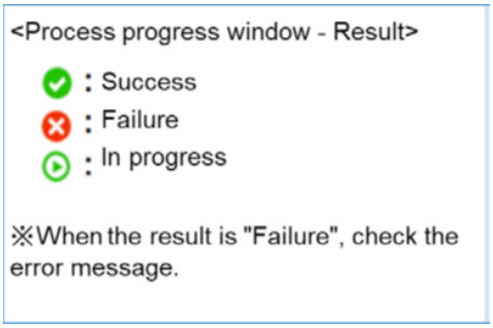
1. The following URLs are accessed to download [AI-VMD/AI Count Application (for omni-directional cameras)] and store them on a PC.
   →Documentation Database

Do not use spaces or double-byte characters in the name of the destination directory.

2. Select iCT submenu [Ext. Software Management] > [App. Installation/Update].
3. Select the camera to install the application and check that the product number and [MPR ID] are displayed.
4. Enter the following items on the setting screen.
   - [Extension software]: Select [AI-VMD /AI count application (for omni-directional cameras)]
   - [Folder] : Specify the location of the The Extension Software obtained in (1).
5. Click [Confirm].



6. Check that the target cameras are checked and the application versions to register/update on the confirmation window, and then click [Start].



7. Check that the progress screen is displayed and the installation is completed successfully.

・Do not turn off the camera during installation.
・Do not perform any operation during installation until the installation is completed.
・If the installation fails, check the error in the message field.

3 Setting

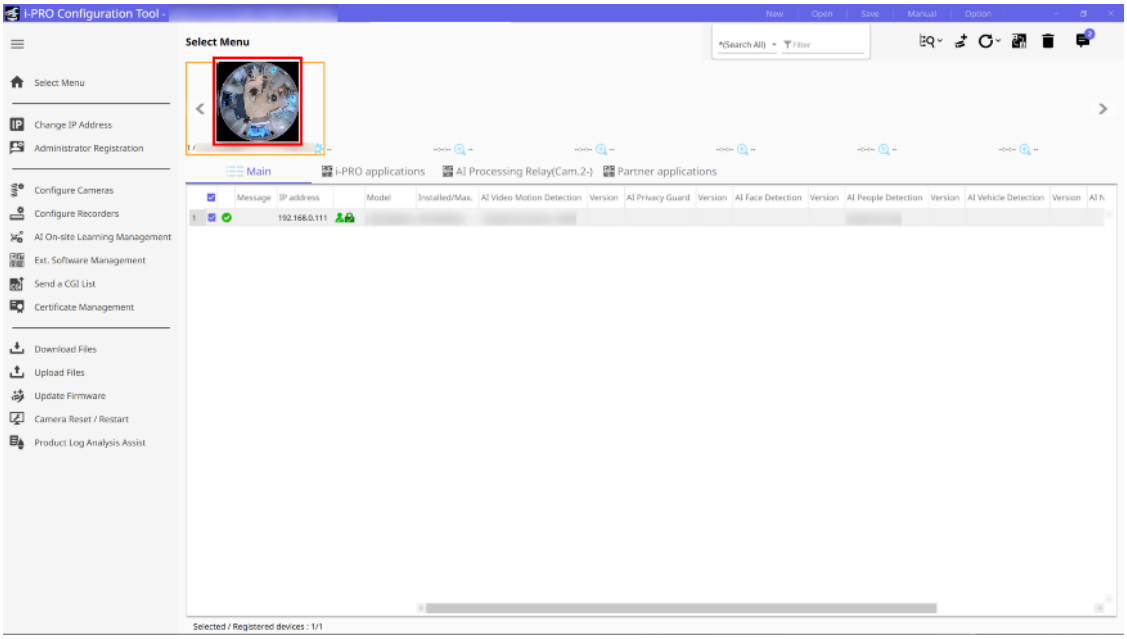
This chapter explains the setting procedure of each function.

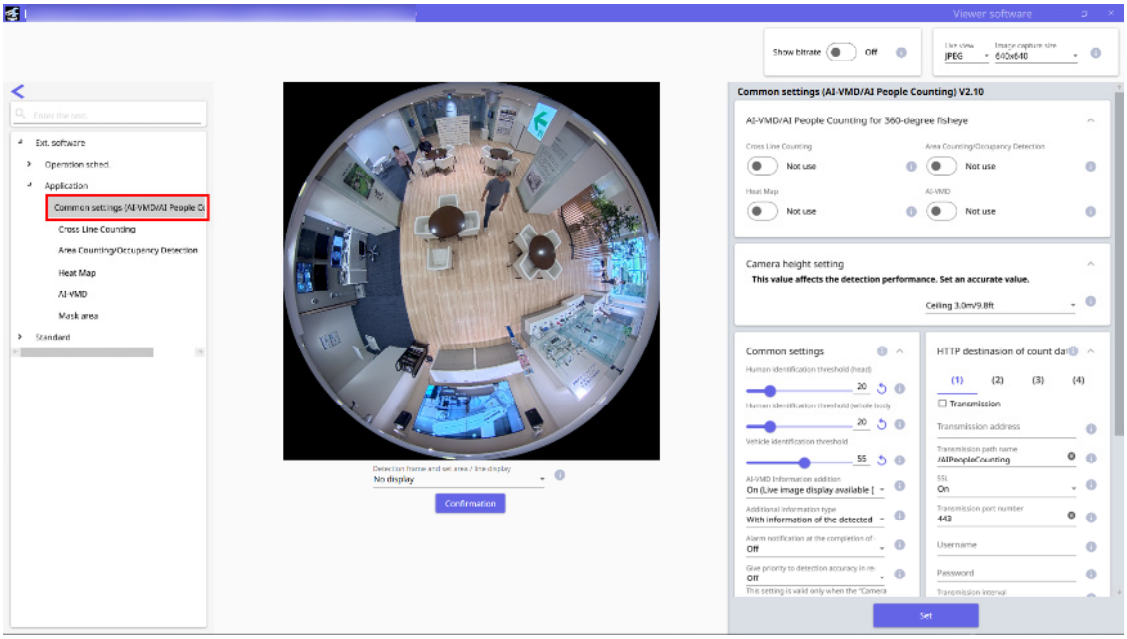
- Set the same settings for each function
  →3.1 Common setting
- Configure Cross Line Counting
  →3.2 Cross Line Counting
- Configuring Area Counting/Occupancy Detection
  →3.3 Area Counting/Occupancy Detection
- Configure Heat Map
  →3.4 Heat Map
- Configure AI-VMD
  →3.5 AI-VMD
- Configure mask area
  →3.6 Mask area

3.1 Common setting

3.1.1 Open the settings screen

Double-click the thumbnail screen of the camera to be set to to open the camera setting screen.



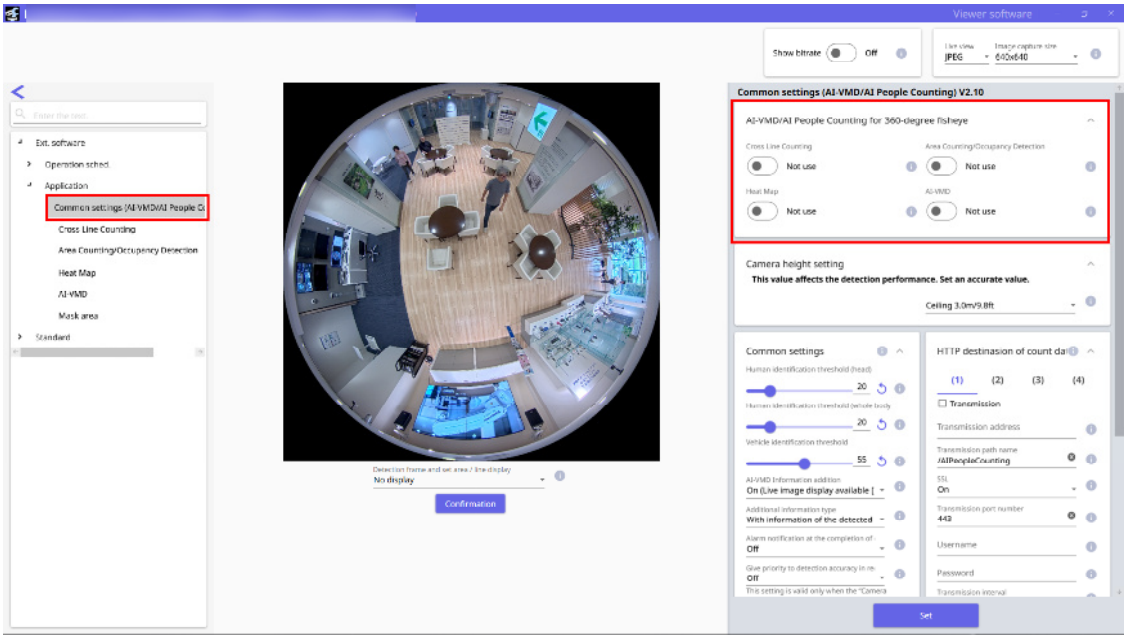


Clicking the [Ext. software] Menu > [Application] Menu > [AI-VMD and AI People Counting Common] Menu in the Camera Settings window opens the [AI-VMD/AI Count Application (for omni-directional cameras)] window.

If you click the [AI-VMD and AI People Counting] menu or click [Setup] in the camera's [Setup] menu > [Ext. software] page, you cannot open the AI-VMD AI-VMD/AI Count Application (for omnidirectional cameras) window. Open the AI-VMD /AI Count Application (for omni-directional cameras) window in iCT.

3.1.2 Select the function to be used

Select the function to be used from AI-VMD, Cross Line Counting, Heat Map, Area Counting and Occupancy Detection.



1. Click the [Ext. software] Menu > [AI-VMD and AI People Counting Common] menu to open the AI-VMD /AI Personnel Count Application (for omni-directional cameras) setup window.
2. Switch the toggle switch for the function to [Use].
   Default: All [Not use]

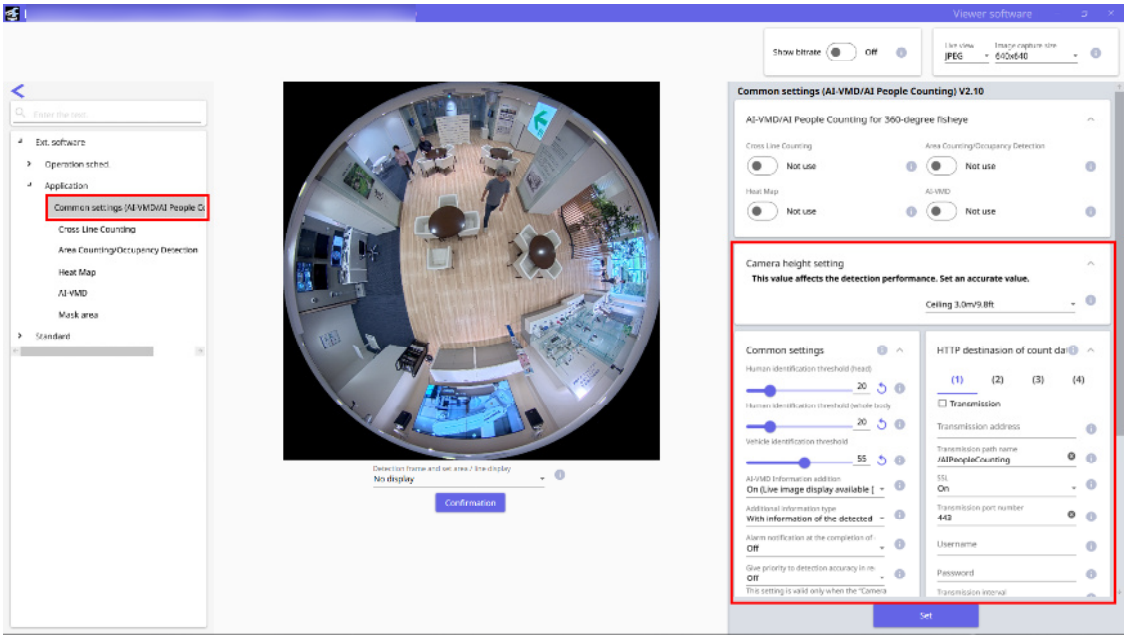
If you use a 9MP camera, the camera may restart at the following times.

・When all four functions are [Not use], one or more functions are switched to [Use].

・When one or more functions are [Use], all four functions are switched to [Not use].

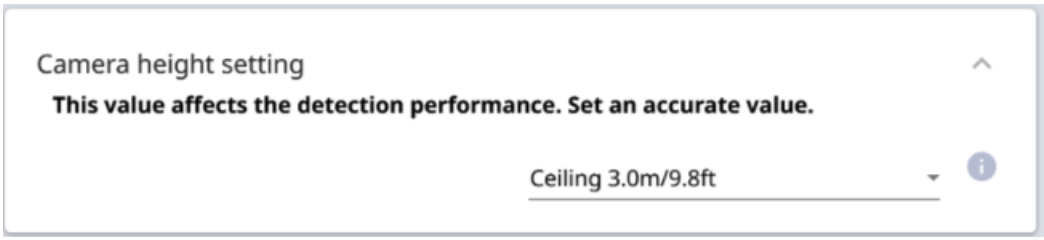
3.1.3 Perform common settings

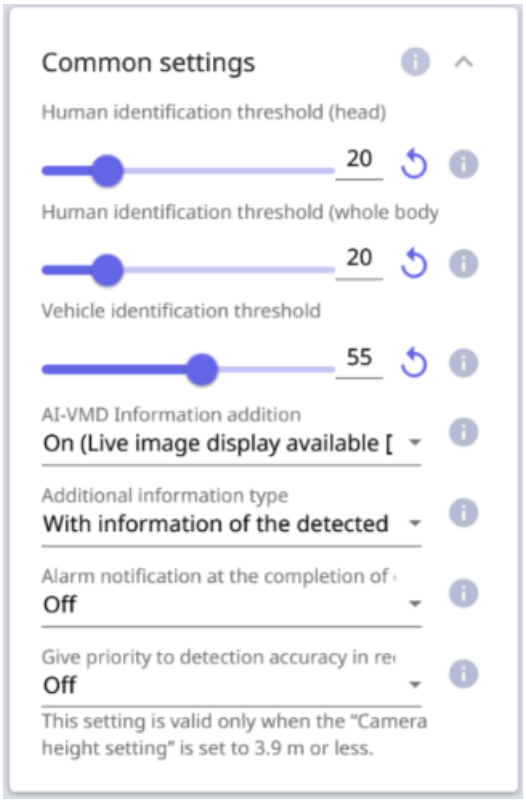
Sets the setting items common to all functions.



1. Click the [Ext. software] menu > [Application] menu > [AI-VMD and AI People Counting Common] menu to open the Common Settings window.
2. Set the items in the tab. (See the following description for details)
3. Click the Settings button to activate the settings.

3.1.3.1 [Common setting] tabs





The settings are common to AI-VMD, Cross Line Counting, Heat Map, Area Counting and Occupancy Detection.

[Camera height setting]

Select the height where the camera is installed.

[Ceiling 2.0m/6.5ft], [Ceiling 2.1m/6.9ft], [Ceiling 2.2m/7.2ft], [Ceiling 2.3m/7.5ft], [Ceiling 2.4m/7.8ft], [Ceiling 2.5m/8.2ft], [Ceiling 2.6m/8.5ft], [Ceiling 2.7m/8.9ft], [Ceiling 2.8m/9.2ft], [Ceiling 2.9m/9.5ft], [Ceiling 3.0m/9.8ft], [Ceiling 3.1m/10.2ft], [Ceiling 3.2m/10.5ft], [Ceiling 3.3m/10.8ft], [Ceiling 3.4m/11.2ft], [Ceiling 3.5m/11.5ft], [Ceiling 3.6m/11.8ft], [Ceiling 3.7m/12.1ft], [Ceiling 3.8m/12.5ft], [Ceiling 3.9m/12.8ft], [Ceiling 4.0m/13.1ft], [Ceiling 4.1m/13.5ft], [Ceiling 4.2m/13.8ft], [Ceiling 4.3m/14.1ft], [Ceiling 4.4m/14.4ft], [Ceiling 4.5m/14.8ft], [Ceiling 4.6m/15.1ft], [Ceiling 4.7m/15.4ft], [Ceiling 4.8m/15.7ft], [Ceiling 4.9m/16.1ft], [Ceiling 5.0m/16.4ft]

Default: [Ceiling 3.0m/9.8ft]

[Human identification threshold (head)]

Set the detection threshold for the head. The smaller the value, the easier it is to detect as a person, but it is easier to detect incorrectly.

[1]~[99]

Initial setting: [20]

[Human identification threshold (body)]

Set the detection threshold for the whole body. The smaller the value, the easier it is to detect as a person, but it is easier to detect incorrectly.

[1]~[99]

Initial setting: [20]

[Vehicle identification threshold]

Set the detection threshold as a car. The smaller the value, the easier it is to detect as a car, but it is easier to detect incorrectly.

[1]~[99]

Initial setting: [55]

[AI-VMD Information addition]

You can set whether to add AI-VMD data (detection frame, Detection object type) to video data or to display detection frame and Locus in live video of web browser.

When set to [On (Live image display [blue frame])], a blue frame is displayed when moving objects are detected in the window. When the detected motion enters the Detection area and an alarm is generated, the frame color turns red. The Locus of the detected moving object is indicated by a green line. Displays the Locus for the last 3 seconds. The setting of adding AI-VMD data does not affect the alarm operation.

[Off]: AI-VMD does not add data. Also, the detection frame and Locus of AI-VMD/Cross Line Counting are not displayed.

[On (no live image display)]:

The AI-VMD data is added, but the AI-VMD/Cross Line Counting detection frame and Locus are not displayed in the live picture.

[On (Live image display)]:

Adds AI-VMD data and displays the AI-VMD/Cross Line Counting detection frame and Locus in the live picture. The blue frame is not displayed.

[On (Live image display [blue frame])]:

Adds AI-VMD data and displays the AI-VMD/Cross Line Counting detection frame and Locus in the live picture. In addition to the red frame, the blue frame is also displayed.

Default: [On (Live image display [blue frame])]

Here, [live image] is live video of a web browser.

[Additional information type]

Sets the information to be added to the image data and the type of frame to be displayed in live image. This setting is enabled when the above [AI-VMD Information addition] setting is set to [On].

[Detected object (alarm frame info)]:

Adds the positional information of the detected object (person, car), alarm frame (red frame), and motion detection frame (blue frame).

[With detection object information (AI frame information)]:

Adds information on the detected object (person, car) and position information on the AI-detected frame (green frame).

[Without information of the detected object]:

Only the positional information of the alarm frame (red frame) and the motion detection frame (blue frame) is added. The detected object information (person or car) is not added.

Default: [Detected object (alarm frame info)]

When set to [With detection object information (AI frame information)], the display of the camera image screen changes as follows in the settings screen for Cross Line Counting and AI-VMD.

Cross Line Counting: The detection frame of the subject is not displayed.

AI-VMD : The detection frame of the subject is not displayed, and a green line is drawn to follow the subject.

[Alarm notification at the completion of detection]

Select whether to send an alarm when Intruder or Loitering is finished.

Default: [Off]

If [Alarm notification at the completion of detection] is set to [On], the alarm may be notified regardless of the [Alarm deactivation time] of the camera.

Can be set in [Give priority to detection accuracy in recommended area] * iCT V4.1 or later

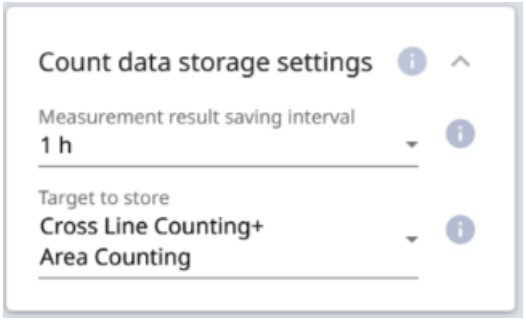
Specify whether the recommended detection accuracy is prioritized or not.

When set to [On], the center of the screen can be detected with higher accuracy.

Default: [Off]

・This setting is valid only when [Camera height setting] is set to the following.
5MP camera : 3.4 m or less
12MP camera: 3.9 m or less
・If this setting is enabled, the detection performance around the screen may deteriorate.

3.1.3.2 [Count data storage setting] tabs



This configures the settings for saving counts common to Cross Line Counting, Area Counting/ Occupancy Detection and Heat Map.

[Measurement result saving interval]

Sets the measurement intervals for the count information and map information by Cross Line Counting, Heat Map, and Area Counting. Creates a file for each measurement interval.

[1min], [5min], [15 min], [1 hour], [12 hours], [24 hours]

Default: [1 hour]

・Count information, map information, and index images by Cross Line Counting, Heat Map, and Area Counting are saved at intervals set by [Measurement interval] based on 00:00:30 ± time zone of UTC time. (Save timings may be before or after due to process time.)
・If the time setting is changed, the correct data may not be acquired during the period from the time of the change to the next saving timing. If the time returns significantly and the measurement end time exceeds the measurement start time by the previous time, count information, map information, and index images are not generated by the Cross Line Counting, Heat Map, and Area Counting.
・If you want to change the time, turn off the function and turn on the time.

[Target to store]

Set the target function for saving count information and index images.

[Cross Line Counting+Area Counting],

[Cross Line Counting+Area Counting+Heat Map],

[Cross Line Counting+Area Counting (2-year storage compatible formats)+Heat Map]

Default: [Cross Line Counting+Area Counting]

Count information, map information, and index images saved by Cross Line Counting, Heat Map, and Area Counting are as follows.

・When [Cross Line Counting+Area Counting] is selected : 92 days

・When [Cross Line Counting + Area Counting + Heat Map] is selected: 1 day

・When [Cross Line Counting + Area Counting (2-year storage compatible formats) + Heat Map] is selected:

-Cross Line Counting, Area Counting: 732 days

-Heat Map: 3 days

※In fact, the data will be stored for a longer period than the above storage period. The extra storage period depends on the camera time zone setting (up to 23 hours).

Example: Time zone +9.00

・When [Cross Line Counting+Area Counting] is selected : 92 days + 9 hours

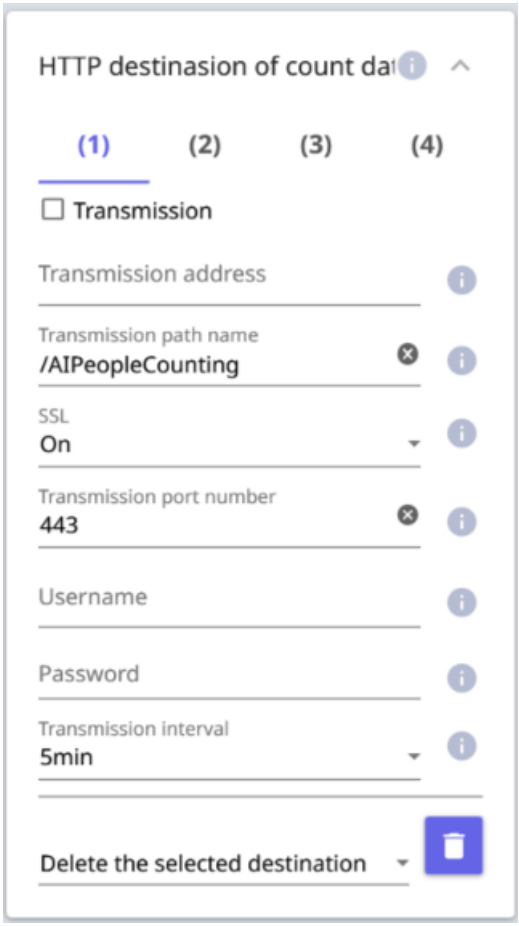
・When [Cross Line Counting + Area Counting + Heat Map] is selected: 1 day + 9 hours

・When [Cross Line Counting + Area Counting (2-year storage compatible formats) + Heat Map] is selected:

-Cross Line Counting, Area Counting: 732 days + 9 hours

-Heat Map: 3 days + 9 hours

3.1.3.3 [HTTP destination of count data] tabs



Set the notification destination (1 to 4) and the notification interval for HTTP-based transmission of counts common to Cross Line Counting and Area Counting and Occupancy Detection.

[Transmission destination 1], [Transmission destination 2], [Transmission destination 3], [Transmission destination 4]

You can notify the number of counts individually to up to four locations. The settings of the four notification destinations are the same.

[Transmission]

When the check box is checked, the message is sent.

Default setting: Unchecked

[Transmission address]

Enter the IP address or host name of the notification destination. Enter up to 128 half-pitch alphanumeric characters and symbols.

Initial setting: blank

[Transmission path name]

Enter the path name of the notification destination. Enter up to 128 half-pitch alphanumeric

characters and symbols.

[SSL]

Select whether to use SSL for notification.

Default: On

[Transmission port number]

Set the port number of the notification destination.

[1] ～ [65535]

[Username]

Enter the user name for authentication with the notification destination. Enter up to 128 half-pitch alphanumeric characters and symbols.

[Password]

Enter the password for authentication with the notification destination. Enter up to 63 half-pitch alphanumeric characters and symbols.

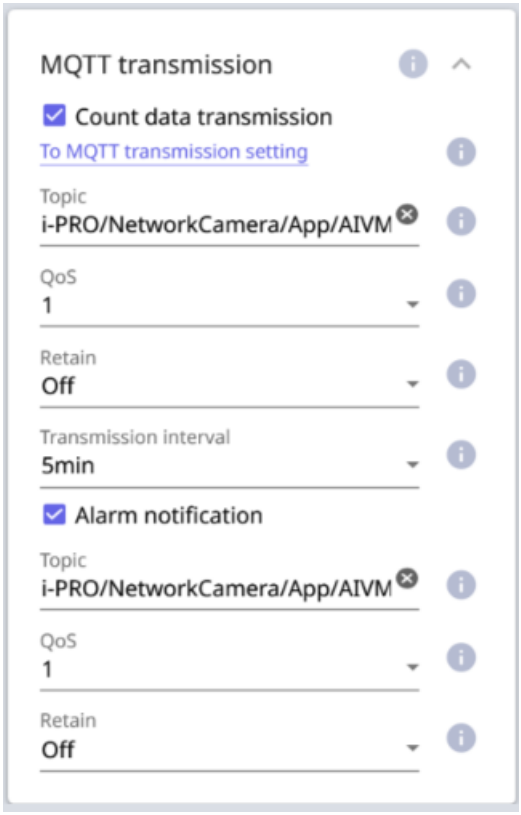
[Transmission interval setting]

Select the time interval to send.

[5s], [10s], [15s], [1min], [5min], [10min], [15min], [30min], [60min]

Default: [5min]

3.1.3.4 [MQTT destination of count data] tabs



Set the notification contents and notification interval for sending count data and alarms by MQTT.

[Transmission of count data]

When checked, the count data is transmitted.

Default setting: Unchecked

[Alarm notification]

When checked, the alarm is sent.

Default setting: Unchecked

[MQTT transmission setting]

Click to display the MQTT setting screen on the camera.

[Topic]

Enter the name of the MQTT topic to be sent. Enter up to 128 half-pitch alphanumeric characters and symbols.

[QoS]

Select the QoS level from [0], [1], or [2]. Communication quality is high with [0]<[1]<[2].

[0]:QoS0 delivers up to one message. Messages are not guaranteed to reach the server.

[1]:In QoS1, messages are delivered at least once. Messages are guaranteed to reach the Transmission destination, but may be duplicated.

[2]:QoS2 delivers the message exactly once. Messages are guaranteed to arrive only once without excess or deficiency.

Initial setting: [1]

[Retain]

Select to save the last message to the MQTT server.

Default: [Off]

[Transmission interval](Only to send count data)

Select the time interval to send.

[5s], [10s], [15s], [1min], [5min], [10min], [15min], [30min], [60min]

Default: [5min]

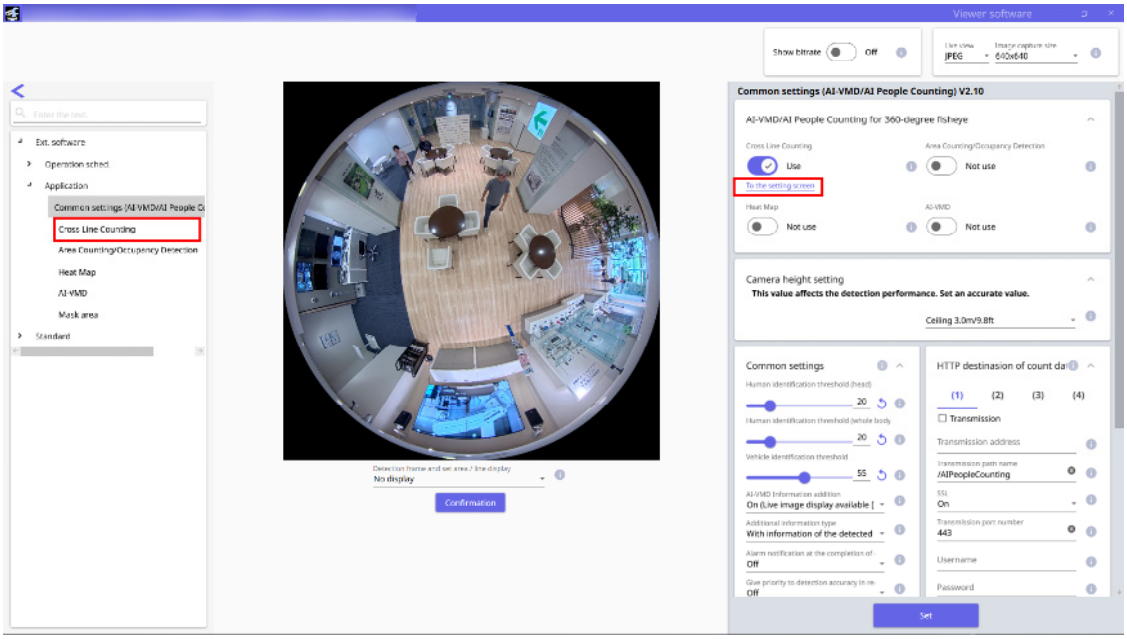
3.1.3.5 [Setting data initialization]

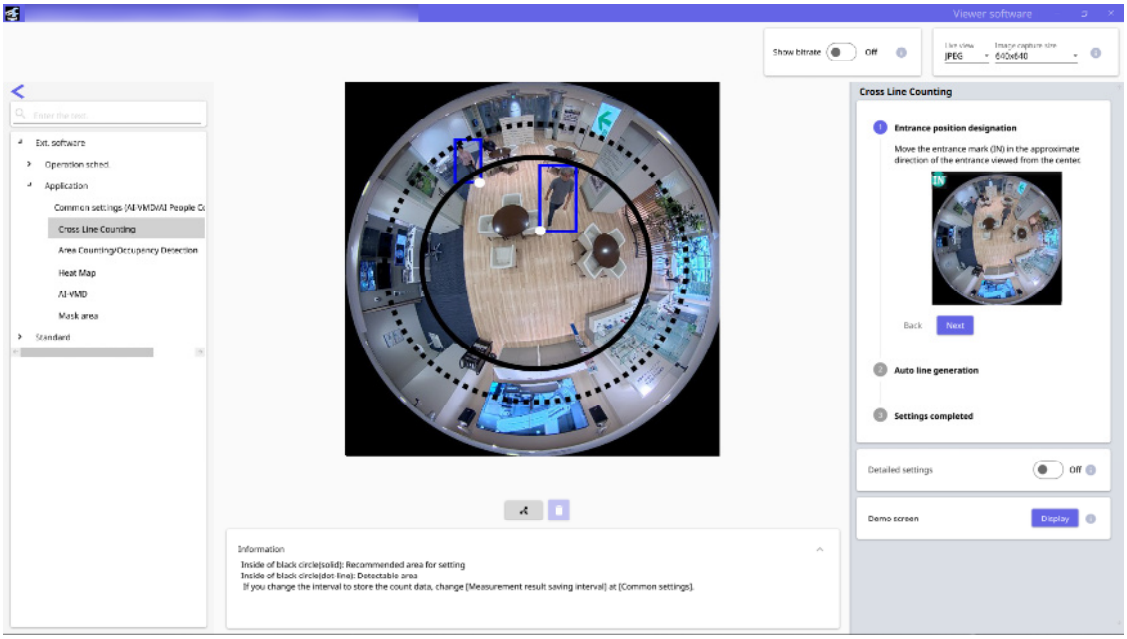
Press [Execute] to initialize all settings.

3.2 Cross Line Counting

3.2.1 Open the settings screen

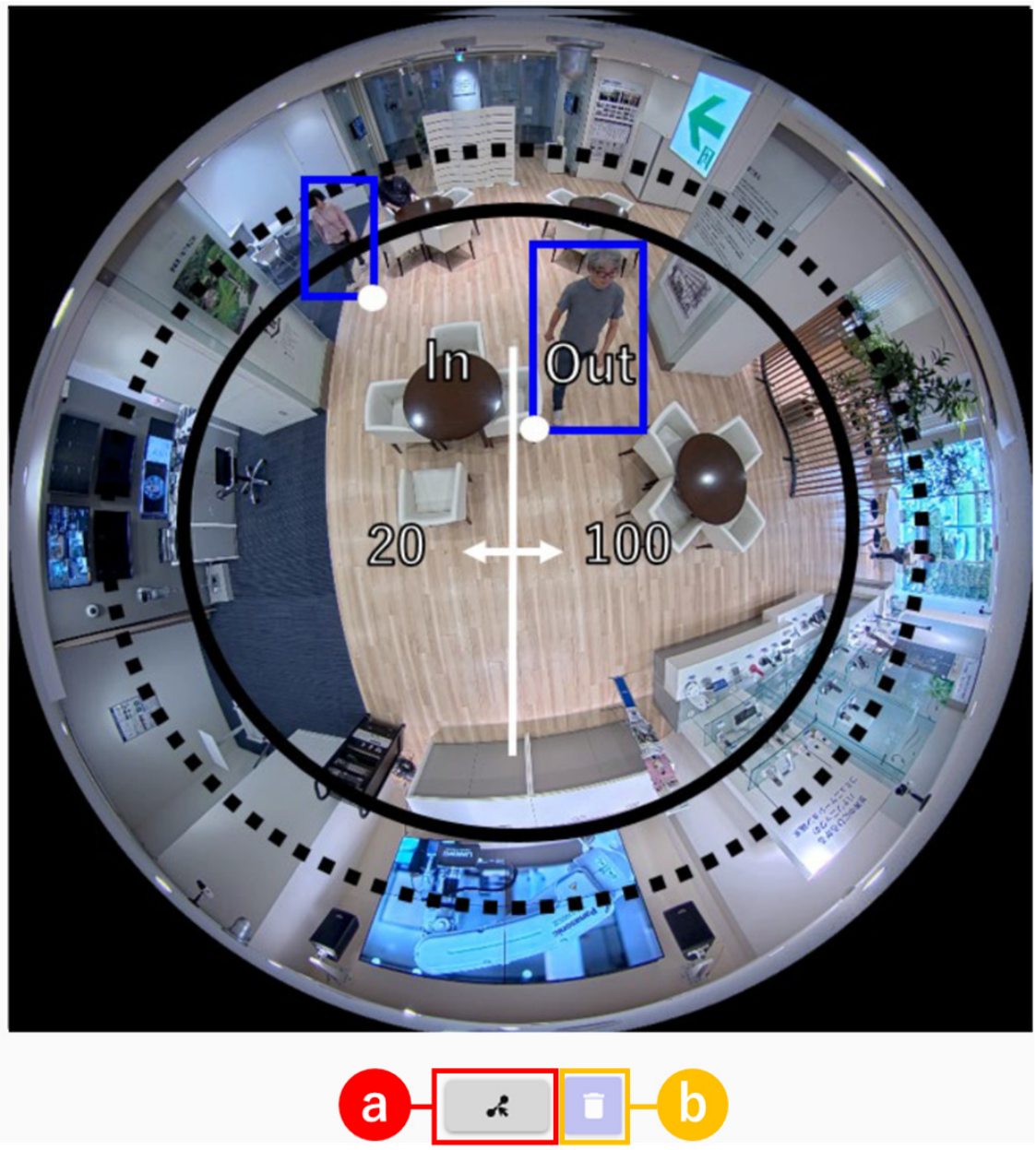
Clicking the [Ext. software] Menu > [Application] Menu > [Cross Line Counting] Menu or [To the setting screen] links in the Camera Settings window opens the Cross Line Counting Settings window.


Viewer software
Show bitrate
Off
Live view
JPEG
Image capture size
640x640
Ext. software
Operation sched.
Application
Common settings (AI-VMD/AI People Counting)
Cross Line Counting
Area Counting/Occupancy Detection
Heat Map
AI-VMD
Mask area
Standard
Common settings (AI-VMD/AI People Counting) V2.10
AI-VMD/AI People Counting for 360-degree fisheye
Cross Line Counting
Use
To the setting screen
Area Counting/Occupancy Detection
Not use
Heat Map
Not use
AI-VMD
Not use
Camera height setting
This value affects the detection performance. Set an accurate value.
Ceiling 3.0m/9.8ft
Common settings
HTTP destination of count da
(1)
(2)
(3)
(4)
Transmission
Transmission address
Transmission path name
/AIPeopleCounting
SSL
On
Transmission port number
443
Username
Password
Detection frame and set area / line display
No display
Confirmation
Set


Viewer software
Show bitrate
Off
Live view
JPEG
Image capture size
640x640
Ext. software
Operation sched.
Application
Common settings (AI-VMD/AI People Counting)
Cross Line Counting
Area Counting/Occupancy Detection
Heat Map
AI-VMD
Mask area
Standard
Cross Line Counting
Entrance position designation
Move the entrance mark (IN) in the approximate direction of the entrance viewed from the center.
IN
Back
Next
Auto line generation
Settings completed
Detailed settings
Off
Demo screen
Display
Information
Inside of black circle(solid): Recommended area for setting
Inside of black circle(dot line): Detectable area
If you change the interval to store the count data, change [Measurement result saving interval] at [Common settings].

3.2.2 Line setting (automatic line setting)

3.2.2.1 Drawing area



a: [Detection line (select)], b: [Delete]

[Camera image screen]

This screen displays the drawing of the detection line and the frame of the detected person.

If you want to automatically draw a detection line, refer to the following page.

→3.2.2.2 Line setting (automatic)

If you want to draw more than one detection line manually, refer to the following page.

→3.2.3 Detailed setting (manual line setting)

The person is counted using the detection line set by drawing. It is also displayed in 2 colors of the person's detection frame.

- Personal detection (red frame) : Indicates the person crossing the line in the set direction in red.

- Personal detection (blue frame): Indicates a person who proceeds in a direction other than the set direction in a blue frame.

[Drawing type]

Click the icon to select the drawing format.

[Detection line (select)]: Select the drawn detection line.

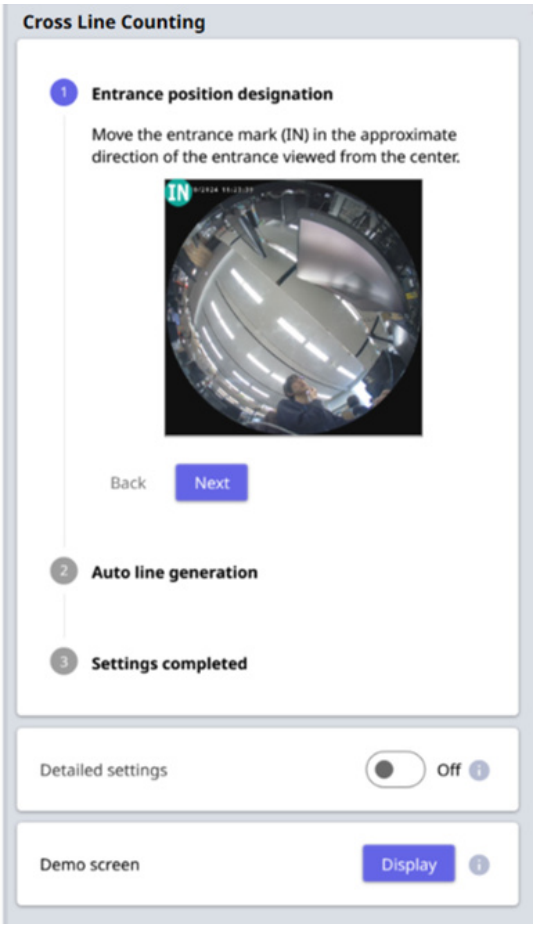
[Delete] : Clicking after selecting the detection line deletes the specified detection line.

- The outside of the black circle (solid line) is outside the recommended range for detection line setting. If set outside the recommended range, the detection performance will deteriorate.
- The outside of the black circle (dotted line) is outside the detectable range of the detection line. If it is set outside the detection range, detection is impossible.
- The white point of the person's detection frame is the person's foot position. When the white point crosses the detection line in the set direction, the count is up.

3.2.2.2 Line setting (automatic)

Set the line for counting the number of people automatically. If you want to configure multiple lines or manually configure the lines, refer to the following page.

→3.2.3 Detailed setting (manual line setting)



① [Entrance position designation]

Move the [IN] icon on the camera image toward the entrance when viewed from inside the store. You can change the position by dragging the [IN] marks.

② [Auto line generation]

When [Next] is pressed, white lines are displayed on the image.

③ [Setting completed]

Press [Finished] to activate the Lines setting.

- Adjust the length of the line according to the door width.
- Rotation or translation of the line is possible, but the initial position is recommended.
- The auto-set line corresponds to line 1 (white) in [Detailed setting (manual line setting)]. Refer to the following pages for details.

→3.2.3 Detailed setting (manual line setting)

[Demo screen]

When [Display] is clicked, a demo window appears in another window. Refer to the following page for the display of the demonstration screen.

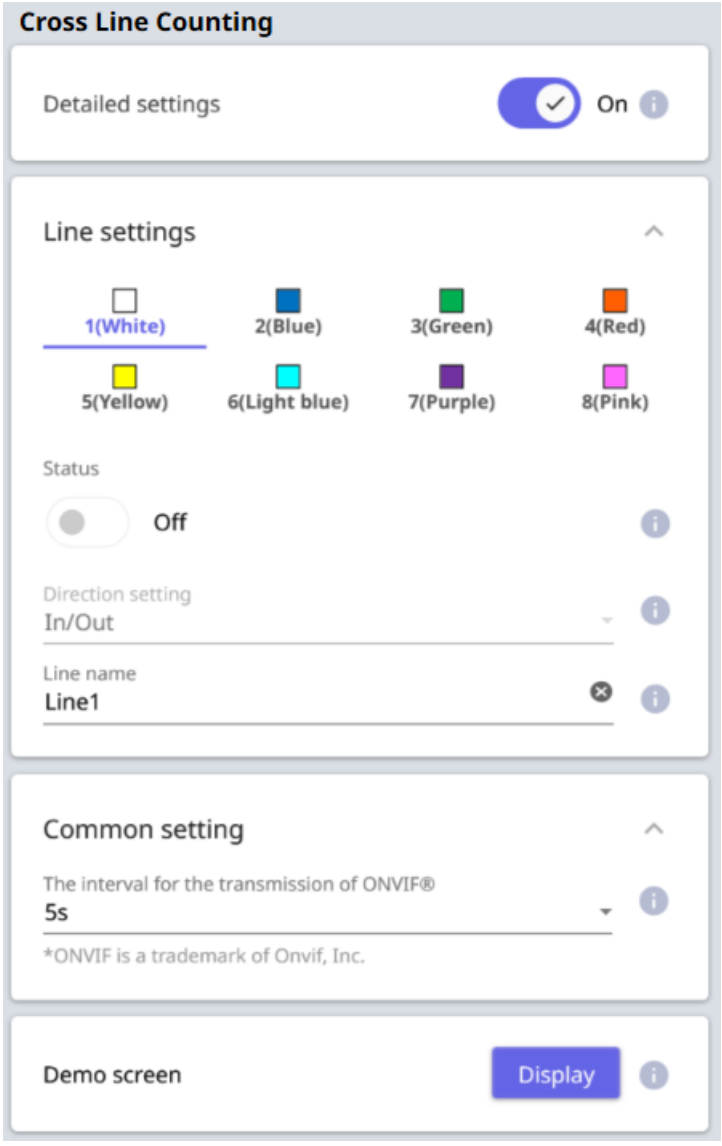
→6 Demonstration screen

- When [Demo screen] is executed, the detection frame will not be displayed in the setting window.
- JPEG(1) is displayed in [Demo screen]. If JPEG(1) has a large resolution, it is recommended that the resolution be 1280 x 1280 or less because the screen update rate is slower.

・If there are many people, all frames may not be displayed.
(Reference: Setup screen: 30 people, Demonstration screen: 100 people)

3.2.3 Detailed setting (manual line setting)

If [On] is selected, the system displays the manual settings for the lines for count and the settings for the ONVIF Metadata transmission interval.



3.2.3.1 Line setting (Manual)

[Line Settings]

Drag the mouse on the camera image screen to set the line. Up to 8 settings can be made.

[Status]

Enables/disables [Status] to determine whether to count the number of people on the set lines.

[On] : Counts the number of people.

[Off]: does not count the number of people.

Default: [Off]

[Direction setting]

Specify the direction in which the number of people is counted.

[In direction], [Out direction], [In/Out direction]

Default: [In/Out direction]

[Line name]

The name of each line is set to 20 characters or less. The configured Detection line name is displayed on the multi-AI dashboard.

Default: [Line1] ~ [Line8]

Inputtable Characters: One-byte symbol [″][&]

[The interval for the transmission of ONVIF metadata]

Set the transmission interval for ONVIF Metadata.

[5s], [10s], [15s], [1min]

Default: [5s]

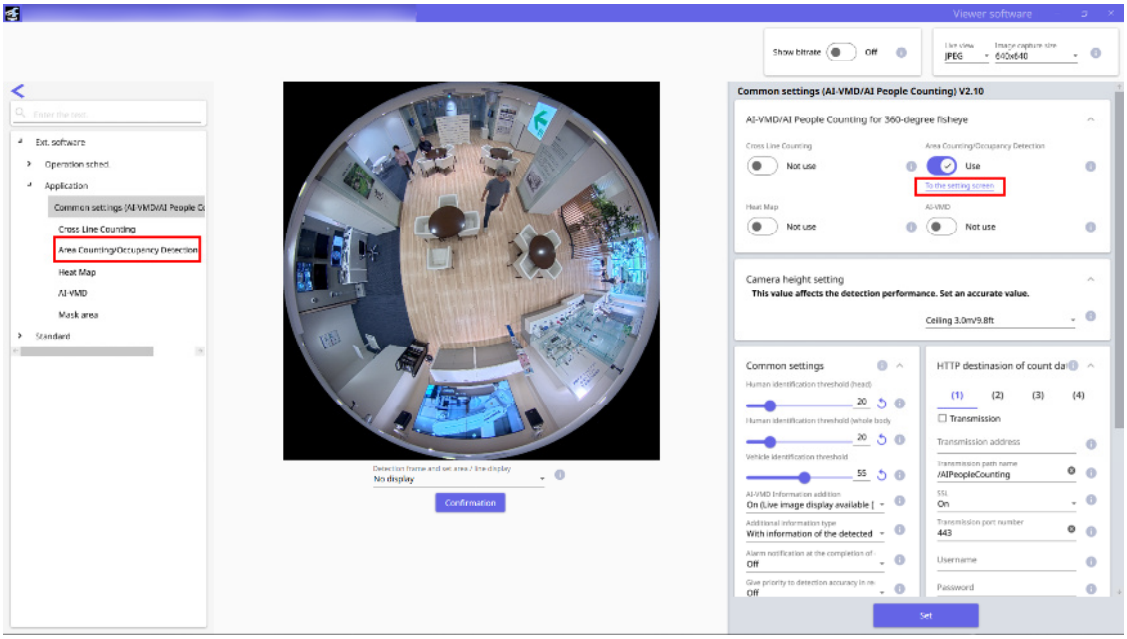
[Set] button

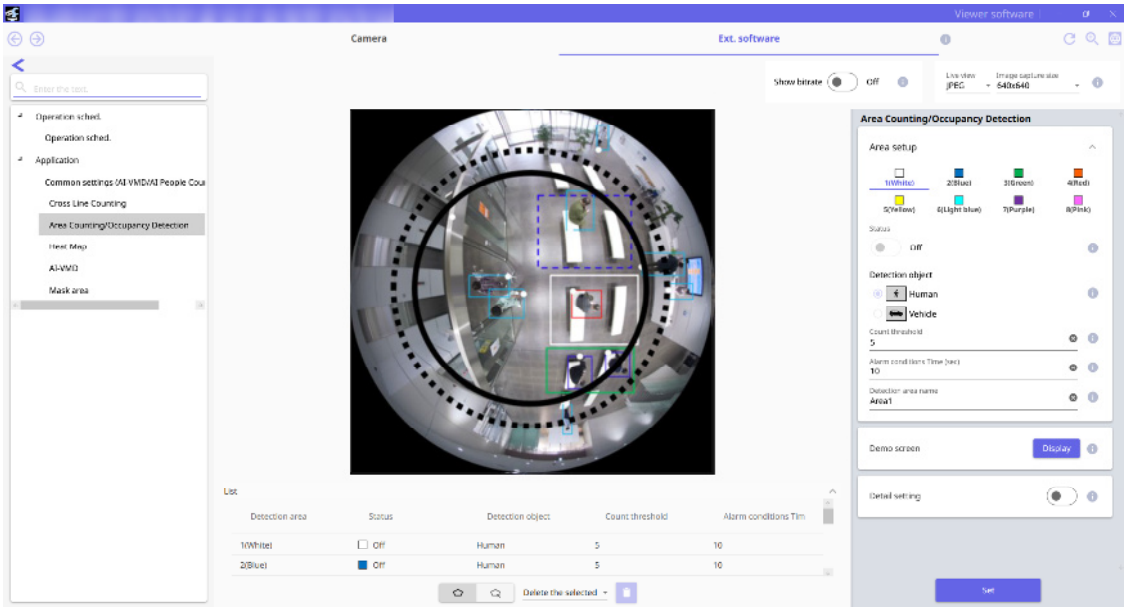
Click to save the contents of the advanced tab currently displayed.

3.3 Area Counting/Occupancy Detection

3.3.1 Open the settings screen

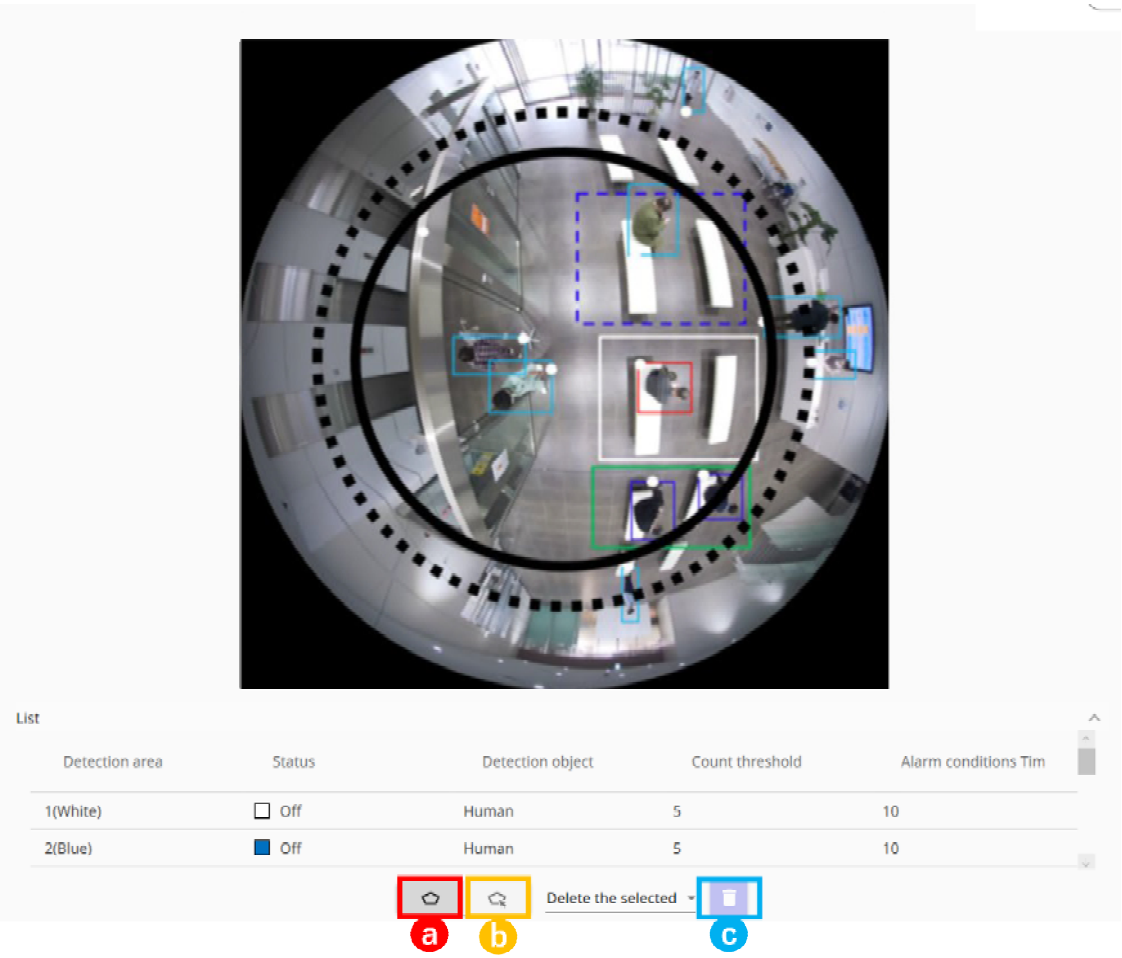
Clicking the [Ext. software] Menu > [Application] Menu > [Area Counting/Occupancy Detection] Menu or [To the setting screen] links in the Camera Settings window opens the Area Counting and Occupancy Detection Settings window.


Viewer software
Show bitrate
Off
Ext. software
Operation sched.
Application
Common settings (AI-VMD/AI People Counting) V2.10
Cross Line Counting
Area Counting/Occupancy Detection
Heat Map
AI-VMD
Mask area
Standard
AI-VMD/AI People Counting for 360-degree fisheye
Not use
Use
Camera height setting
This value affects the detection performance. Set an accurate value.
Ceiling 3.0m/9.8ft
Common settings
HTTP destination of count da
Transmission
Transmission address
/AIPeopleCounting
Username
Password
No display
Confirmation
Set


Viewer software
Camera
Ext. software
Show bitrate
Off
Operation sched.
Application
Cross Line Counting
Area Counting/Occupancy Detection
Heat Map
AI-VMD
Mask area
Area Counting/Occupancy Detection
Area setup
Status
Off
Detection object
Human
Vehicle
Count threshold
Alarm conditions Time (sec)
Detection area name
Area1
Demo screen
Display
Detail setting
Set
List
Detection area
Status
Detection object
Count threshold
Alarm conditions Tim
1(White)
Off
Human
5
10
2(Blue)
Off
Human
5
10
Delete the selected

3.3.2 Area setting

3.3.2.1 Drawing area (set detection area)



a: [Detection area (polygon)], b: [Detection area (select)], c: [Delete]

[Camera image screen]

This screen displays the detection area drawing and the frame of detected people and vehicles. To draw a detection area, select the [Detection Area (Polygon)] icon you want to draw from [Drawing Type], then drag it onto the [Camera Video Screen]. People and vehicles will be counted within the detection area you set by drawing it, and an alarm will be triggered. In addition, if a person or vehicle is detected, the detection frame will be displayed in three colors.

- Red frame: People and vehicles within the area where the alarm occurred are displayed in a red frame.
- Blue frame: People and vehicles within each area are displayed in a blue frame.

・ Light blue frame: People and vehicles outside all areas are displayed in a light blue frame.

Paint type

Click the icon to select the drawing format.

[Detection area (polygon)]: Draws the detection area as a polygon (up to 16 rectangles).

[Detection area (select)] : Select the drawn detection area.

[Delete] : Clicking detection area after selecting it removes the specified detection area.

・The outer black circle (solid line) is outside of the recommended detection area setting. If set outside the recommended range, the detection performance will deteriorate.

・The outside of the black circle (dotted line) is outside the detection area detectable range. If it is set outside the detection range, detection is impossible.

・When [Demo screen] is displayed, the detection frame will not be displayed on the camera image screen.

・The detection window can only be displayed on one browser. Simultaneous access from multiple browsers is not supported.

・When the demo screen is displayed and the demo screen is closed, the detection frame is not automatically displayed. Read the browser again.

・When [Detection area (polygon)] is drawn, the area setting is completed by selecting the start point at the end.

・If you want to change the detection area, use the [Delete] buttons to delete it and then set it again.

・Set detection area so that the position of the white point in the detection frame is Detection area.

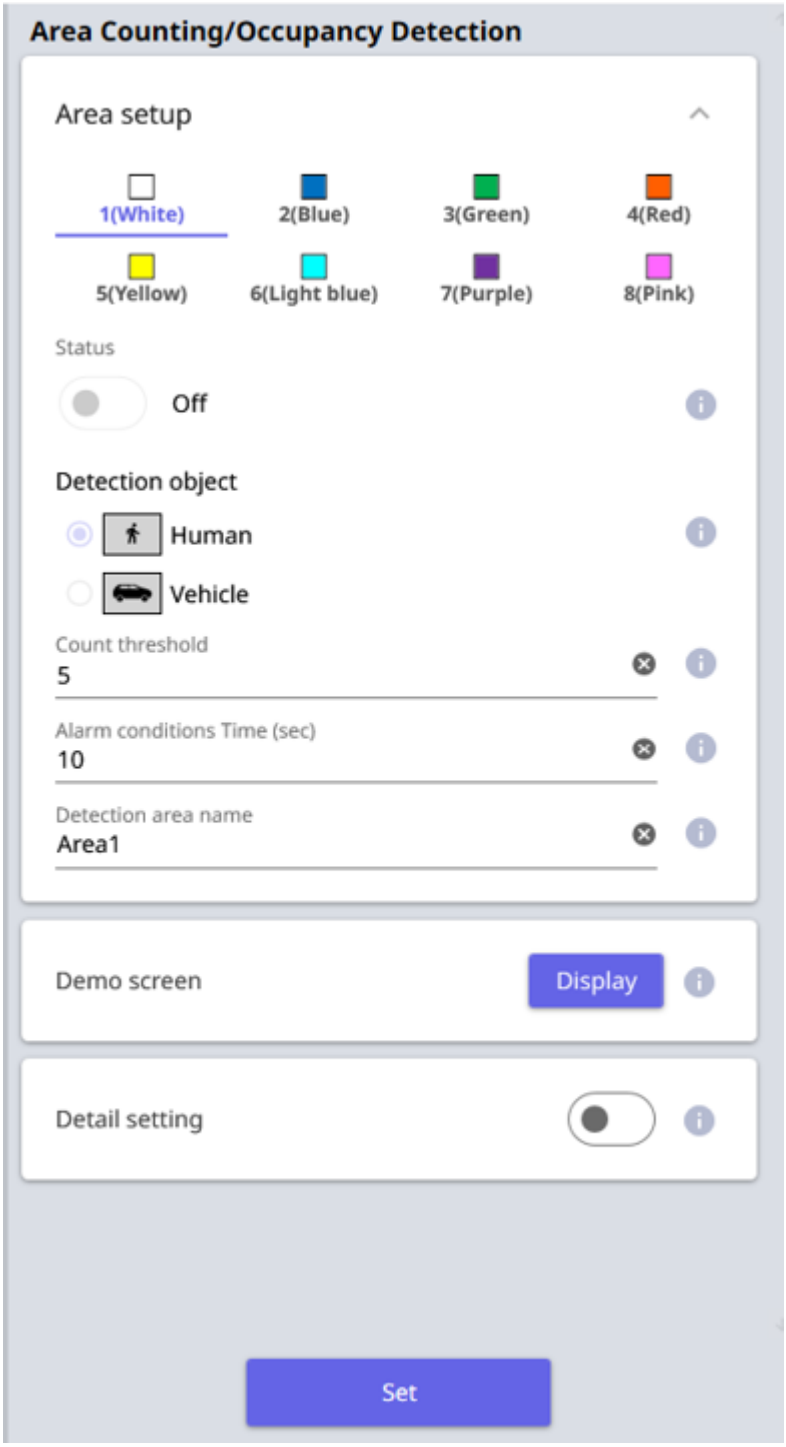
Refer to the following pages for details.

→4 Detection frame

3.3.2.2 Area setting

Up to 8 detection area settings are distinguished by drawing line colors. The colors of drawing lines are set in order from [1 (white)].

Initial setting:[Area 1]/[Area 2]/[Area 3]/[Area 4]/[Area 5]/[Area 6]/[Area 7]/[Area 8] not set



[Status]

Set whether to enable the number of people in the area.

[On] :Enable Occupancy Detection. Valid areas are displayed as solid lines.

[Off]:Disable Occupancy Detection. Invalid areas are indicated by dashed lines.

Initial setting:[Area 1]/[Area 2]/[Area 3]/[Area 4]/[Area 5]/[Area 6]/[Area 7]/[Area 8] disabled

[Detection object]

Only the selected detected objects will be included in the alarm.

[Human] : Counting will start when a person is detected.

[Vehicle]: Counting will begin when a vehicle is detected.

Initial setting:Human

[Count threshold]

Set the number of people or vehicles that will activate the alarm for each area.

Settable range: [1] to [100]

Initial setting: [5]

[Alarm conditions Time (sec)]

The alarm is activated when the number of persons detected per area exceeds the set number of persons. Set the duration.

Settable range: [1] to [600] (seconds)

Initial setting: [10]

・The maximum number of people detected in the image is 100.
・If the number of people in the images is 100 or more, some people cannot be detected and the Occupancy Detection cannot be performed correctly.
・Refer to the following page for the method of counting the elapsed time when the number of detectable persons is less than the number of alarm conditions.
→3.3.3 Advanced settings

[Area name]

The name of each area is set to 20 characters or less. The configured detection area names are displayed on the multi-AI dashboard.

Default: [Area1] ~ [Area8]

Inputtable Characters: One-byte symbol [″][&]

[Demo screen]

When [Display] is clicked, a demo window appears in another window. Refer to the following page for the display of the demonstration screen.

→6 Demonstration screen

・When the demo screen is executed, the detection frame will not be displayed on the setting screen.
・JPEG (1) is displayed on the demonstration screen. If JPEG(1) has a large resolution, it is recommended that the resolution be 1280 x 1280 or less because the screen update rate is slower.
・If there are many people, all frames may not be displayed.

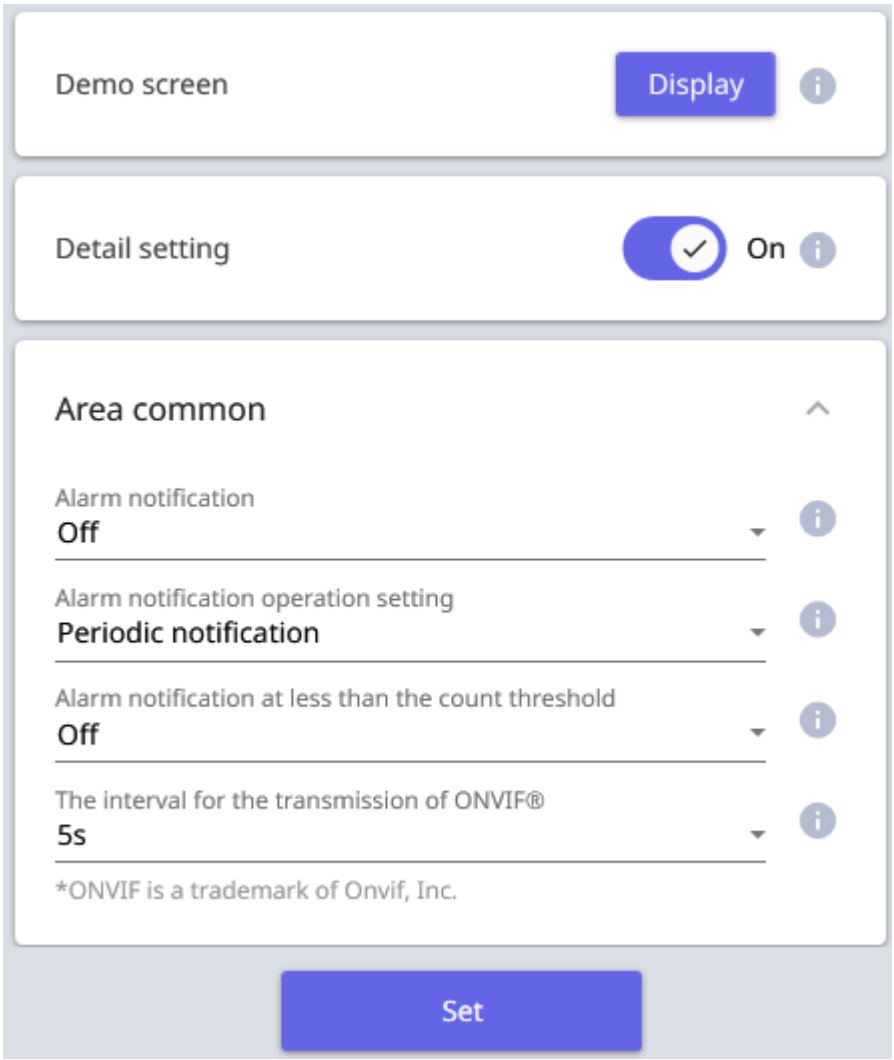
(Reference: Setup screen: 30 people, Demonstration screen: 100 people)

[Set] button

Click to save the contents of the currently displayed area settings and advanced settings tab.

3.3.3 Advanced settings

When [On] is selected, the alarm settings and the ONVIF Metadata send interval settings are displayed.



[Alarm notification]

Select whether or not to send an alarm.

Default: [Off]

[Alarm notification operation setting]

After the alarm is detected, set the operation related to the notification when the alarm continues

to be [Alarm conditions Number of people (person)] (person) or higher.

[Periodic notification]:The alarm is notified at [Alarm conditions Time (sec)] intervals.

[Continuous notification]:Alarm is continuously notified at [Alarm deactivation time] intervals of the cameras.

[One-time notification]:Only the first time that the alarm condition reaches the number of persons and time is notified.

Default: [Periodic notification]

The alarm IDs (decimal) are as follows for each Detection area.
[Area 1] 98, [Area 2] 99, [Area 3] 100, [Area 4] 101, [Area 5] 102, [Area 6] 103, [Area 7] 104, [Area 8] 105

[Alarm notification at less than the count threshold]　＊iCT V4.5 or later

Configure behavior for alarm notifications triggered below the count threshold.

[Off]: No alarm notification will be sent when the count is below the threshold.

[On]: Alarm notifications will be sent even when the count is below the threshold.

Default: [Off]

[The interval for the transmission of ONVIF metadata]

Set the ONVIF Metadata transmission interval.

[5s], [10s], [15s], [1min]

Default: [5s]

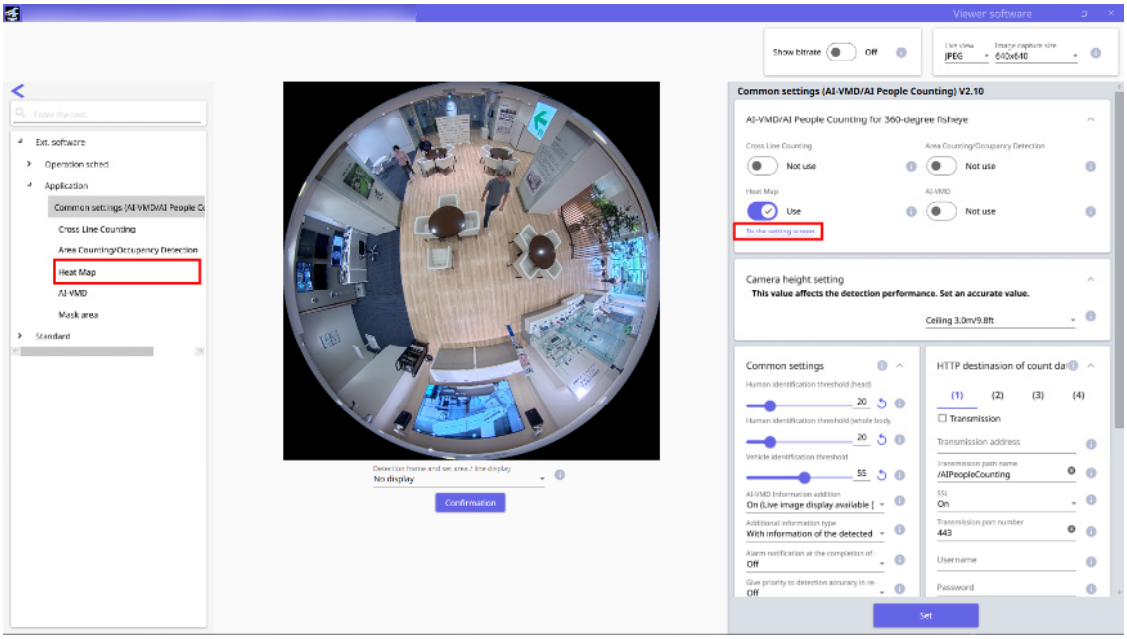
[Set] buttons

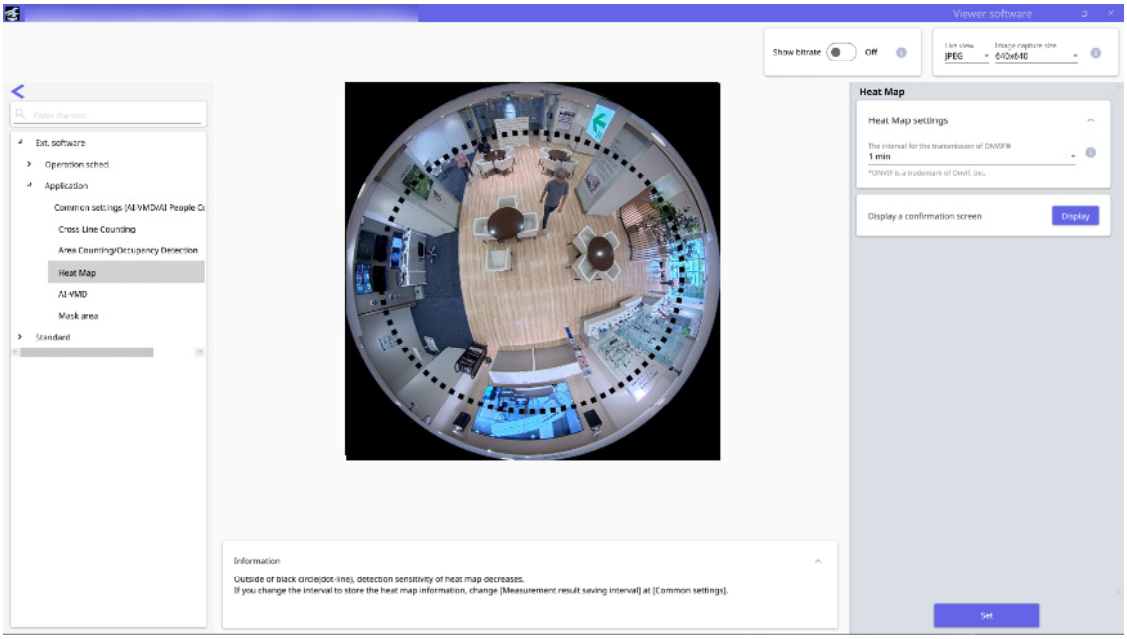
Click to save the contents of the currently displayed area settings and advanced settings tab.

3.4 Heat Map

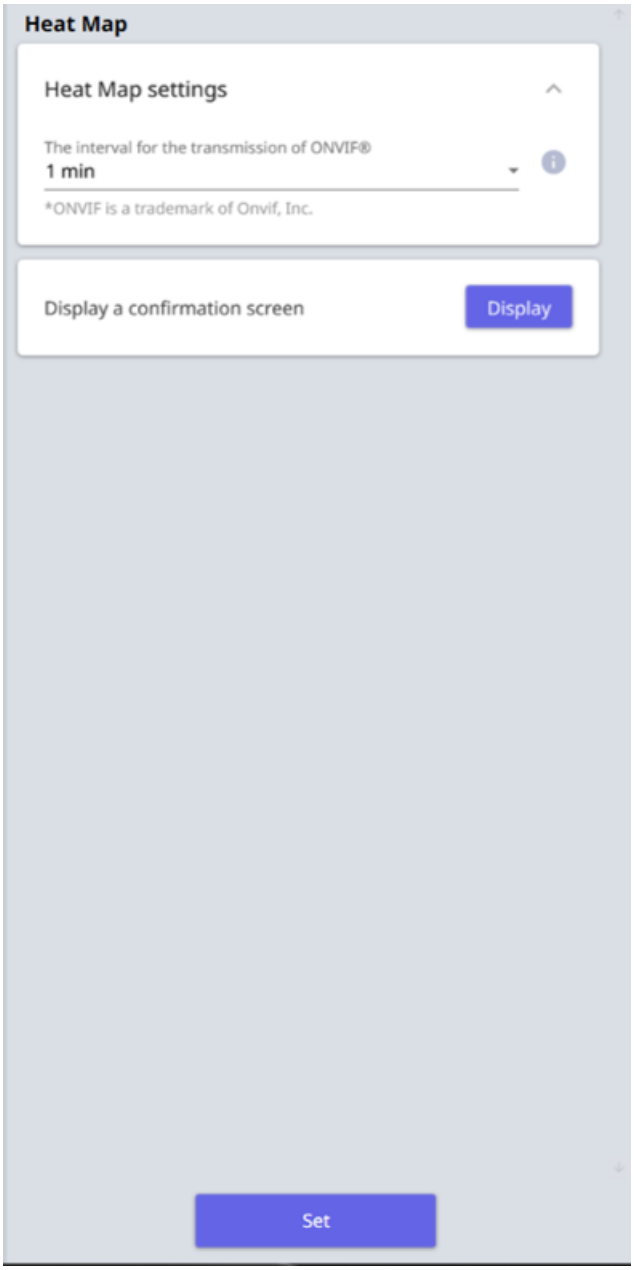
3.4.1 Open the settings screen

Clicking the [Ext. software] Menu > [Application] Menu > [Heat Map] Menu or [To the setting screen] links in the Camera Settings window opens the Heat Map Settings window.


Viewer software
Show bitrate
Off
Live view
JPEG
Image capture size
640x640
Ext. software
Operation sched.
Application
Common settings (AI-VMD/AI People Counting)
Cross Line Counting
Area Counting/Occupancy Detection
Heat Map
AI-VMD
Mask area
Standard
Common settings (AI-VMD/AI People Counting) V2.10
AI-VMD/AI People Counting for 360-degree fisheye
Cross Line Counting
Not use
Area Counting/Occupancy Detection
Not use
Heat Map
Use
AI-VMD
Not use
Camera height setting
This value affects the detection performance. Set an accurate value.
Ceiling 3.0m/9.8ft
Common settings
HTTP destination of count da
(1)
(2)
(3)
(4)
Transmission
Transmission address
Transmission path name
/AIPeopleCounting
SSL
On
Transmission port number
443
Username
Password
No display
Confirmation
Set


Viewer software
Show bitrate
Off
Live view
JPEG
Image capture size
640x640
Ext. software
Operation sched.
Application
Common settings (AI-VMD/AI People Counting)
Cross Line Counting
Area Counting/Occupancy Detection
Heat Map
AI-VMD
Mask area
Standard
Heat Map
Heat Map settings
1 min
Display a confirmation screen
Display
Information
Outside of black circle(dot-line), detection sensitivity of heat map decreases.
If you change the interval to store the heat map information, change [Measurement result saving interval] at [Common settings].
Set

3.4.2 Heat Map setting



[The interval for the transmission of ONVIF metadata]

Set the ONVIF Metadata transmission interval.

[1min], [5min], [15min]

Default: [1min]

If you want to change the Heat Map saving interval, change the [Measurement result saving interval] in the [Common Settings] window.

[Display a confirmation screen]

When [Display] is clicked, a confirmation window is displayed in another window. Refer to the following pages for the confirmation screen.

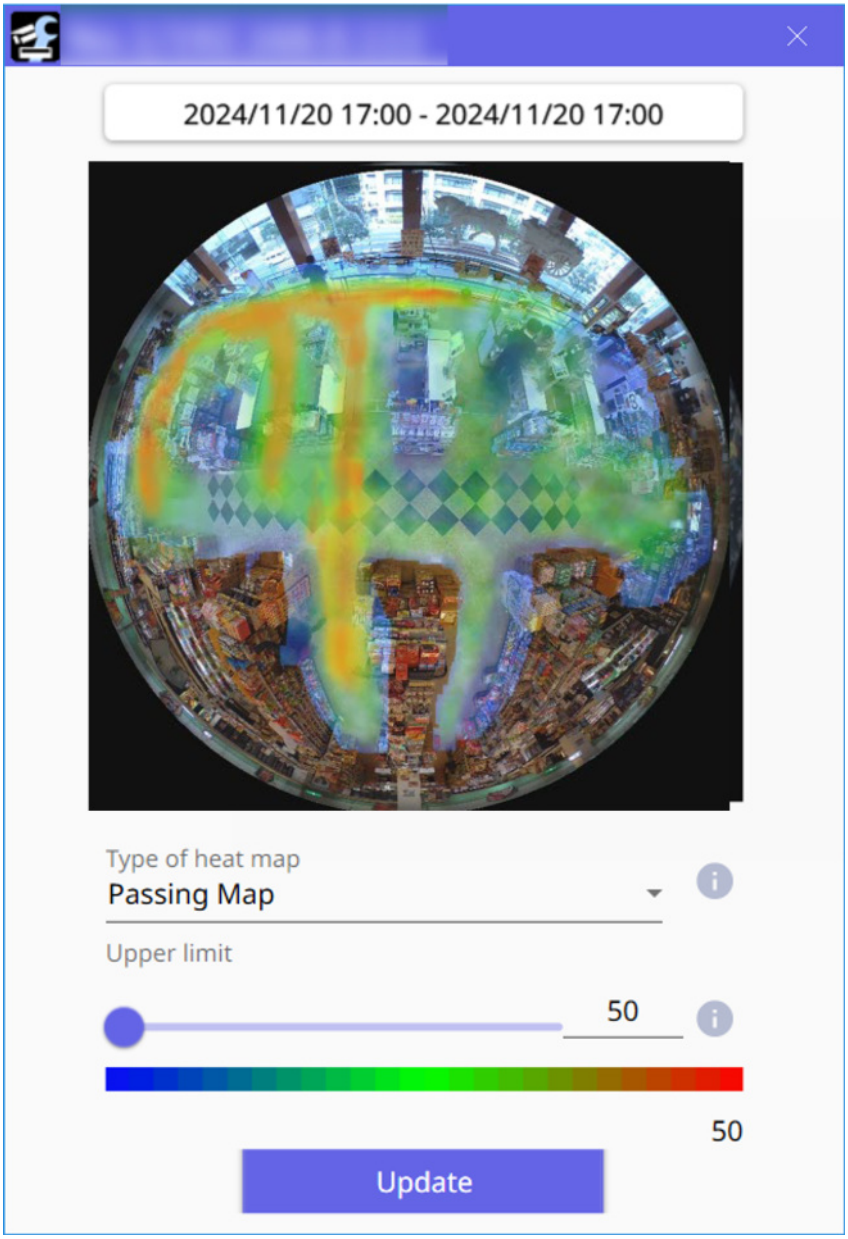
→3.4.3 Confirmation screen

[Set] button

Click to save the currently displayed settings.

3.4.3 Confirmation screen

Clicking on the [Display] buttons in the [Display a confirmation screen] displays the confirmation window in another window and displays the most recent Heat Map.



[Display map information]

Shows the most recent [Passing map] or [Loitering map]. Immediately after the confirmation window opens, [Passing map] is displayed.

[Date and time of heat map information displayed]

Displays the date and time when the Heat Map data was measured on the confirmation display.

[Type of heat map information displayed]

Displays the type of Heat Map displayed on the confirmation window.

[Passing map], [Loitering map]

Upper Limit

Red indicates the area where the number of selected values or more has been counted.

This represents [The number of people passing through [person]] for [Passing map] and [The average loitering time [sec] of the loitering people] for [Loitering map].

([Passing map])[3]~[65535], ([Loitering map])[1]~[655]

Default: ([Passing map]) [50], ([Loitering map]) [5]

[Update] button

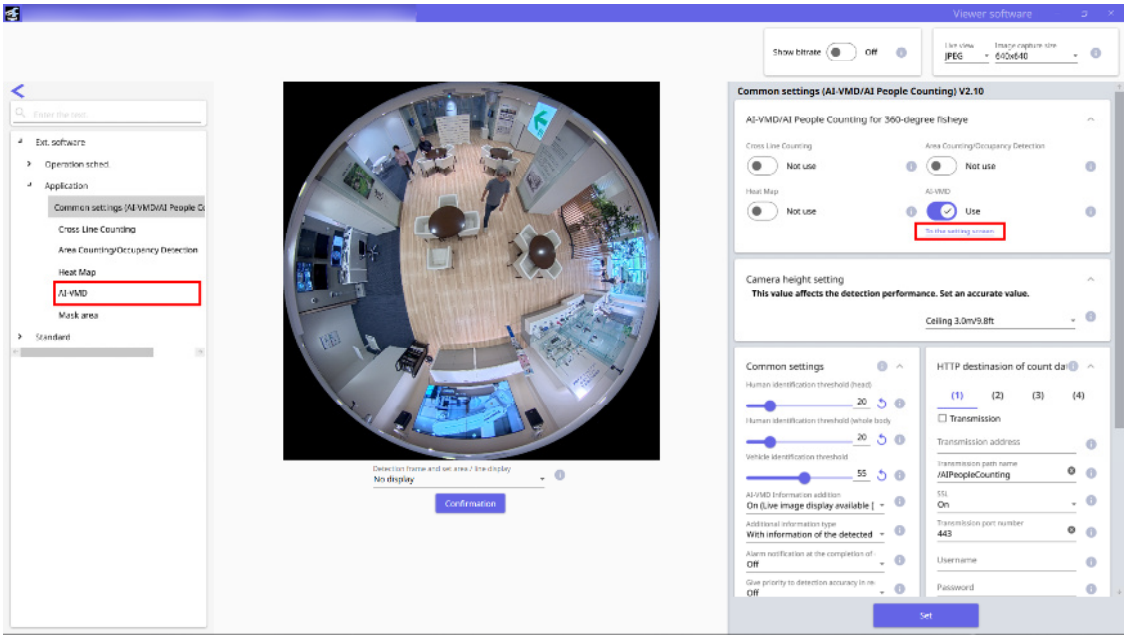
Update the Heat Map information displayed on the confirmation screen to the latest map information.

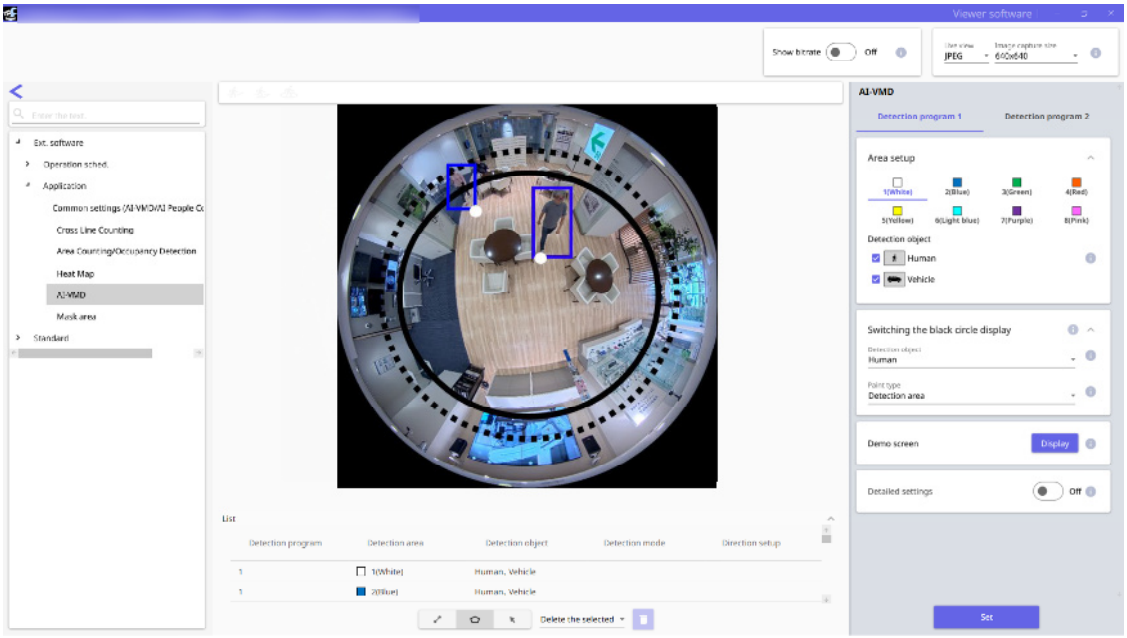
- The outer black circle (dotted line) is outside the scope of the Heat Map.
- Heat Map information is saved for each [Measurement result saving interval] based on the UTC time of 00:00:30 ± time zone after 5 minutes have elapsed since Heat Map was changed to [Use] in the same setting.

3.5 AI-VMD

3.5.1 Open the settings screen

Clicking the [Ext. software] Menu > [Application] Menu > [AI Video Motion Detection (AI-VMD)] Menu or [To the setting screen] links in the Camera Settings window opens the AI-VMD Settings window.

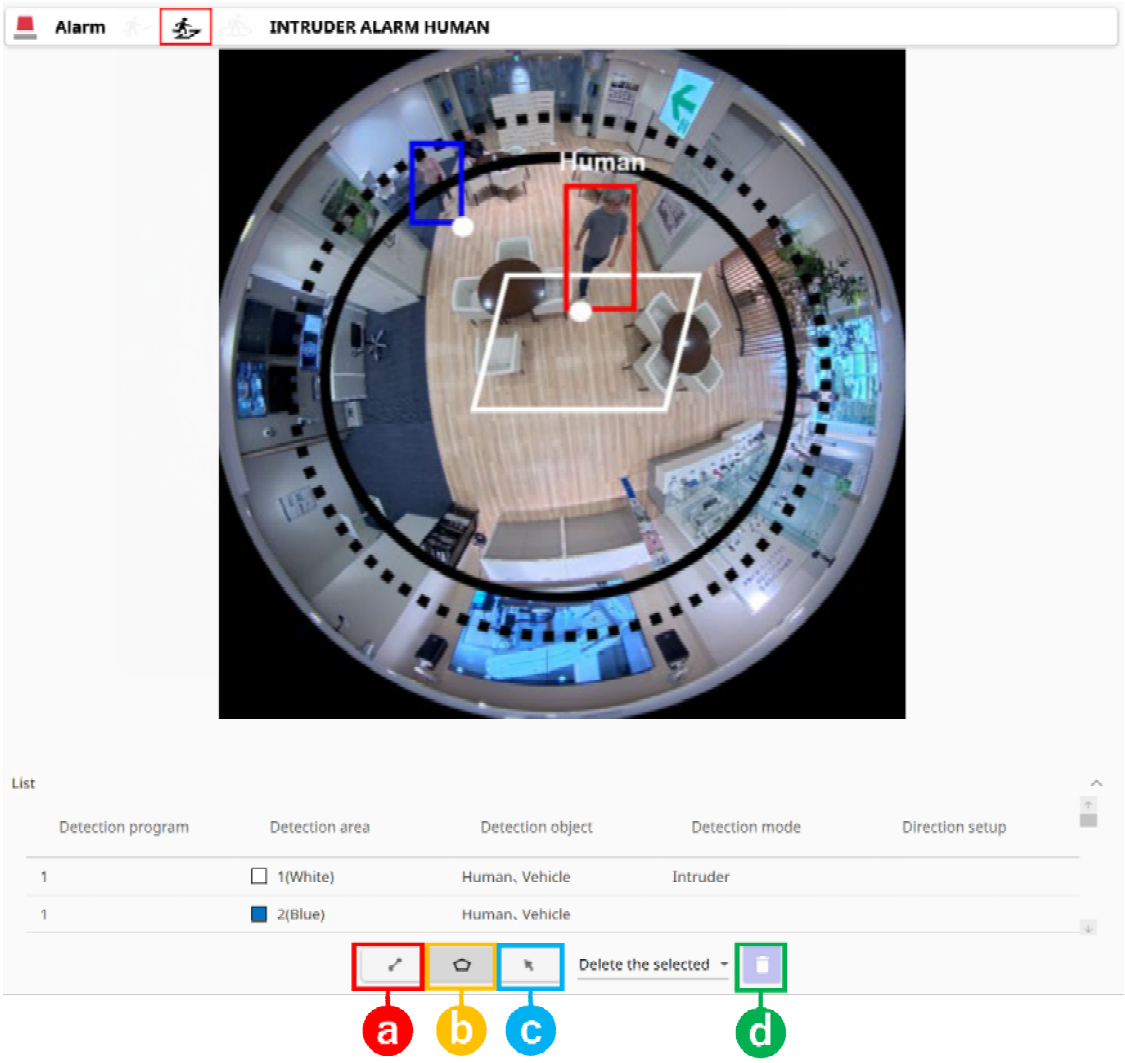




3.5.2 Area setting

Set the area for detecting moving object by AI-VMD and the detection condition.

Select the detection object for the detection area from [Human] and [Vehicle]. Select Intruder, Loitering, or Cross Line as the detection mode. Up to 8 detection area can be set for each setting. You can set up to two combinations of areas and detection conditions and save them as [AI-VMD(Detect 1)] and [AI-VMD(Detect 2)].



a: [Cross Line], b: [Detection area (polygon)], c: [Detection area (select)], d: [Delete]

3.5.2.1 Alarm notification area

When the AI-VMD detects a movement, the alarm icon and the icon corresponding to the three detection mode are lit.

Clicking the alarm icon clears the alarm condition and turns off all the icons.

① Cross Line (CROSS LINE)

② Intruder (INTRUDER)
③ Loitering (LOITERING)

3.5.2.2 Drawing area (Configure Detection area/Lines)

[Camera image screen]

This window draws the detection area or detection lines. To draw, select the [Detection area (polygon)] or [Cross Line] icons you want to draw from the [Drawing type] and drag them to [Camera image screen]. An alarm is generated when the actuator is identified within the detection area set by drawing. An alarm is generated when the movement traverses the set detection line.

[Drawing type]

Click the icon to select the drawing format.

- [Cross Line] : Draw detection lines for Cross Line.
- [Detection area (polygon)]: Draws the detection area as a polygon (up to 16 rectangles).
- [Detection area (select)] : Select the drawn detection area or detection line.
- [Delete] : Clicking [Delete selected area] or [Delete all] after selecting it will remove the specified detection area(detection line).

- When a detection area (polygon) is drawn, the area setting is completed by selecting the last start point.
- The outside of the black circle (solid line) is outside of the recommended detection area and detection lines. If set outside the recommended range, the detection performance will deteriorate.
- The outside of the black circle (dotted line) is outside the detectable range of the detection area and detection lines. If it is set outside the detection range, detection is impossible.
- The size of the black circle (solid line, dotted line) differs between the detection area and detection lines. When detection area is set, black circles (solid line and dotted line) for Detection area are displayed. When detection line is set, black circles (solid line and dotted line) for detection line are displayed on the camera image screen.
- The Detection area and detection line selected by [Detection area (select)] can be changed in size, length and shape by dragging the corners of the frame and the end points of the line. You can also move by dragging the inside of the frame or the line.
- To delete a Detection area or detection line, when several Detection area or

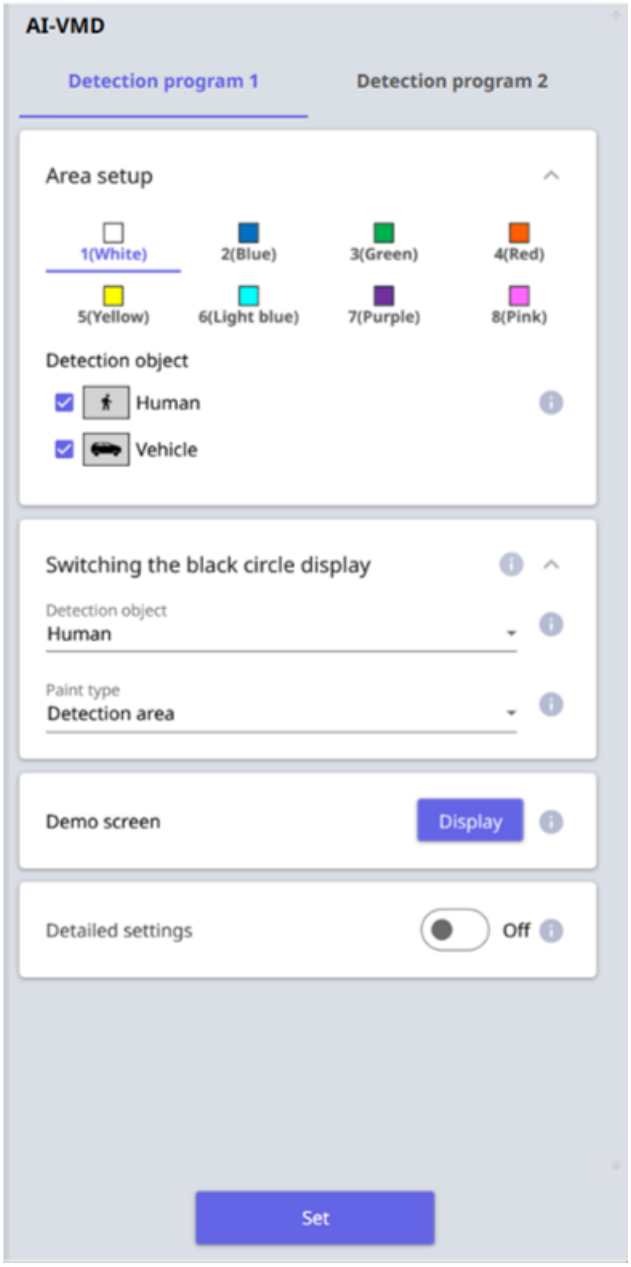
detection lines overlap, left-click the mouse in the overlapping area to switch the selected frames in turn.

・The center under the detection frame is the position of the detection frame. Set Detection area so that the position of this detection frame is Detection area.

・Multiple Detection area and detection lines cannot be selected at the same time.

・By default, the entire Drawing area is set to Detection area.

3.5.2.3 Detection conditions



[AI-VMD(Detect 1)], [AI-VMD(Detect 2)]

Select the [AI-VMD(Detect 1)] and [AI-VMD(Detect 2)] tabs to set one or two detection criteria. The two conditions can be executed simultaneously or separately, depending on the scheduling. See the following pages for schedule settings.

→5 Schedule setting

・The schedules [AI-VMD(Detect 1)] and [AI-VMD(Detect 2)] are always in operation.
・When using multi-AI software, only alarms generated by [AI-VMD(Detect 1)] are notified as events.

[Area setup]

Up to eight Detection area and detection lines are distinguished by line colors. The colors of drawing lines are set in order from [1 (white)].

Initial setting:[Area 1]/[Area 2]/[Area 3]/[Area 4]/[Area 5]/[Area 6]/[Area 7]/[Area 8] not set

[Detection object]

For each Detection area, check the objects (moving objects) you want to detect. There are two types of Detection object.

・ [Human]
・ [Vehicle] (regular cars, buses, trucks)

Default: [Human] and [Vehicle] are checked.

・The two Detection object can also be used in combination.
・If you want to detect all motion, check both.
・If more than one Detection object is a candidate, the results are printed in the order of precedence of [Vehicle] and [Human]. Unchecking for unnecessary Detection object may result in better results. For example, if a person stands in front of a car, the person may be printed as [Vehicle]. Unchecking [Vehicle] may result in outputting as a person.

[Detection mode]

Select the detection modes for the set Detection area and detection lines.

[Intruder] : Detects entry of moving object into detection area.
[Loitering] : Detects that the movement has stayed in the detection area for a certain period of time.
[Cross Line]: This feature detects a movement exceeding the detection line in the specified direction.

Default: [Intruder]

[Switching the black circle display]

Select detection object and Paint type to toggle the detectable range (black circle [dotted line]) and recommended range (black circle [solid line]) displayed on the camera image screen.

[Detection object]:Select the objects (moving objects) you want to detect in the detection area and detection lines you want to set.

Default: [Human]

[Drawing type]:Select the type that you want to draw.

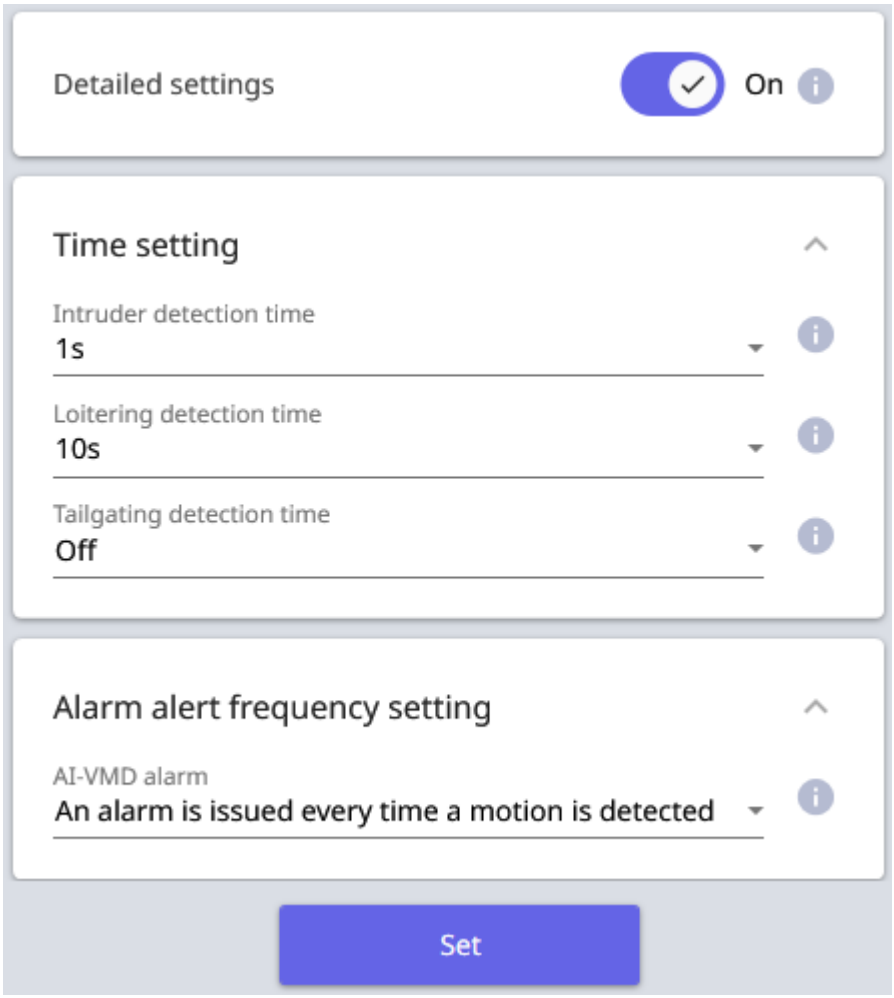
Default: [Detection area]

[Set] button

Click to save the contents of the currently displayed area settings and advanced settings tab.

3.5.3 Advanced settings

When [On] is selected, the detection time setting is displayed.



3.5.3.1 Time setting

Sets the time from detection to alarm generation.

[Intruder detection time]

Sets the time from the detection of intrusion to the alarm generation.

[0.2s], [0.4s], [1s], [2s], [3s], [4s], [5s], [10s]

Default: [1s]

[Loitering detection time]

Sets the time from the detection of stagnation until the alarm is generated.

[10s], [20s], [30s], [1min], [2min], [5min], [10min], [15min], [20min], [30min], [40min], [50min], [60min]

Default: [10s]

Depending on the movement of the object, the time until the alarm is generated may be longer than the setting.

[Tailgating detection time] *iCT V4.5 or later

Set the tailgating detection time. This setting is valid when cross line detection is set. An alarm is triggered when multiple objects are crossings line within a set time period.

[Off]、[1s]、[2s]、[3s]、[4s]、[5s]、[6s]、[7s]、[8s]、[9s]、[10s]

Default: [Off]

3.5.3.2 Alarm frequency setting

Select the timing of the AI-VMD alarm.

[An alarm is issued only when a motion is detected for the first time]:

The alarm is activated only at the first detection.

[An alarm is issued every time a motion is detected]:

The alarm is generated every time the alarm is detected.

Default: [An alarm is issued every time a motion is detected]

[Demo screen]

When [Display] is clicked, a demo window appears in another window. Refer to the following page for the display of the demonstration screen.

→6 Demonstration screen

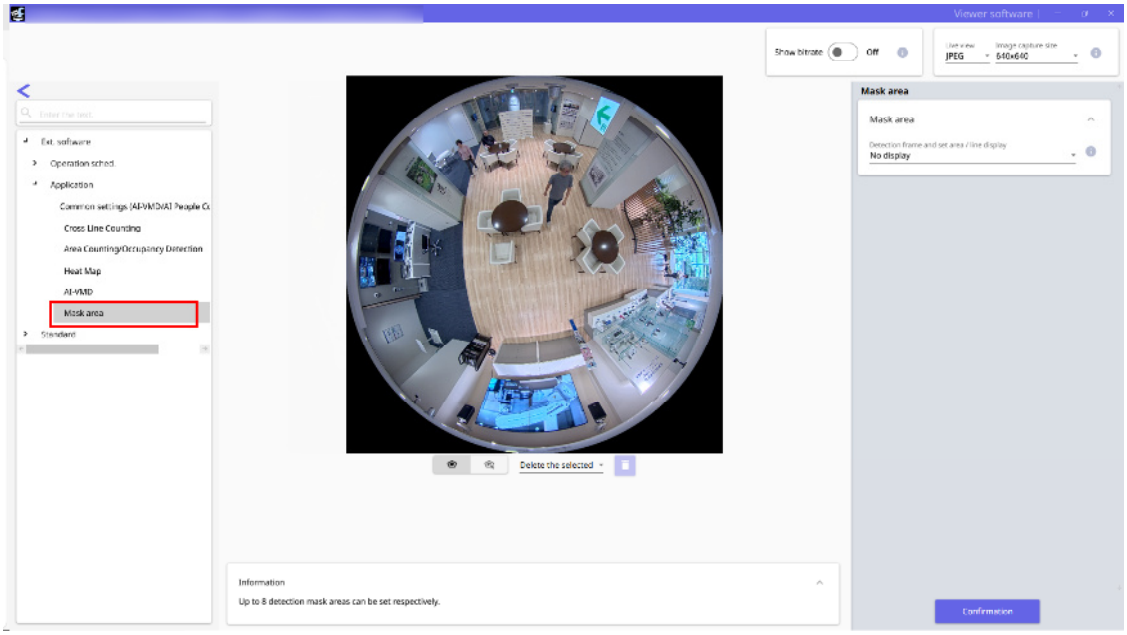
[Set] button

Click to save the contents of the currently displayed area settings and advanced settings tab.

3.6 Mask area

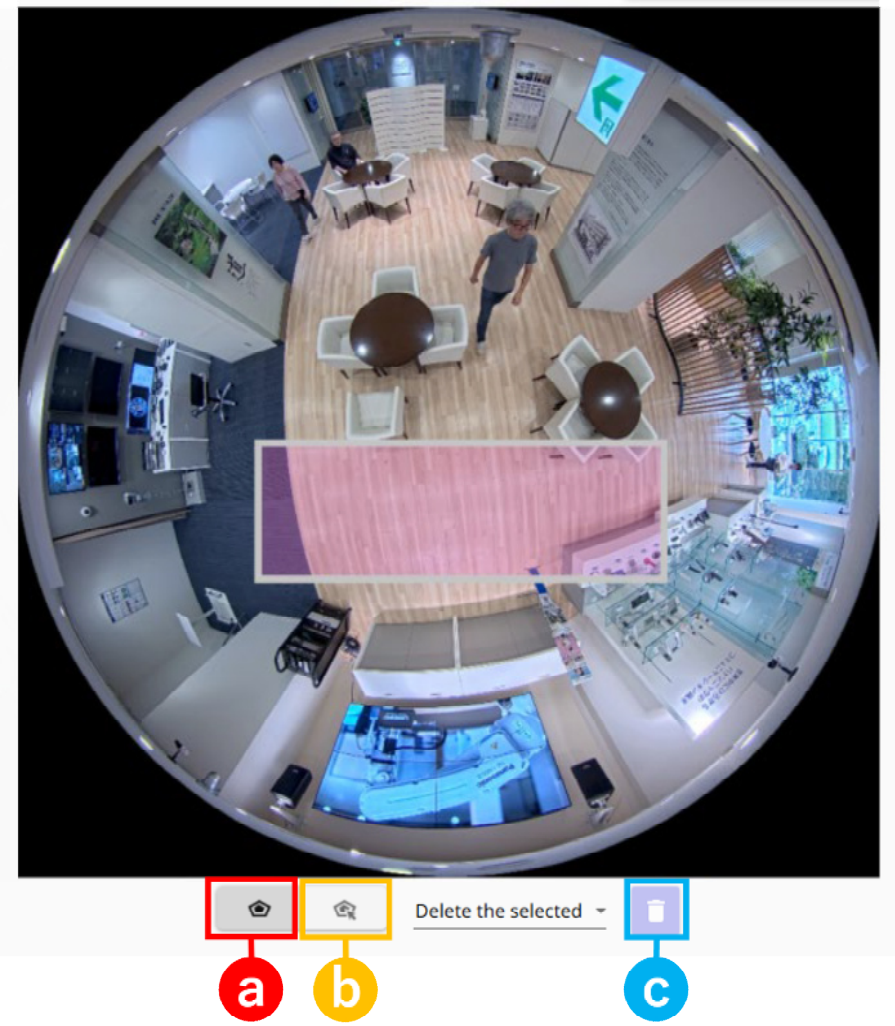
3.6.1 Open the settings screen

Clicking the [Ext. software] Menu > [Application] Menu > [Mask area] Menu in the Camera Settings window opens the mask area Settings window.



3.6.2 Mask area setting

Sets the mask area of all functions (Cross Line Counting, Area Counting, Occupancy Detection, Heat Map, and AI-VMD) of the product. Up to eight mask area can be set.



a: [Mask area (polygon)], b: [Mask area (select)], c: [Delete]

- [Mask area (polygon)]: Draws the mask area as a polygon (up to 16 rectangles).
- [Mask area (select)] : Select the drawn mask area.
- [Delete] : Clicking [Delete selected area] or [Delete all] after selecting it will remove the specified mask area.

- When [Mask area (polygon)] is drawn, the area setting is completed by selecting the start point at the end.
- You can change the size, length and shape of the mask area selected in [Mask area (select)] by dragging the corners of the frame or the end points of the lines. You can also move by dragging the inside of the frame or the line.
- You cannot select more than one mask area at a time.

[Display the preset detection areas and lines]

You can toggle the display of the pre-set area/line for each function. The set area/line and person frame (red/blue/light blue) are displayed according to the selected function.

[AI-VMD (Detect 1)], [AI-VMD (Detect 2)], [Cross Line Counting], [Area Counting/ Occupancy Detection], [No display]

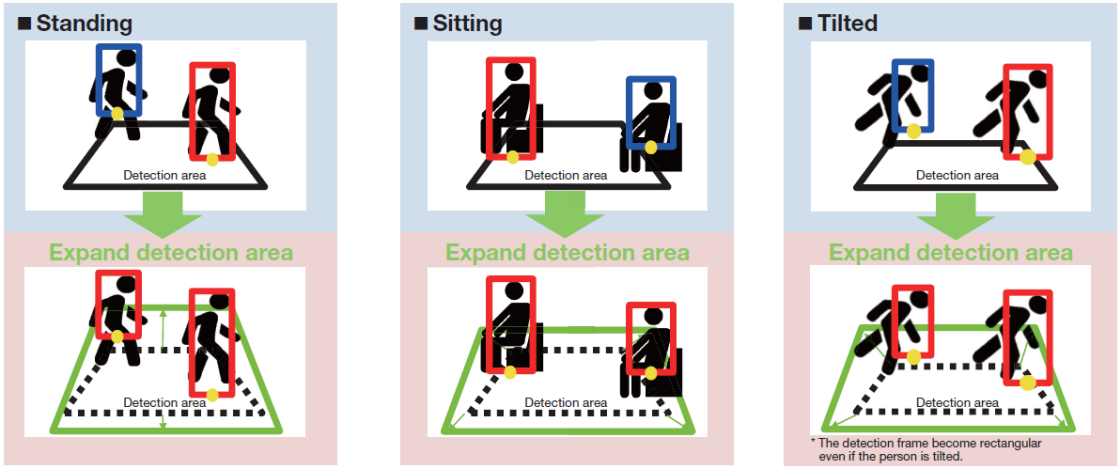
Default: [No display]

- The [AI-VMD (Detect 1)] frame and the [AI-VMD (Detect 2)] frame (red/blue) are displayed simultaneously.
- The displayed Detection area and detection lines can be selected by clicking and adjusting the position and length.

4 Detection frame

The display of the detection frame varies depending on the condition of the person. Set the detection area to a larger value.

The position of the detection frame is defined as the point where the detection frame intersects the line connecting the center of the detection frame and the center of the image. Set detection area so that the position of this detection frame is detection area.

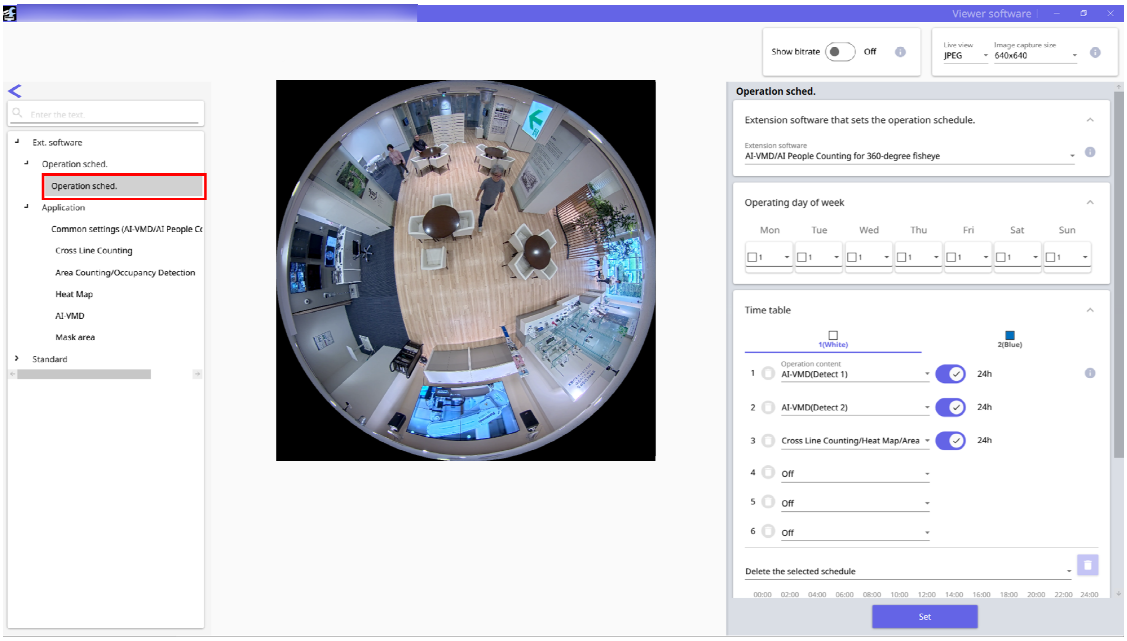


* The detection frame within the Detection area is shown in red, and the detection frame outside the Detection area is shown in blue.

5 Schedule setting

5.1 Open the settings screen

Clicking [Ext. software] Menu > [Operation sched] Menu > [Operation sched] on the Camera Settings window opens the Schedule Settings window.



5.2 Schedule setting

[Operating day of week]

Set the operation for each day of the week. The day of the week for which [Off] is selected does not work.

[Time table 1], [Time table 2], [Off]

Default: Select [Time table 1] for all Monday through Sunday.

[Time table 1], [Time table 2]

Sets the operation time and operation details of the product.

You can set up to 6 operating times for [Time table 1] and [Time table 2].

You can set the operation time for the day of the week selected in [Operating day of week].

[Details of operation]

Select the detection setting for operating the product.

[Off] : The [AI-VMD /AI count application] is not activated.

[AI-VMD (Detect 1)]: Run [AI Video Motion Detection (AI-VMD)] on [AI-VMD(Detect 1)] condition.

[AI-VMD (Detect 2)]: Run [AI Video Motion Detection (AI-VMD)] on [AI-VMD(Detect 2)] condition.

[Cross Line Counting/Heat Map/Area Counting/Occupancy Detection]: Run Cross Line Counting, Heat Map, Area Counting, and Occupancy Detection.

Initial setting:

[Details of operation 1]: [AI-VMD (Detect 1)]

[Details of operation 2]: [AI-VMD (Detect 2)]

[Details of operation 3]: [Cross Line Counting/Area Counting/Occupancy Detection/Heat Map]

[Details of operation 4] ~ [Details of operation 6]: [Off]

[Time]

Sets the operation time for the items for which [Details of operation] is set other than [Off].

Set the toggle switch to [On] to operate for the entire day.

Set the toggle switch to [Off] to manually set the operating time.

Settable time: [00:00]-[23:59] (24-hour)

Initial setting:

[Details of operation 1] ~ [Details of operation 3]: [24h] (toggle switch [On])

[Details of operation 4] ~ [Details of operation 6]: [00:00] ~ [00:00] (toggle switch [Off])

If 00:00 is set to the right of the time range, the time means 24:00.

[Set] button

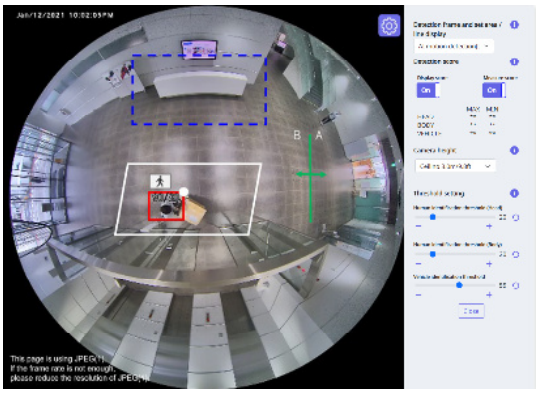
Click to activate the schedule setting.

If the camera's operation schedule is OFF, the setting screen of this product cannot be opened.

6 Demonstration screen

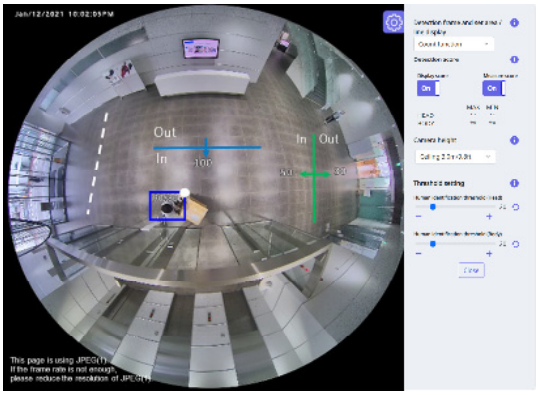
AI-VMD, Cross Line Counting and Area Counting/Occupancy Detection each have Demo screen display buttons and can be clicked to display the demo screen.

AI-VMD



Area Counting/Occupancy Detection

Cross Line Counting



[Detection area]

The set Detection area is displayed in color.

[Area 1]: white, [Area 2]: blue, [Area 3]: green, [Area 4]: red,

[Area 5]: yellow, [Area 6]: light blue, [Area 7]: purple, [Area 8]: pink

Solid line : Areas set to [On]

Dashed line: Areas set to [Off]

[Detection line]

The set detection line is displayed in color.

[Line 1]: white, [Line 2]: blue, [Line 3]: green, [Line 4]: red,
[Line 5]: yellow, [Line 6]: light blue, [Line 7]: purple, [Line 8]: pink

Solid line : Lines set to [On]

Dashed line: Lines set to [Off]

[Direction label]

AI-VMD (Cross line detection) displays the orientation labels for Cross Line Counting (Cross line detection: [A], [B], Cross Line Counting: [In], [Out]).

[Detection frame]

When the target object is detected, a frame is displayed.

Red frame: Displays the object in the area where the alarm was generated and the object crossing the line in the setting direction.

Blue frame (For AI-VMD and Cross Line Counting):
Displays the detected objects.
(For Area Counting/Occupancy Detection): Displays the object in the area and the object going outside the setting direction.

Blue frame (Area Counting/Occupancy Detection only):
Indicates who are not in all areas.

[Area status] ([AREA1] ~ [AREA8]) (Area Counting/Occupancy Detection only)

[TIME] : Displays the time (timer) exceeding the set number of persons.

[COUNT] : Displays the number of people being detected.

[ALARM!]: When the alarm is detected, [ALARM!] is displayed.

[White dots in detection frame]

Shows the foot position of the person's detection frame.

[Number of counts] (Cross Line Counting only)

The number of objects counted in the set direction is displayed in color for each line.

[Line 1]: white, [Line 2]: blue, [Line 3]: green, [Line 4]: red, [Line 5]: yellow, [Line 6]: light blue, [Line 7]: purple, [Line 8]: pink

[Settings] button

Clicking this button displays the selector switches and thresholds for [Display score] and [Measure score].

[Display score]

When the switch is set to [On], the head score (left) and whole body score (right) are displayed in the upper left corner of the detection frame.

[**] is displayed when the detection score is below the threshold.

[Measure score]

When set to [On], the maximum and minimum values of the detection score (head and whole body) start to be measured and the measurement result (MAX/MIN) is displayed on the demonstration screen. When set to [Off], measurement is stopped.

[Icon]

If the display score is [On], the Detection object icon is displayed in the upper left corner of the detection frame.

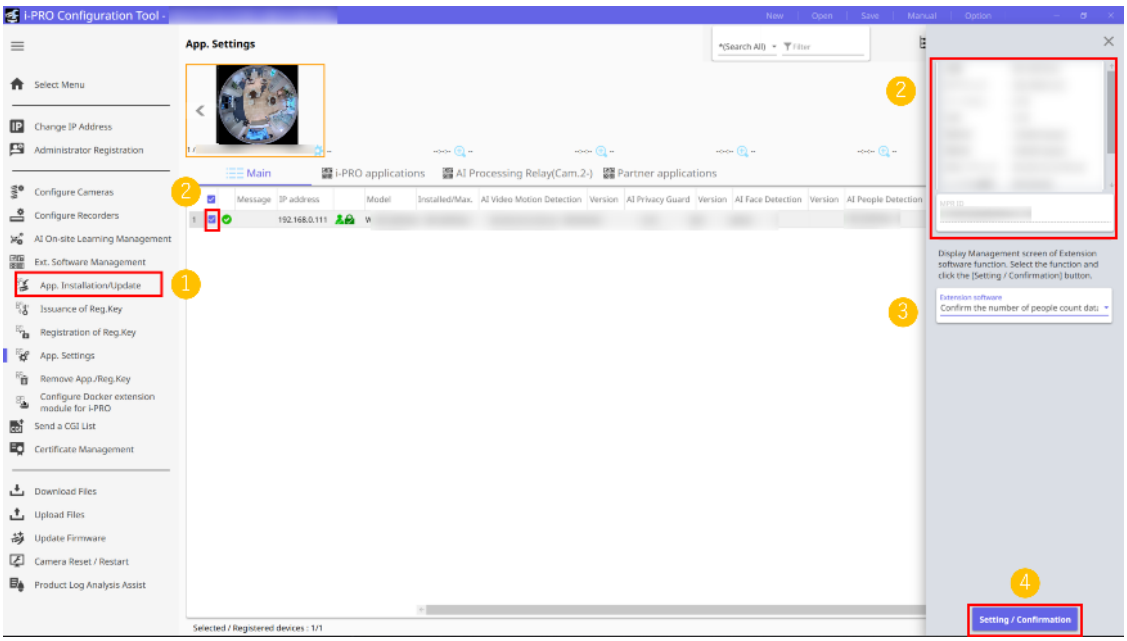
a, person; b, vehicle

- Use the Mozilla Firefox, Google™ Chrome™, and Microsoft Edge to display the demo screen.
  It does not support Internet Explorer.
- Only one browser can display the demo screen. Simultaneous access by multiple browsers is not supported.
  Simultaneous displays of AI-VMD, Cross Line Counting, Area Counting, and Occupancy Detection demo screens are not supported.
- If [On] is selected for data encryption, no image is displayed on the demo screen.
- If used at the same time as the other The Extension Software, the position of the detection frame may be misaligned with the person on the demo screen.
- It is not recommended to use the demonstration screen in actual operation because it is intended for demonstration.
- If [Display score] is set to [Off], [Measure score] cannot be set to On.

7 Aggregation function

This section describes the The Extension Software (Number of people count data confirmation software) of the iCT for acquiring and aggregating counts by Cross Line Counting and Area Counting. Number of people count data confirmation software is based on the assumption that this product is registered with the camera and used.

7.1 Open the setting/confirmation screen



8. Select Menu [Ext. Software Management]-> Sub-menu [Application Settings].
9. Check the check boxes for the cameras to be downloaded and check that the data such as the part number and [MPR ID] are displayed.
10. Select [Check count data] in [Ext. software].
11. Clicking Settings/Confirmation opens the [Number of people count data confirmation software] Settings window.

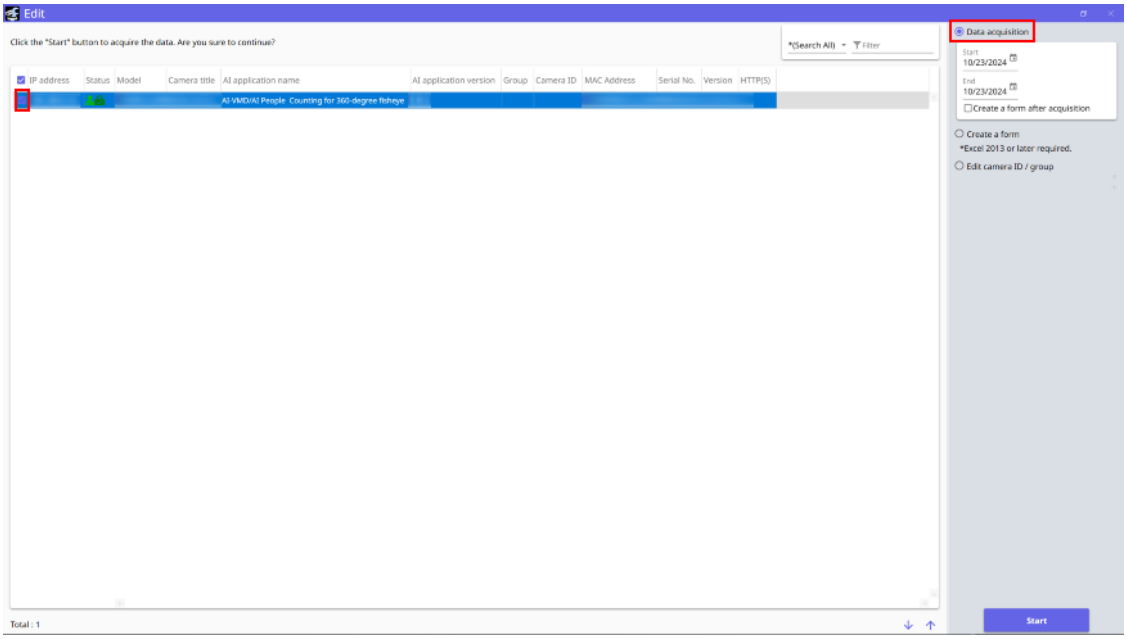
- Only cameras with this product installed can open the setting/confirmation screen.
- When using the aggregation function, set the [Measurement result saving interval] to 1 hour.

7.2 Obtain and aggregate count data

Number of people count data confirmation software can perform the following three operations on cameras where this system is installed.

- Acquisition of data
  →7.2.1 Acquisition of data
- Preparation of Form
  →7.2.2 Preparation of Form
- Editing camera ID/group
  →7.2.3 Editing camera ID/group

7.2.1 Acquisition of data



Acquires the count data of the number of people from the camera. Select the check box for the target camera and select [Acquire data] to open the Acquisition data setting screen.

[Start]

Sets the start date of the period for which data is to be acquired.

[End]

Set the end date of the period for which you want to acquire data.

[Create a form after acquisition]

When the check box is checked, the form is output after the data acquisition starts. Refer to the

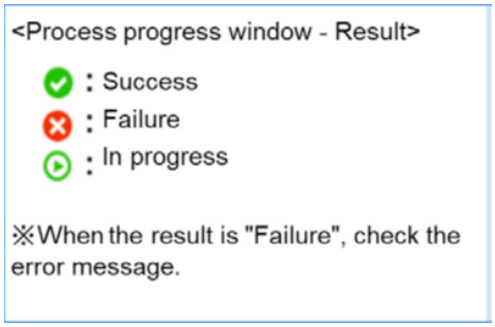
following page for the report output.

→7.2.2 Preparation of Form

Initial value: unchecked

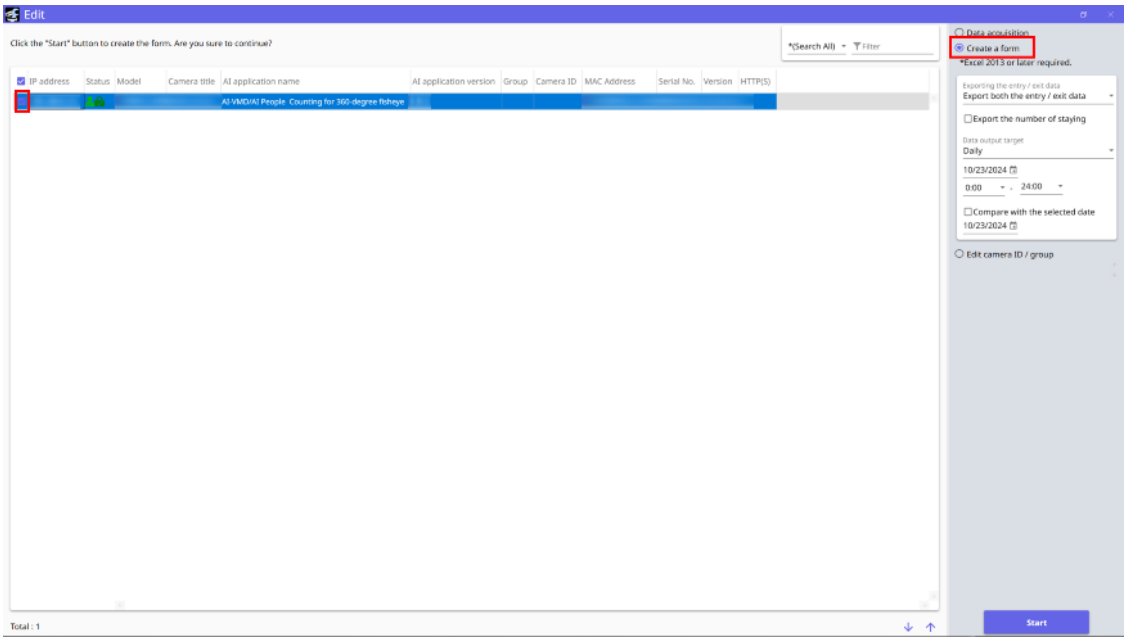
[Start] buttons

Press [Start] to view the progress window and verify that the acquisition is completed successfully.



7.2.2 Preparation of Form

The aggregated data of the count data obtained from the camera by [Retrieve data] is represented in tables and graphs and saved in Excel format. Check the check box of the target camera and select [Create report] to open the Create Report screen.



[Exporting the entry / exit data]

In the target detection line, select which number of people counted in the entrance direction or in the exit direction to output the report.

[Export both the entry / exit data], [Export the entry data only], [Export the exit data only]

Default: [Export both the entry / exit data]

[Export the number of staying]

When the check box is checked, the number of visitors is output.

Initial value: unchecked

- The [Exporting the entry / exit data] and [Export the number of staying] settings do not apply to outputting Area Counting counts.
- In Cross Line Counting, when multiple lines are set up, the count data outputs the total value in the form. For outputting only the count data of Line 1 in the following file<MultiLine>Edit the tag. However, it must be rewritten prior to starting iCT.

  C:¥Users¥(Windows users)¥Desktop¥i-PRO Configuration Tool¥#PeopleCount¥Storage¥Project000¥KazoolDevData.xml

  Initial value:<MultiLine>1,1,1,1,1,1,1,1,1,1,1,1</MultiLine>

  When only the count data of Line 1 is output in the form:<MultiLine>1,0,0,0,0,0,0,0,0,0,0,0</MultiLine>

[Data output target]

Outputs a file by selecting it from the daily report (one hour) or monthly report (one day) of the specified year, month, and day.

Default: [output unit] [Daily], ([Year/Month/Day/Hour]) from 0:00 to 24:00 on the day of setup

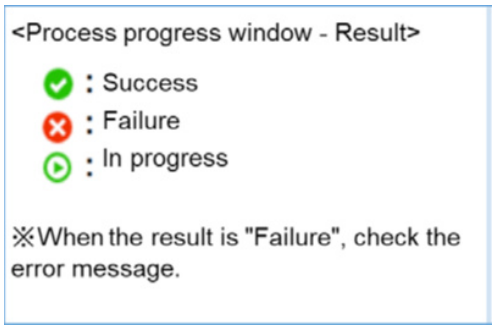
[Compare with the selected date]

When the check box is checked, the data to be compared can be output at the same time.

Initial value: unchecked

[Start] buttons

When [Start] is pressed, the progress window is displayed to confirm that the report output is completed successfully.

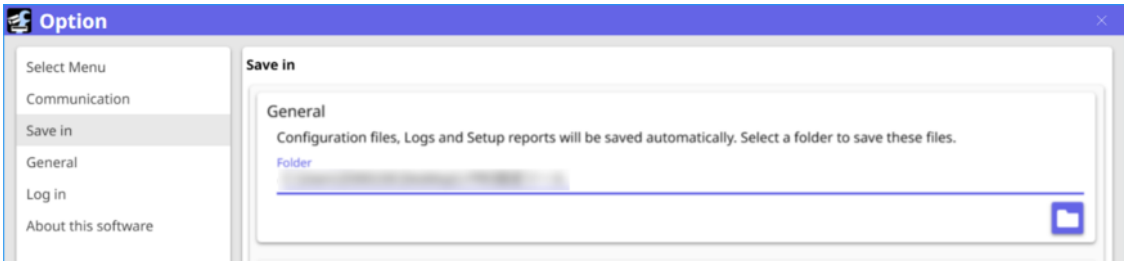


The name and contents of the form sheet are as follows.

Sheet name	Description
[Total]	Sum of Cross Line Counting groups are recorded. At the bottom of the table are graphs.
[Group name]	The sum of the Cross Line Counting's camera IDs is recorded. At the bottom of the table are graphs.

Sheet name	Description
[Area_Total]	Sum of Area Counting groups are recorded. At the bottom of the table are graphs.
[Area_(group name)]	The sum of the Area Counting's camera IDs is recorded. At the bottom of the table are graphs.
[Err]	Error details for each time zone are shown on the top sheet of each camera.

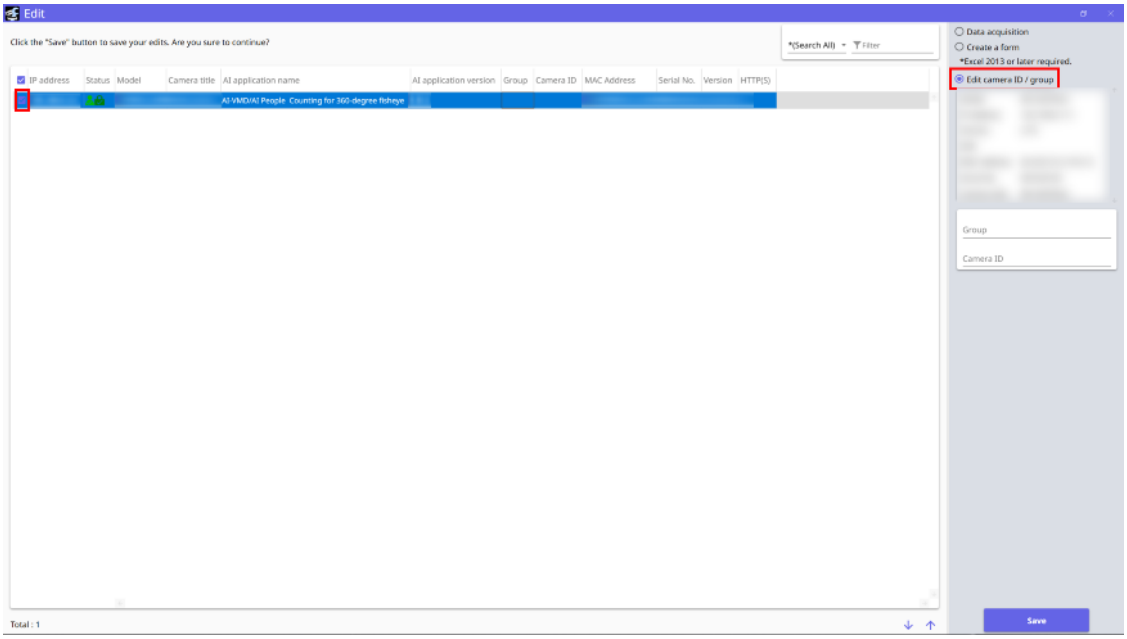
The location for storing data can be specified in the [Option] [Save in] window.
Default: C:¥Users¥(Windows users)¥Desktop¥ i-PRO Configuration Tool



The outputted form is saved in the [#PeopleCount¥Report] folder immediately below the data storage location specified in the [Save in] screen of the [Option].
Default: C:¥Users¥(Windows users)¥Desktop¥i-PRO Configuration Tool¥PeopleCount¥Report
*File name (for daily report)
YyyyMMdd_HHmmss_Result_PeopleCount.xlsm
(For monthly reports, "dd" will be replaced by "_"

7.2.3 Editing camera ID/group

[Edit camera ID / group] changes the camera IDs and groups of registered cameras. Select the check box for the target camera and select [Edit camera ID / group] to open the Edit Camera ID/Group window.



[Group]

Set the group name of the target camera.

Initial value: blank

[Camera ID]

Set the camera ID of the target camera.

Initial value: blank

[Save] buttons

Press [Save] to save the settings.

7.2.4 Example of Form Format

When the camera is connected to one camera and the group is set to [group] and [cameraID] is set to [cameras ID], the report is output as follows.

[Total Sheet] Example Table

2021/11/04 People count result(Daily report)

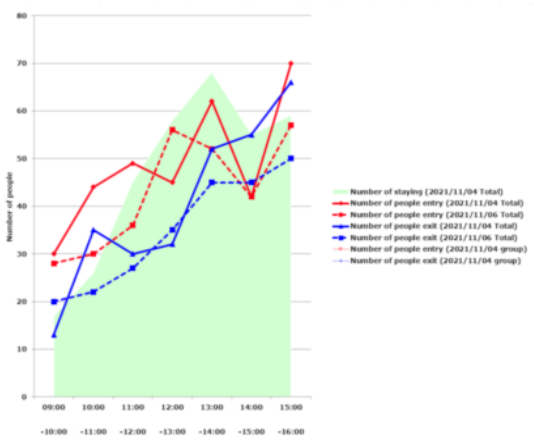
Group	People count type	Year/Month/Day	Total	Increase/ Decrease ratio	Composition ratio	09:00 -10:00	10:00 -11:00	11:00 -12:00	12:00 -13:00	13:00 -14:00	14:00 -15:00	15:00 -16:00
Total	Number of people entry	2021/11/04	342	113%	100%	30	44	49	45	62	42	70
		2021/11/06	301		100%	28	30	36	56	52	42	57
	Number of people exit	2021/11/04	283	115%	100%	13	35	30	32	52	55	66
		2021/11/06	244		100%	20	22	27	35	45	45	50
	Number of staying	2021/11/04	-	-	-	17	26	45	58	68	55	59
		2021/11/06	-	-	-	8	16	25	46	53	50	57
group	Number of people entry	2021/11/04	342	113%	100%	30	44	49	45	62	42	70
		2021/11/06	301		100%	28	30	36	56	52	42	57
	Number of people exit	2021/11/04	283	115%	100%	13	35	30	32	52	55	66
		2021/11/06	244		100%	20	22	27	35	45	45	50

<Area_group sheet> Example Tables: Area Counting prints the mean count per hour.

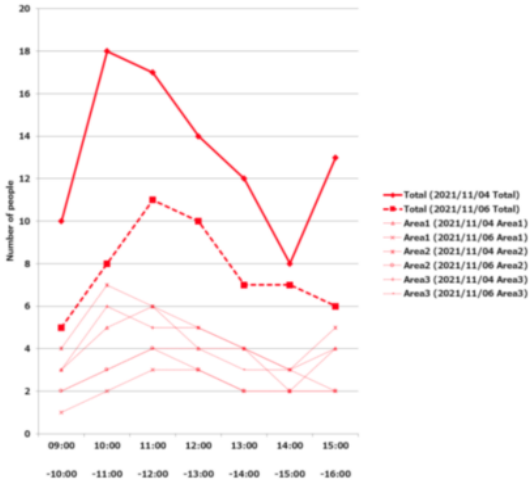
2021/11/04 People count result(Daily report)

Camera ID	Area	Year/Month/Day	09:00 -10:00	10:00 -11:00	11:00 -12:00	12:00 -13:00	13:00 -14:00	14:00 -15:00	15:00 -16:00
Total		2021/11/04	10	18	17	14	12	8	13
		2021/11/06	5	8	11	10	7	7	6
cameraID	Area1	2021/11/04	3	5	6	4	4	2	4
		2021/11/06	1	2	3	3	2	2	2
	Area2	2021/11/04	4	7	6	5	4	3	5
		2021/11/06	2	3	4	3	2	2	2
	Area3	2021/11/04	3	6	5	5	4	3	4
		2021/11/06	2	3	4	4	3	3	2

[Total Sheet] Example of graph



<Area_group sheet> Example of graph



Example of Err Sheet: If the specified period of data does not exist in the camera or cannot be connected to the camera, the [Error Details] will appear as [File not present].

Number of people count data acquisition error

Time	IP address	Camera ID	Group	Travelling direction	Error details
2021/11/2 23:00	192.168.0.20:80	cameraID	group	Exit	File not found.
2021/11/4 23:00	192.168.0.20:80	cameraID	group	Exit	File not found.

8 Others

8.1 Specifications

8.1.1 PC environment required

For details about the PC environment used for setting, refer to the camera's instruction manual.

8.1.2 External interface specifications

Refer to the [AI-VMD /AI Count Application (for AI omni-directional cameras) Interface Specifications] in the URLs below for the external interface specifications.

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