



VS126

AI Ultra High-Mount People Counter

User Guide

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Chapter 1. Preface

Copyright Statement

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Milesight reserves the right to change this guide and the specifications without prior notice. The latest specifications and user documentation for all Milesight products are available on our official website <http://www.milesight.com>

Safety Instruction

These instructions are intended to ensure that users can use the product correctly to avoid danger or property loss. Milesight will not take responsibility for any loss or damage resulting from failure to follow the instructions in this operating guide.

**Warning:**

Serious injury or death may be caused if any of these warnings is neglected.

- This installation must be conducted by a qualified service person and should strictly comply with the electrical safety regulations of the local region.
- To avoid risk of fire and electric shock, do keep the product away from rain and moisture before installation.
- Do not touch components which may be hot.
- Make sure the plug is firmly inserted into the power socket.
- Make sure the device is firmly fixed when installing.

**CAUTION:**

Injury or equipment damage may be caused if any of these cautions are neglected.

- The device is not intended to be used as a reference sensor, and Milesight will not take responsibility for any damage which may result from inaccurate readings.
- The device must not be disassembled or remodeled in any way.
- Do not place the device close to objects with naked flames.
- Do not place the device where the temperature is below/above the operating range.



- The device must never be subjected to shocks or impacts.
- To prevent heat accumulation, do not block air circulation around the device.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes.
- Do not expose the device to where a laser beam equipment is used.
- Use a soft dry cloth to clean the lens. For stubborn stains, dampen the cloth with a mild detergent solution, clean the lens, and immediately dry it thoroughly.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the device surface

Revision History

Date	Doc Version	Description
Nov. 18, 2025	V1.0	Initial version

Chapter 2. Product Introduction

This chapter describes basic product information.

Overview

VS126 is a professional-grade people counting sensor specifically engineered for high-mount installations at heights between 6 and 15 meters. By integrating advanced binocular stereo vision technology, it achieves an industry-leading counting accuracy of up to 99.8% while ensuring full compliance with GDPR privacy requirements through built-in privacy protection features.

The sensor offers flexible connectivity options including Cellular and Power over Ethernet (PoE), allowing seamless integration into diverse network environments. For extended functional expansion, the VS126 provides multiple industrial interfaces (RS485, DO, DI) to enable integration with access control systems, digital signage, and building management platforms.

Designed for challenging high-ceiling applications, the VS126 delivers reliable performance in large indoor environments such as airports, shopping malls, libraries, and stadiums. Its robust construction and widearea detection capability make it an ideal solution for accurate crowd monitoring and space utilization analysis in complex architectural spaces.

The device has the following features:

- **Reliable performance:**
 - Up to 99.8% people counting accuracy with AI and stereo vision technology.
 - Maintains stable performance in diverse lighting conditions, even in pitch darkness.
- **Installation flexibility & Auto-Calibration Technology:**
 - Supports high ceiling mounting between 6 and 15 meters, providing greater deployment flexibility for various environments.
 - Supports automatic tilt correction and infrared adjustment to maintain optimal detection performance.
- **Various functions:**
 - Supports line crossing people counting, regional people counting and dwell time detection.
 - Supports the heat map function for analyzing foot traffic intensity and distribution.
 - Supports multi-device stitching. Up to 16 device can be stitched to expand the coverage area.
- **Multiple interfaces:**

- Provide multiple connectivity options (PoE, Cellular).
- Supports RS485, DI and DO interfaces for external device integration.
- High compatibility of data transmission with HTTP(s)/MQTT(s) protocol and API, supports customized push content methods.
- **Device management and data security:**
 - Quick and simple management through the Milesight Development Platform.
 - Customer-defined preview privacy settings. No personal information is transmitted, ensuring compliance with the GDPR.
 - Supports local data storage and data retransmission for secured data collection.

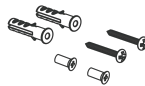
Packing List

This section describes the packing list. After unboxing, please check that the following items are included in the package. If any of the below items are missing or damaged, please contact your sales representative.

Universal Accessories



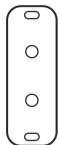
1 × VS126 Device



2 × Ceiling Mounting Sets



1 × Multi-interface Cable



1 × Mounting Plate

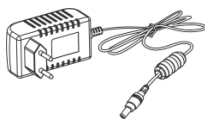


1 × Quick Guide Card



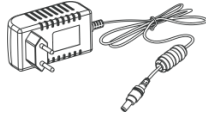
1 × Warranty Card

Accessories Exclusively for Cellular Version



1 × Power Adapter

Accessories Exclusively for PoE Version



1 × Power Adapter (Optional)

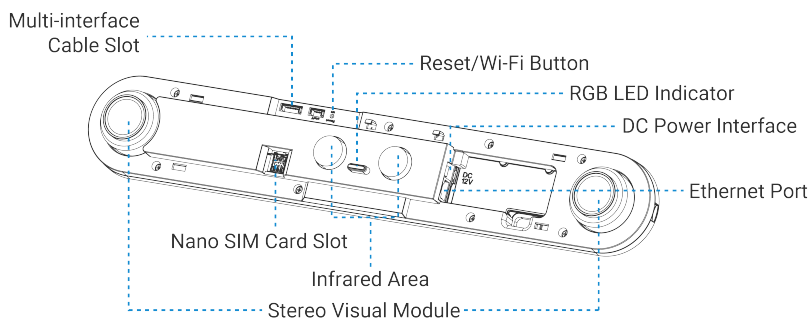
The device is also compatible with multiple mounting kits and accessories that can be purchased independently. For detailed information about them, refer to [Accessories for Milesight People Counters](#).

Hardware Components

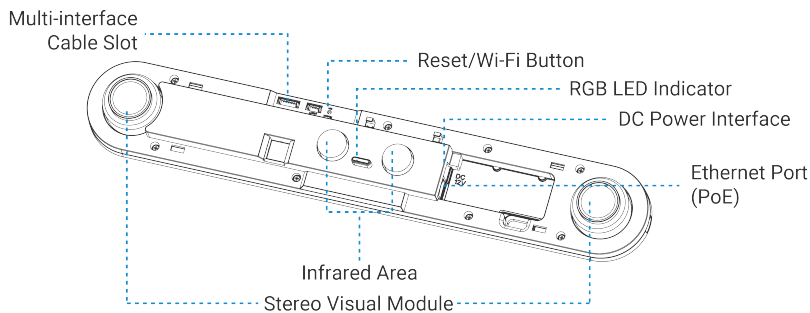
Main Components

The following figure shows the main components of the device.

• Cellular Version:



• PoE Version:



For the description of each component, refer to the following table:

Name	Description
Multi-interface Cable Slot	Provides physical connection points for external devices.
Reset/Wi-Fi Button	See Button Patterns .

Name	Description
RGB LED Indicator	Provides visual status indications through a multi-color LED.
DC Power Interface	Provides a power input for the device by connecting to an external DC power adapter.
Ethernet Port	Provides data communication and multi-device stitching capability. When Power over Ethernet (PoE) is supported, this port can also power the device.
Nano SIM Card Slot (Cellular Version Only)	Slot for inserting a Nano-SIM card to establish a cellular network connection.
Infrared Area	Provides night vision capability by emitting invisible infrared light to illuminate the scene.
Stereo Visual Module	It is a dual-camera module that captures and processes stereoscopic images.

Power Button and LED Indicators

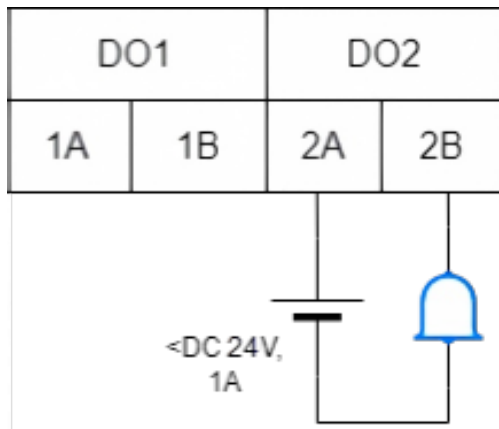
The device has a button and an LED indicator for Wi-Fi enabling/disabling and reset functions. For the functions of the button and the corresponding LED indicator status, refer to the following table.

Function	Action	LED Indicator
Enable/Disable Wi-Fi	Long press the button for 3 seconds.	Enable/Disable: The blue light blinks for 3 seconds. • Wi-Fi enabled: The blue light is on. • Wi-Fi disabled: The green light is on.
Reset the device	Long press the button for 10 seconds.	The green light blinks until the reset process is completed.
Module or algorithm detection error	/	The red light is on.

Wiring Diagram

This following figure shows the wiring diagram.

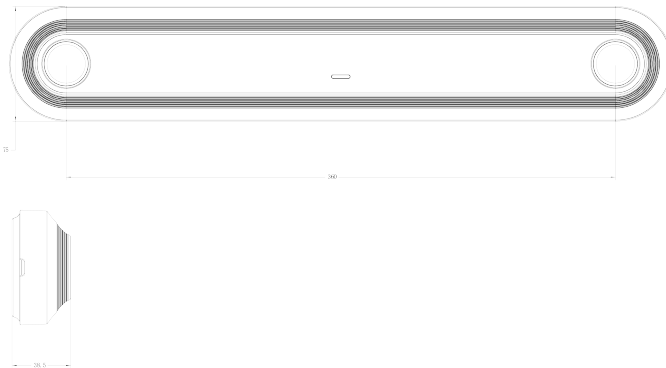
Figure 1. DO



- DO: Loads up to 1A@24V DC.

Dimensions

The following figure shows the device dimensions (unit: mm).

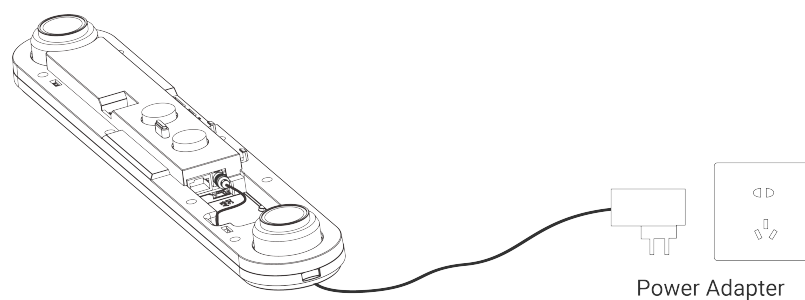


Power Supply

This device supports multiple power supply methods. Please select one of the following options.

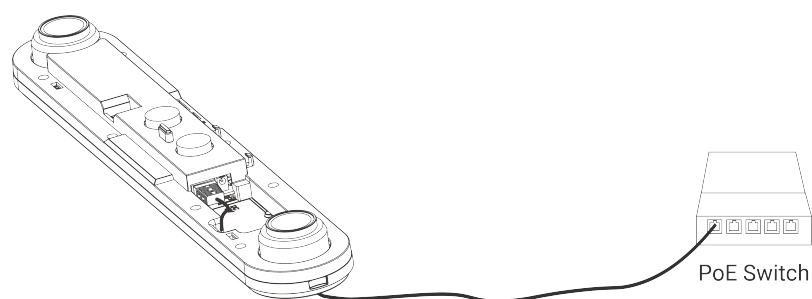
Powered by DC Power Interface

The device can be powered by the DC power interface (12V, 1A) with a DC power adapter.



Powered by Active PoE (PoE Version Only)

The Ethernet port can receive power by connecting to an IEEE 802.3af standard PoE switch.



Chapter 3. Hardware Installation

This section describes how to perform a complete device installation.

Installation Prerequisites

The following table describes detection area calculation related parameters.

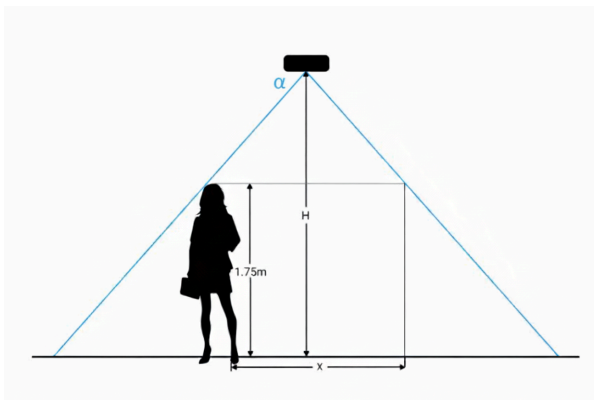
Single Device Deployment

Table 1. Parameter Definition

Parameters	Explanation	Value
H	Installation height	6 - 15 m
h	Target height	Example 1.7 m
α	Horizontal field of view angle	$-2.607 \times H + 90.204$ ($6 \text{ m} \leq H \leq 10 \text{ m}$); $-3.577 \times H + 94.557$ ($10 < H \leq 15 \text{ m}$)
β	Vertical field of view angle	$-2.279 \times H + 73.102$ ($6 \text{ m} \leq H \leq 10 \text{ m}$); $-2.898 \times H + 74.682$ ($10 < H \leq 15 \text{ m}$)
x	Length of detection range	$2 \times \tan(\alpha/2) \times (H-h+0.05)^*$
y	Width of detection range	$2 \times \tan(\beta/2) \times (H-h+0.05)^*$

* The "+0.05" in the formula accounts for the device's mounting offset from the ceiling surface.

The detection area depends on the device's field of view, installation height, and target height. The following figure shows an example for illustration.



Example: For a 1.75 m target height, the detection area for each installation height is as follows:

Table 2. Detection Area

Installation Height (m)	Detection Area (m ²)
6.0	6.55 × 4.91
7.0	7.70 × 5.76
8.0	8.72 × 6.54
9.0	9.62 × 7.21
10.0	10.40 × 7.80
11.0	9.73 × 7.29
12.0	9.97 × 7.48
13.0	10.08 × 7.56
14.0	10.06 × 7.55
15.0	9.92 × 7.43

Multi-Device Deployment

Table 3. Parameter Definition

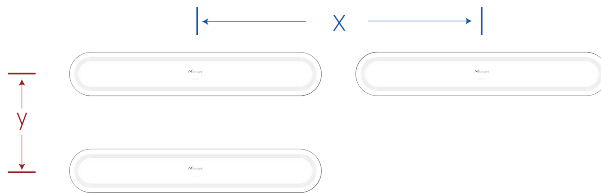
Parameters	Description	Value
H	Installation height	6 - 15 m
h	Target height	Example 1.7 m
α	Horizontal field of view angle of each device	-2.607 × H+90.204 (6 m ≤ H ≤ 10 m); -3.577× H+94.557 (10 < H ≤ 15 m)
β	Vertical field of view angle of each device	-2.279 × H+73.102 (6 m ≤ H ≤ 10 m); -2.898 × H+74.682 (10 < H ≤ 15 m)
x	Detection range length of each device	$x = 2 \times \tan(\alpha/2) \times (H-h+0.05)$ for each device
y	Detection range width of each device	$y = 2 \times \tan(\beta/2) \times (H-h+0.05)$ for each device

Parameters	Description	Value
a	Number of devices required along the coverage length	Coverage length $\div$ x, Round to the nearest integer based on deployment requirements
b	Number of devices required along the coverage width	Coverage width $\div$ y, Round to the nearest integer based on deployment requirements

Example: For a 18 m $\times$ 15 m (length $\times$ width) coverage area, with the devices installed at a height of **10 m (H)** and a target height of **1.75 m (h)**:

x = 10.4 m, a: Coverage length $\div$ x = $18 \div 10.4 \approx 1.73 \approx 2$ devices

y = 7.8 m, b: Coverage width $\div$ y = $15 \div 7.8 \approx 1.92 \approx 2$ devices



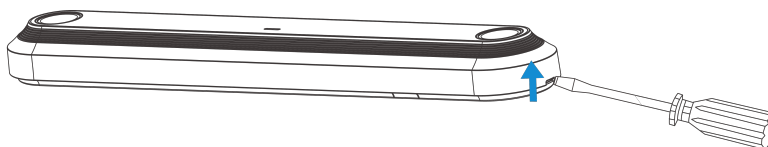
Conclusion: $2 \times 2 = 4$ devices are required for complete coverage of the 18 m $\times$ 15 m area.

Install a SIM Card (Cellular Version Only)

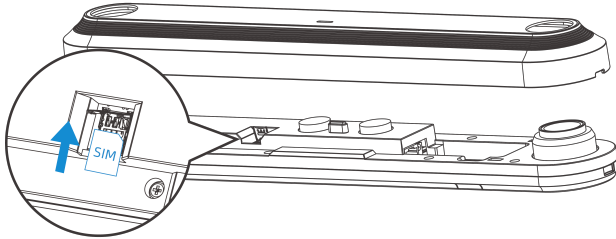
This section describes how to install the SIM card, which is required for the cellular version.

Steps:

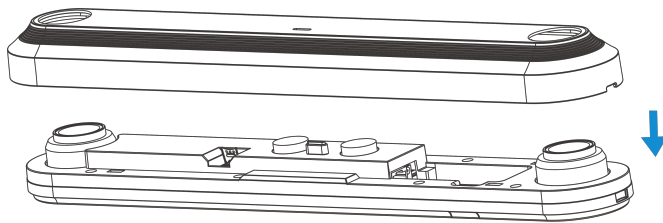
1. Separate the outer cover:
 - a. Identify the connection gap on the device's side panel.
 - b. Use an appropriate tool (e.g., a flathead screwdriver) to carefully insert it into the gap.
 - c. Pry and separate the device's enclosure following the direction of the blue arrow.



2. Locate the SIM card slot, ensure the Nano SIM card (4FF) is oriented correctly, and insert it following the direction of the blue arrow until it clicks into place. Make sure the SIM card is fully seated and securely locked.



3. Align the top cover of the enclosure with the device base, and snap the enclosure back together following the direction of the blue arrow.



Install the Device

Requirements:

Privacy Notice: Inform people at the deployment site that images will be collected (for example, through signage or user agreements), and obtain their consent where required before installation. Also inform them that they may opt out if they do not consent to image collection.

Area requirements:

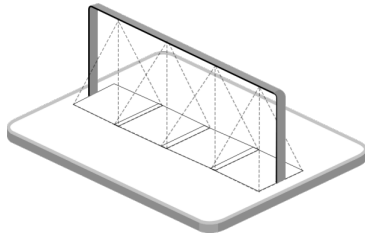
- Avoid installation in scenarios with height differences (such as staircases or multi-level floors).
- Areas with stable lighting and rich environmental textures (such as patterned floors or walls).

- Free from reflective surfaces (such as glass, mirrors).
- Locations with an unobstructed field of view.
- Ceiling installation above a swing door: The device should be mounted on the ceiling section above the stationary (hinge) side of the door.

Ceiling requirements: Flat ceiling, minimum thickness: 30 mm, tilt angle: $\leq 10^\circ$.

Multi-device Stitching requirements:

- Installation height: All devices must share the same height.
- Software Version: All devices must run the same software version.
- Connectivity: Supports PoE or Cellular connectivity and supports hybrid combinations.
- Stitch Method: Continuous Coverage via Adjacent Installation.



Note:

For optimal stitching, ensure that targets near the edges of both fields of view can be fully captured and detected simultaneously.



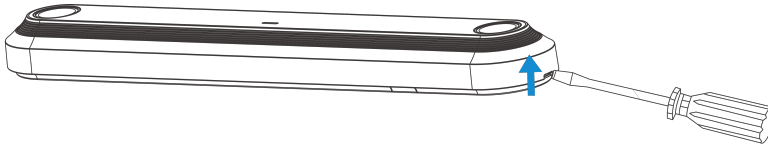
Preparations:

- Verify that the device and accessories are complete according to the [Packing List](#).
- Notify individuals and obtain consent for image collection. Inform them of opt-out rights.
- If you have purchased optional accessories, please refer to [ACCESSORIES](#) for the operating steps.

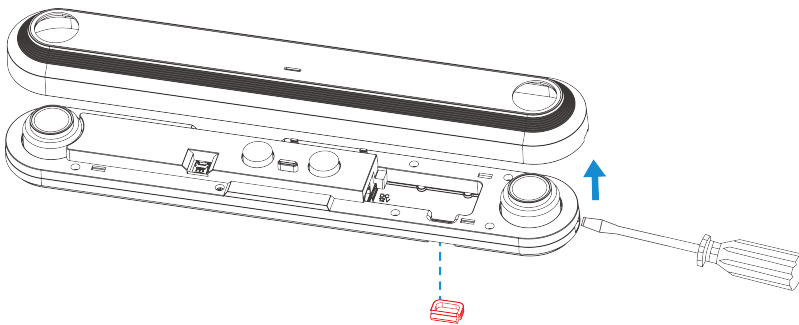
Steps:

1. Separate the outer cover:

- a. Identify the connection gap on the device's side panel.
- b. Use an appropriate tool (e.g., a flathead screwdriver) to carefully insert it into the gap.
- c. Pry and separate the device's enclosure following the direction of the blue arrow.

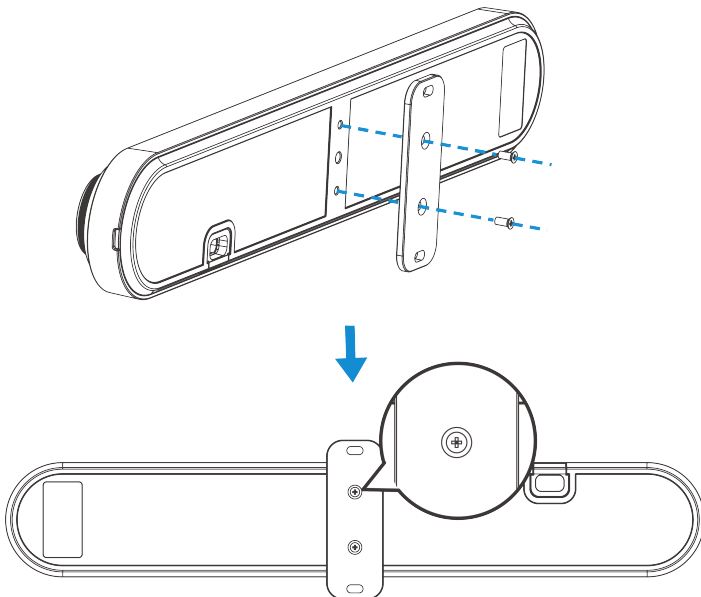


2. (Optional) Remove the blocking rubber if the wires need to exit from the side of the device.



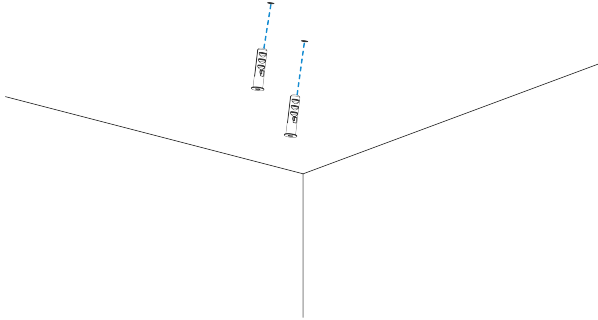
3. Attach the Bracket:

- a. Align the mounting bracket with the screw holes on the back of the device base.
- b. Ensure the bracket fits the device perfectly, with the **grooved side facing outward**.
- c. Use screws to secure the bracket to the base.

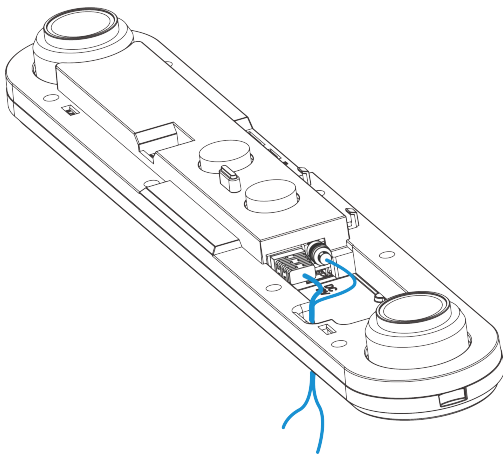


4. Install expansion sleeves:

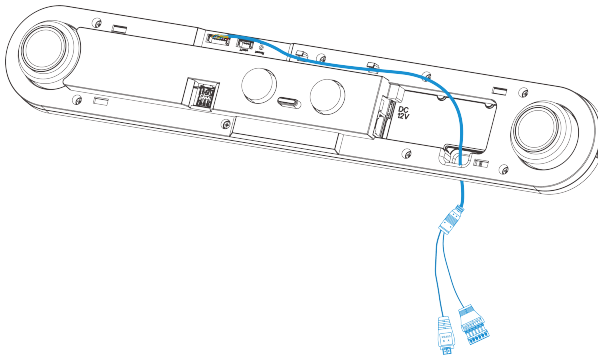
- a. Use a marker pen or other suitable tool to mark the drilling positions on the ceiling according to the mounting holes of the device.
- b. Drill two mounting holes in the ceiling according to the marked hole positions.
- c. Insert expansion sleeves into the ceiling holes.
- d. (Optional) To route cables through the ceiling, mark and drill a access hole at the desired location.



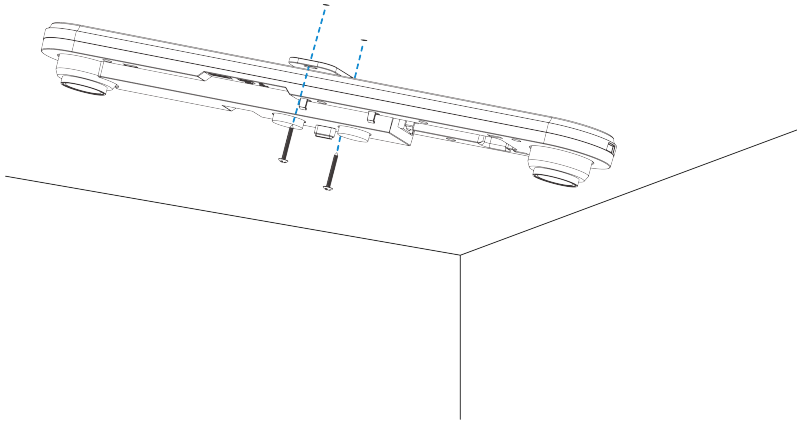
5. Connect the necessary cables.



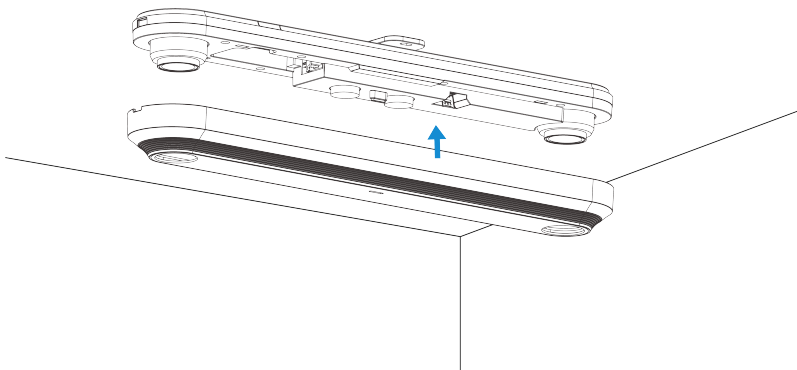
(Optional) To use the alarm I/O, the multi-interface cable must be connected to the device.



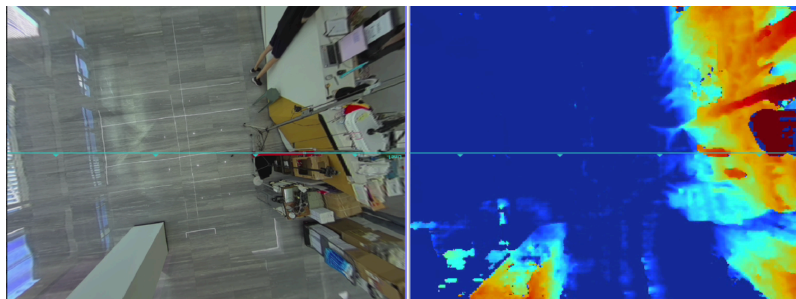
6. Secure the device to the ceiling using mounting screws.



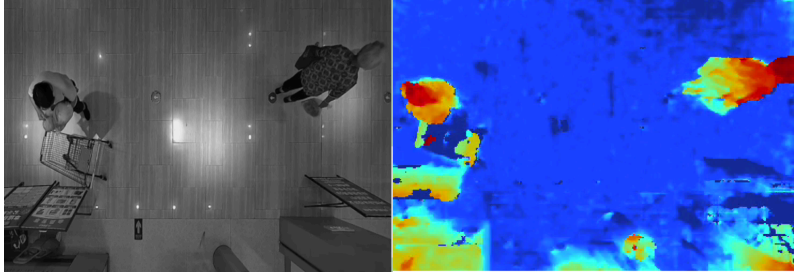
7. Remove the lens protective film.
8. Reattach the cover to the device.



9. (Optional) For multiple device installations, repeat Steps 1 through 8.
10. [Log in to the web GUI](#) to check the preview on the **Dashboard** page.
 - The display effect for a normal environment is as follows. The ground is rendered with light blue or blue spot patterns. A color gradient is applied to objects based on height, with taller objects assigned increasingly red tones.



- The display effect for normal targets is as follows. The clear color gradient on detected targets indicates effective depth perception.

**Troubleshooting:**

If the preview on the **Dashboard** page is abnormal, refer to [Troubleshoot an Abnormal Preview after Installation](#) for troubleshooting.

11. (Optional) For multiple devices, verify that targets near the edges of both fields of view in adjacent devices are fully captured and detected at the same time.

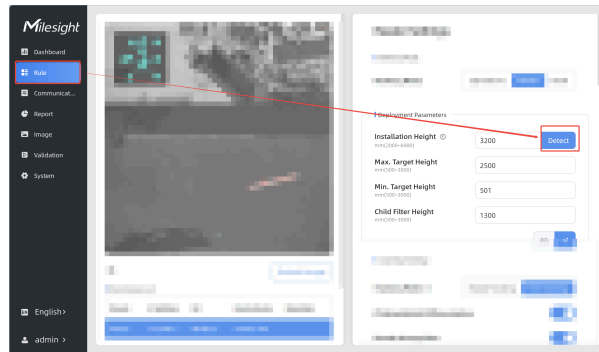
Troubleshoot an Abnormal Preview after Installation

This section describes how to troubleshoot an abnormal dashboard preview after the device is installed.

Steps:

1. Verify that the lens protective film has been removed.
2. Verify that the device is installed horizontally (within $\pm 10^\circ$).
3. Identify and remove any objects (such as pendant lights, downlights) that are too close to the device or obstructing its field of view.
4. Adjust the installation height through the web GUI. For how to log in to the web, refer to [Access the Device](#).

- a. On the **Rule** page of the web GUI, click **Detect** to use the automatically detected height value.



- b. Switch to the **Dashboard** page to check the preview and make the following adjustments if necessary:

- If the depth map is predominantly blue → switch to the **Rule** page → increase the installation height by 50 mm increments (recommended).
- If the depth map is predominantly red → switch to the **Rule** page → decrease the installation height by 50 mm increments (recommended).

5. Verify that the lens is secure and the housing is not deformed, even if no external damage is visible.
6. If the problem persists, contact your Milesight sales representative.

Chapter 4. Web Configuration

The device can be configured through the web. This section describes web configuration.

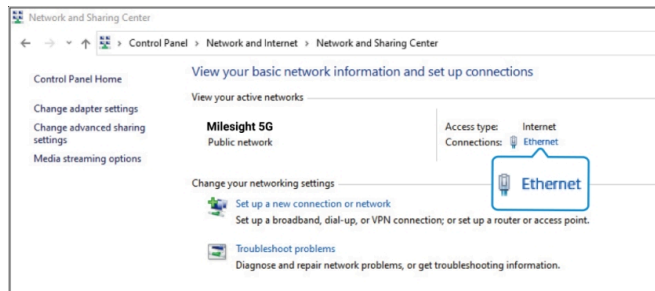
Access the Device

The device can be configured through the web GUI, which is accessible over Wi-Fi or Ethernet. This section describes how to access the device using these two methods.

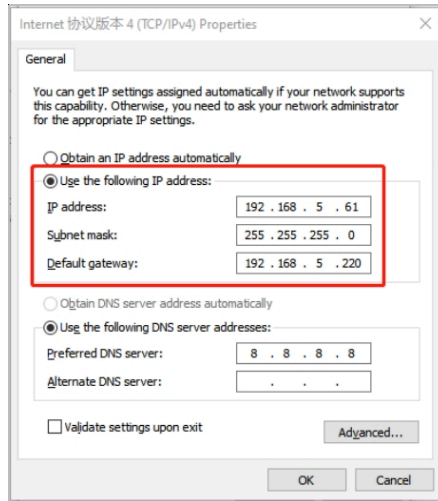
Preparations: Computer and network cable

Steps:

1. Perform the following operations as needed.
 - If you access the device through the wireless network:
 - a. Enable wireless network connection on the computer.
 - b. Search for the device Wi-Fi SSID and connect it to the computer. The Wi-Fi SSID follows the format of `People Counter_xxxxxx` and is located on the physical label of the device.
 - c. Open a browser and enter Wi-Fi IP address `192.168.1.1`.
 - If you access the device through the Ethernet port:
 - a. Use the network cable to connect the device and the computer.
 - b. Click **Start** → **Control Panel** → **Network and Internet** → **Network and Sharing Center**.



- c. Click **Ethernet** → **Properties** and double click **Internet Protocol Version 4 (TCP/IPv4)**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box is displayed.



In the **Use the following IP address** area, perform the following operations:

- i. Enter an IP address (such as 192.168.5.61) that is in the same subnet as the device.



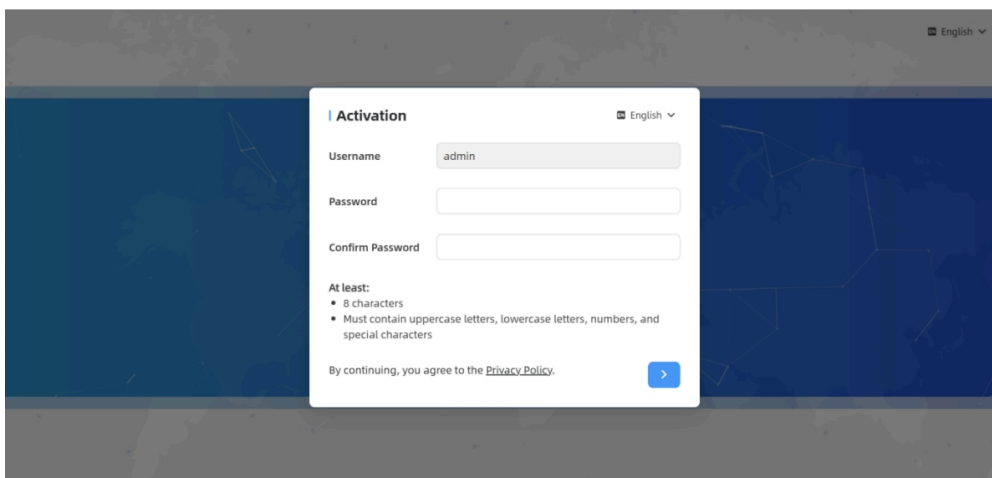
Note:

This IP address must be unique and not used by any other device on the network.

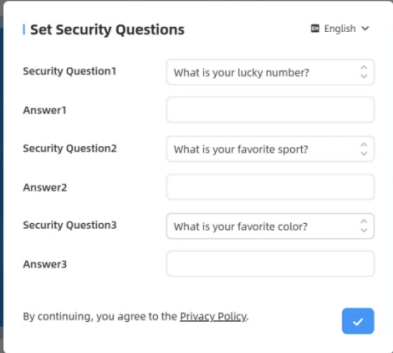
- ii. Set **Subnet mask** to 255.255.255.0.
- iii. Set **Default gateway** to 192.168.5.220.
- iv. Click **OK**.

- d. Open a browser and enter Ethernet IP address 192.168.5.220.

2. The **Activation** dialog box is displayed. Set the login password that is 8 to 63 characters long and contains numbers, lowercase letters, uppercase letters, and special characters, then click .

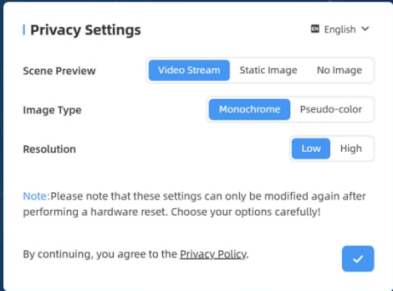


3. The **Set Security Questions** dialog box is displayed. Set the three security questions when using the device for the first time and click .



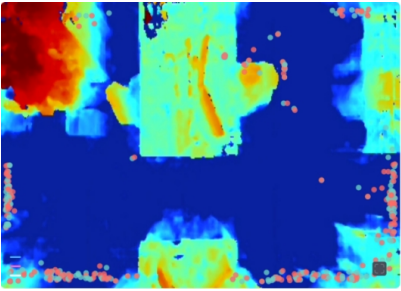
The dialog box titled "Set Security Questions" contains three sets of input fields. Each set consists of a question label (Security Question1, Security Question2, Security Question3), a dropdown menu with a default value (What is your lucky number?, What is your favorite sport?, What is your favorite color?), and an empty text input field for the answer (Answer1, Answer2, Answer3). At the bottom, there is a checkbox for agreeing to the Privacy Policy and a blue checkmark button.

4. The **Privacy Settings** dialog box is displayed. Configure the following parameters as needed to set the preview image on the dashboard. Click  to save the configuration.

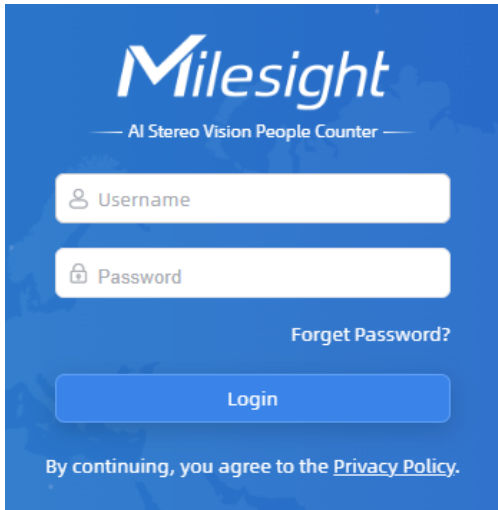


The dialog box titled "Privacy Settings" features three groups of settings: "Scene Preview" with buttons for Video Stream, Static Image, and No Image; "Image Type" with buttons for Monochrome and Pseudo-color; and "Resolution" with buttons for Low and High. A note at the bottom states that these settings can only be modified after a hardware reset. At the bottom right, there is a checkbox for agreeing to the Privacy Policy and a blue checkmark button.

Parameters	Description
Scene Preview	Options: Video Stream , Static Image and No Image . ◦ Video Stream: Live video preview of the camera's field of view. ◦ Static Image: Still snapshot of the scene. ◦ No Image: No image displayed.
Image Type	Options: Monochrome or Pseudo-color .

Parameters	Description
	◦ Monochrome: Displays the image in grayscale (black, white, and gray).  ◦ Pseudo-color: Enhances image details by mapping grayscale intensities to a color spectrum. 
Resolution	 Note: This parameter selection is only required for the Monochrome image type. Options: Low, High. ◦ Low: Provides a lower-quality image that uses less bandwidth, suitable for basic scene monitoring and motion detection. ◦ High: Provides a high-quality clear image necessary for identifying details such as facial features.

5. The following page is displayed. Log in with username (admin) and custom password.



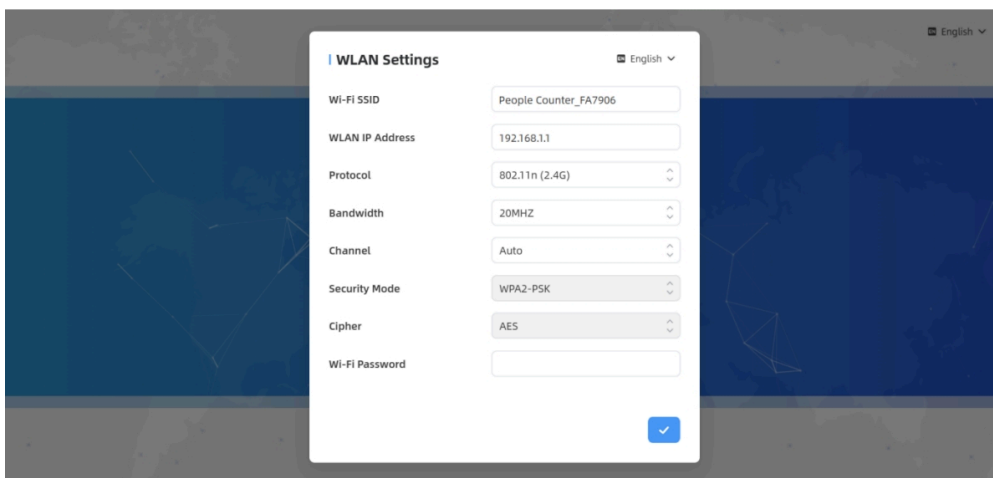
The login page for Milesight features a blue background with the Milesight logo at the top, followed by the tagline "AI Stereo Vision People Counter". Below this are two input fields: "Username" and "Password". A "Forgot Password?" link is positioned to the right of the password field. A blue "Login" button is centered below the fields. At the bottom, a line of text states: "By continuing, you agree to the [Privacy Policy](#)."



Note:

The account will be locked for 10 minutes after five failed login attempts. It is recommended to regularly update the password to enhance device security.

6. (Optional) You can click **Forget Password?** in the login page to reset the password by answering three security questions when you forget the password if you set the security questions in advance.
7. The **WLAN Settings** dialog box is displayed. Set the Wi-Fi password and click  to save the configuration.



The WLAN Settings dialog box is shown over a blurred background. It has a title bar "WLAN Settings" and a language dropdown set to "English". The settings include:

- Wi-Fi SSID: People Counter_FA7906
- WLAN IP Address: 192.168.1.1
- Protocol: 802.11n (2.4G)
- Bandwidth: 20MHZ
- Channel: Auto
- Security Mode: WPA2-PSK
- Cipher: AES
- Wi-Fi Password: (empty field)

 A blue checkmark button is at the bottom right of the dialog.

Check the Dashboard

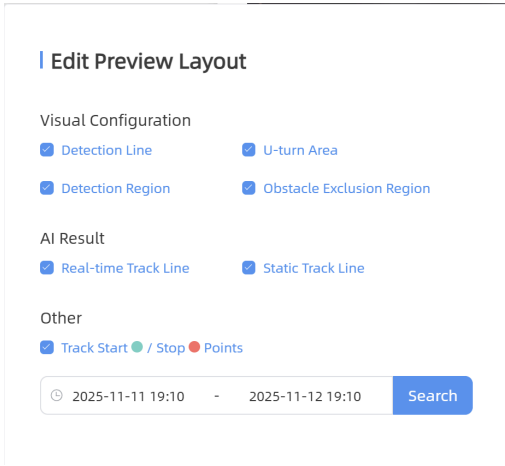
The dashboard visualizes critical data in a centralized real-time layout for at-a-glance monitoring. The master device dashboard is used as an example for description in this section.

Steps:

1. In the main page, click **Dashboard** from the left navigation tree. The **Dashboard** page is displayed.
2. Check the data or perform the operations as needed. For **Dashboard** page description, refer to the following table.



NO.	Item	Description
1	Line, Region data display area	After functions Line Cross Counting and Region Monitoring are configured, the corresponding line and region data is displayed in this area.  Hide/Show Capacity: Hides/shows the total data counting capacity.
2	Preview	Real-time video display area.
3	Reset Count	Clears all accumulated people counting values.
4	Digital Output	Click it to output high level signals through the multi-interface when Manual DO is enabled.
5	Edit Preview Layout	Click  . The Edit Preview Layout dialog box is displayed. Visual Configuration: Select the items to be displayed in the preview as needed. The items displayed here are dependent on the functions enabled. AI Result: Show track line.

NO.	Item	Description
		▪ Real-time Track Line: Show or hide the target's track line in the preview. ▪ Static Track Line: Show or hide the history of the target's track line in the preview. Up to 1000 historical track records are supported. They are cleared upon page refresh. ◦ Others: Show or hide the start and end points of the target trajectory and the time period. 
6	Multi-Device Frame	Switches to the multi-device preview. It will only be shown when the device's working mode is Master.
7	Master Device Frame	Switches to the master device preview. It will only be shown when the device's working mode is Master.
8	Refresh Image	Click it to refresh image. It will only be shown when the device's working mode is Master.
9	Stitched Devices Preview	Shows the positions of all the stitched devices. It will only be shown when the device's working mode is Master.

Configure Rules

This section describes how to configure basic counting functions and AI recognition functions and stitch multiple devices on the **Rule** page.

Configure Basic Counting Functions

To ensure proper device operation, the basic counting functions must be configured first, which include configuring deployment parameters, line crossing counting, region monitoring, etc. This section describes how to configure them.

Limitations: Uncontrollable Factors Affecting Accuracy

The following target-related factors may affect people counting accuracy. They are uncontrollable factors, which cannot be predicted or prevented in advance.

- **Target appearance and characteristics:**
 - **Low color contrast:** Recognition challenges when targets and the floor have similar colors.
 - **Shape similarity:** Non-human objects with a human-like silhouette may trigger false detections.
- **Target motion and density:**
 - **High velocity:** Tracking may be inaccurate for individuals walking faster than 2.5 m/s.
 - **Dense crowding:** Accuracy decreases when the distance between targets is less than 30 cm.
- **Specific scenarios:**
 - **Partial occlusion:** The risk of missed detection increases with the proportion of the target obscured by other objects.
 - **Simultaneous bidirectional crossing:** When two people pass through the detection line simultaneously in opposite directions and in close proximity, it may result in a missed count for both individuals.
 - **ID inheritance at the FOV edge:** At the FOV edge, the simultaneous disappearance of one target and appearance of another may cause a tracking identity inheritance.

Configure Deployment Parameters

This section describes how to configure deployment parameters.

Steps:

1. In the main page, click **Rule** from the left navigation tree.
2. In the **Deployment Parameters** area on the right, configure the following parameters as needed.

Parameters	Description
Installation Height	Set the device installation height manually or automatically.

Parameters	Description
	◦ To set height manually: Enter a value between 600 and 1500 cm. ◦ To set height automatically: click Detect to detect the current installation height.  Note: The accuracy of automatic height detection may be compromised under low-texture ground conditions or in low-light environments such as at night.

3. Click  to save the configuration.

Configure Device Strategies

This section describes how to configure device strategies.

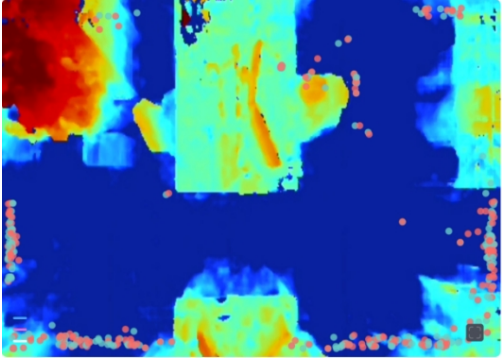
Device strategies include setting Working Mode, recording track start/stop points, resetting the cumulative count on a schedule, and other features.

Steps:

1. In the main page, click **Rule** from the navigation tree on the left.
2. In **Counting Strategy** area, configure the following parameters as needed.



Parameters	Description
Working Mode	Options: Standalone, Master, Node. ◦ Standalone: The device operates independently. ◦ Master: The master device handles all functional configuration, counting, and data transmission. This configura-

Parameters	Description
	tion is a must to stitch multiple devices. For details, refer to Stitch Multiple Devices. ◦ Node: Its primary function is to extend the overall detection coverage. This configuration is a must to stitch multiple devices. For details, refer to Stitch Multiple Devices.
Detection Algorithm Setting	Set the detection algorithm based on the specific application scenarios. ◦ RGB+Depth: Suitable for most scenarios. ◦ RGB: Enables advanced attribute analysis. This mode can be used to reduce false detections in environments where many inanimate objects are incorrectly identified as people. For example, warehouse entrances/exits where the carried objects may be incorrectly identified as people.
Record Track Start/Stop Points	Enable this parameter to record the start and end points of person trajectories in the live view for detection line adjustment. The system can store up to 5,000 track points with green indicating the start point and red indicating the end point. 
Reset Cumulative Count on Schedule	Enable this parameter to reset cumulative counts periodically based on a configured schedule. Cumulative counts include: ◦ Total In/Out counting of each detection line ◦ Max./Avg. Dwell Time of each detection region ◦ Total Effective Audience and Avg. Attention Time of each attention region

Parameters	Description
	a. Click  to enable reset schedule. b. Click  to modify the reset date and time, or click +Add to add a new schedule. Up to 5 reset schedules are supported. c. Click  to save the configuration.

Configure Line Crossing Counting

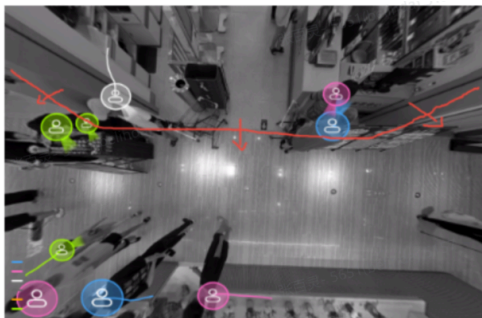
This section describes how to configure the line crossing counting function.

Add a Detection Line

This section describes how to draw a detection line to count the number of people entering or exiting.

Detection line drawing requirements:

- Completely traversed by targets.
- Perpendicular to the movement direction.
- Positioned centrally within the detection area.
- Free of adjacent obstructions.
- As close to the center of the preview as possible.
- Maintain sufficient identification space on both sides.

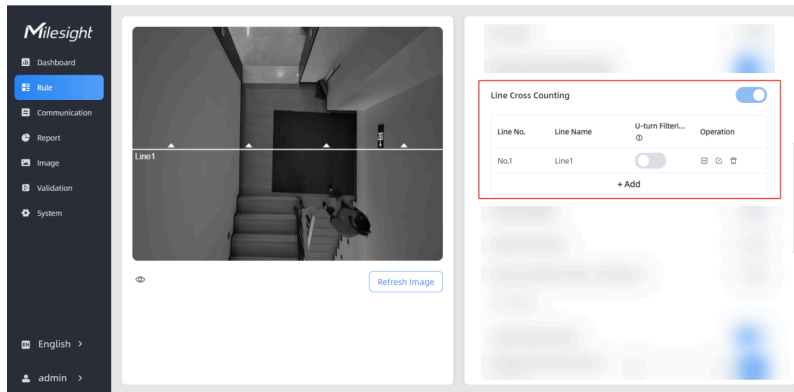


Prerequisite:

The [deployment parameters](#) and [device strategies](#) are configured.

Steps:

1. In the main page, click **Rule** from the navigation tree on the left.
2. In the **Line Cross Counting** area on the right, click **+Add**.



3. Draw a detection line in the preview, you can draw up to 4 polylines with a maximum of 4 line segments per polyline:
 - a. Left-click to start and drag to draw the first line segment. The arrow in the middle of the segment indicates the direction of entry.
 - b. Left-click to add vertices and change direction and drag to draw another line segment.
 - c. Repeat step b to draw more line segments as needed.
 - d. Right-click to finish.
 - e. (Optional) Adjust the line location and length by dragging.
 - f. (Optional) To redraw a line, click **Clear This Line**.
 - g. (Optional) To flip the line direction, click **Flip Direction**.
 - h. Click  to save the configuration.
4. The line information is listed in the **Line Cross Counting** area.

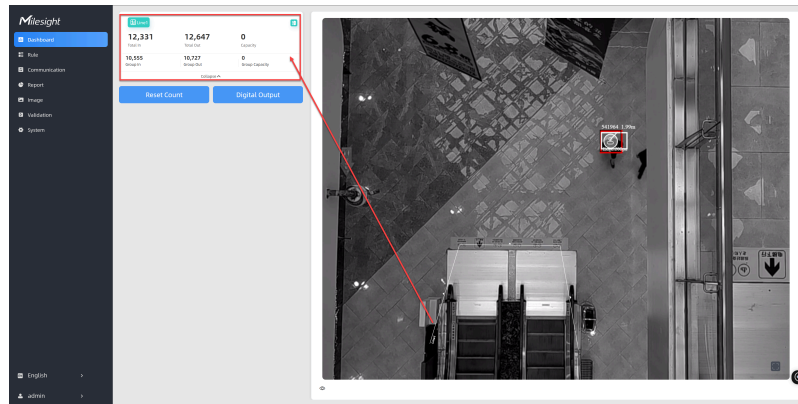
Line Cross Counting 

Line No.	Line Name	U-turn Filtering 	Operation
No.1	Line1		  
No.2	Line2		  

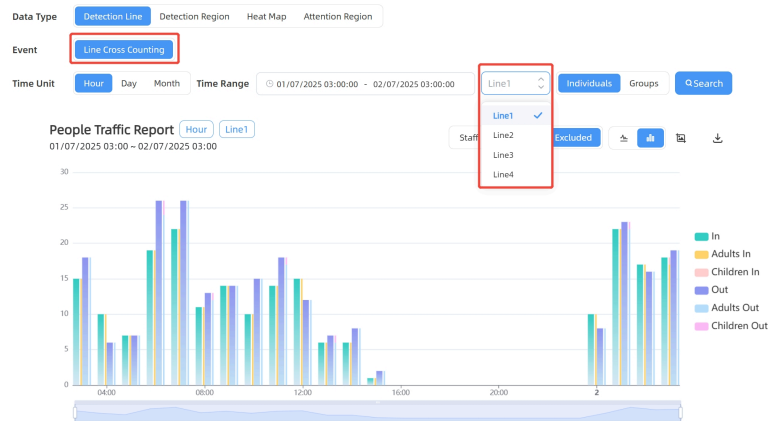
+ Add

5. (Optional) Click  to customize the line name.
6. (Optional) To enable **U-turn Filtering**, click . For detailed configuration, refer to [Configure U-turn Filtering](#).
7. Check data through any of the following methods:

- To check the visual configuration effect, click **Dashboard** from the left navigation tree.



- To view the line data for a certain time period and generate report, click **Report** from the navigation tree on the left.



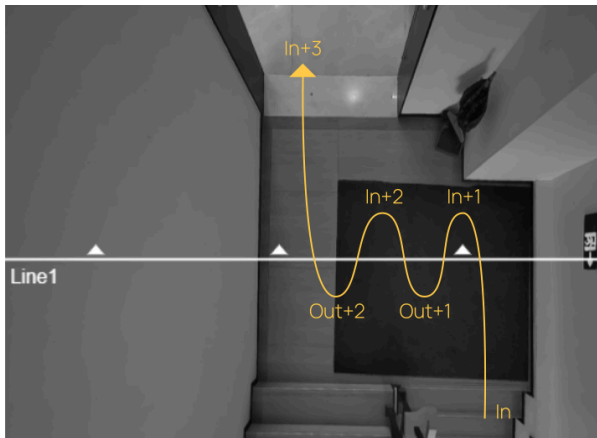
- If recipients are added, check data through command line outputs. For "line_periodic_data" and "line_total_data", refer to [Uplink Data Examples for Periodic Reporting](#). For "line_trigger_data", refer to [Uplink Data Examples for Trigger Reporting](#).

Configure U-turn Filtering

This section describes how to configure the U-turn Filtering function.

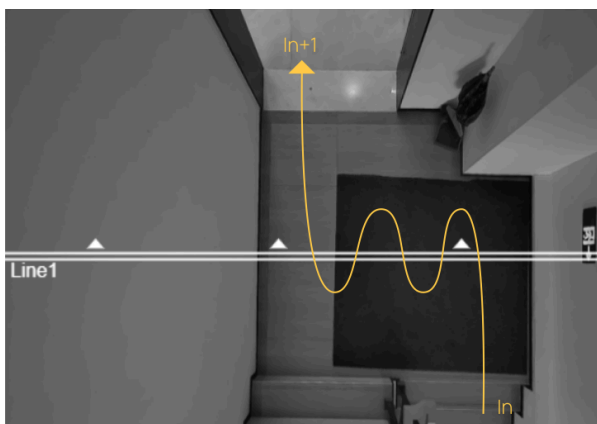
The device supports the U-turn filtering function. It eliminates duplicate counting by identifying individuals who do not complete a full entrance/exit transition. You can draw an area for every detection line and the device will analyze movement patterns within the defined areas and registers counts only when a person fully traverses the area.

- **Counting example when U-turn filtering is disabled:**



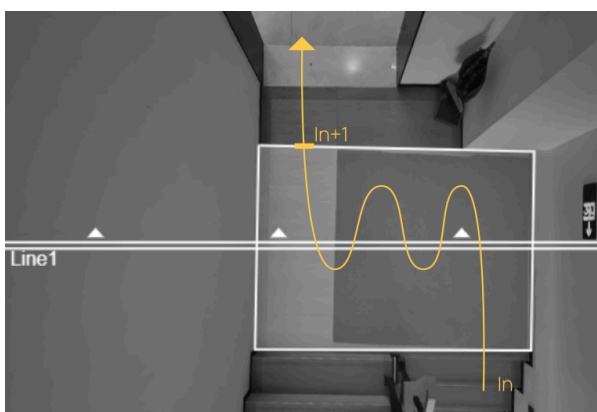
- **Counting example when U-turn filtering is enabled:**

The device automatically filters out wandering individuals in the preview.



- **Counting example when U-turn filtering is enabled and the U-turn area for the detection line is drawn:**

When you care about the timeliness of the statistics, you can draw the U-turn area.

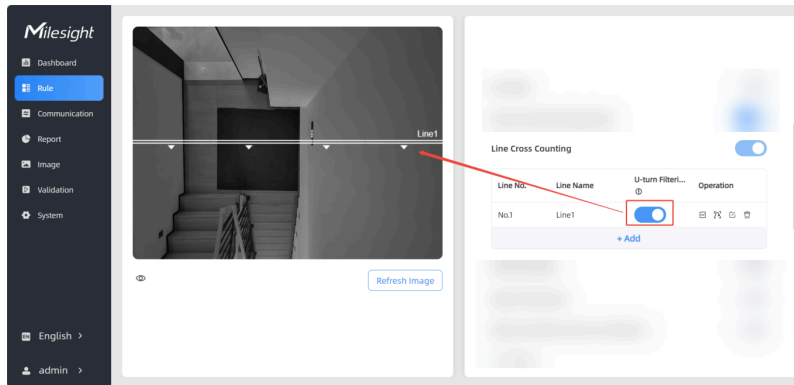


Prerequisite:

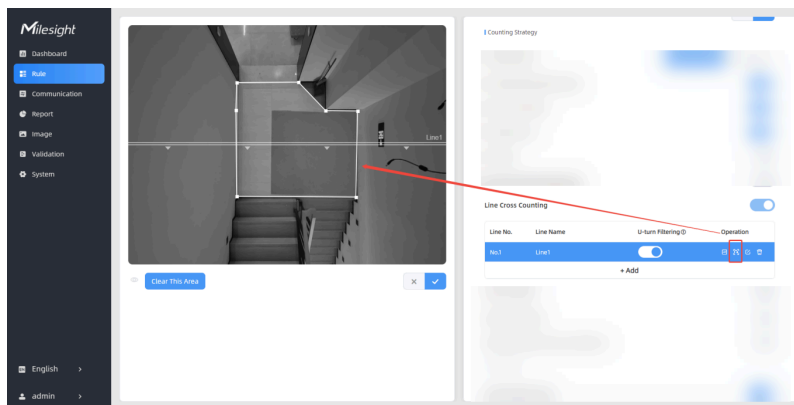
A detection line is added in the [Line Cross Counting](#) area on the **Rule** page.

Steps:

1. In the main page, click **Rule** from the navigation tree on the left.
2. In the **Line Cross Counting** area, enable **U-turn Filtering** to filter repeated counting.



3. Click  to draw a U-turn area for the detection line in the preview.



4. (Optional) Draw a U-turn area for the detection line, you can draw up to 4 areas with a maximum of 10 line segments per area:
 - a. Left-click to start and drag to draw the first line segment.
 - b. Left-click to add vertices and change direction and drag to draw another line segment.
 - c. Repeat step b to draw more line segments as needed.
 - d. Right-click to finish.
 - e. (Optional) Adjust the region by dragging.
 - f. (Optional) To redraw an area, click **Clear This Area**.

g. Click  to save the configuration.

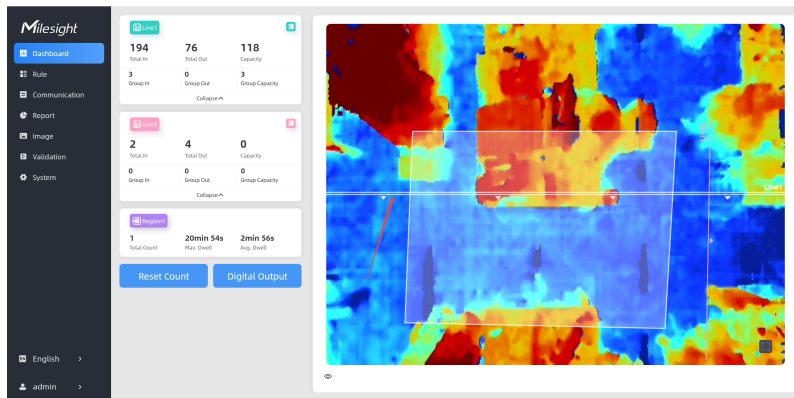


Note:

Ensure the movement trajectory is fully included.

5. (Optional) To delete a U-turn area, click  and click **Clear This Area**.

6. To check the visual configuration effect, click **Dashboard** from the left navigation tree.



Configure Region Monitoring

This section describes how to configure region monitoring.

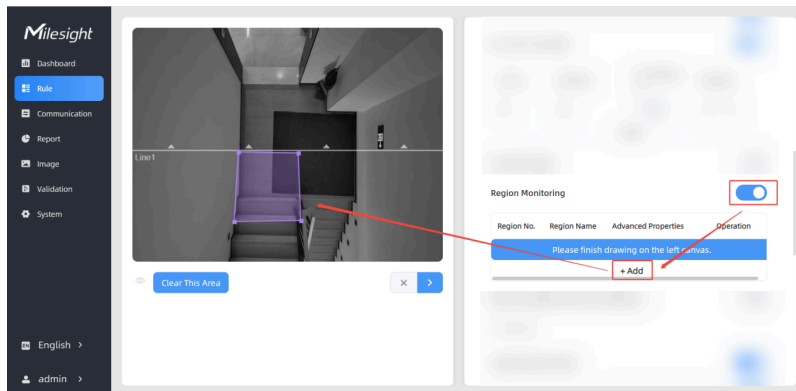
The device supports region monitoring by tracking person count and dwell time within configured regions for generating valuable analytical data.

Prerequisite:

The [deployment parameters](#) and [device strategies](#) are configured.

Steps:

1. In the main page, click **Rule** from the left navigation tree.
2. Enable **Region Monitoring** on the right and click **+Add**.



3. Draw a region for monitoring in the live view, you can draw up to 4 regions with a maximum of 10 points per region:
 - a. Left-click to start and drag to draw the first line segment.
 - b. Left-click to add vertices and change direction and drag to draw another line segment.
 - c. Repeat step b to draw more line segments as needed.
 - d. Right-click to finish.
 - e. (Optional) Adjust the region by dragging.
 - f. (Optional) To redraw a region, click **Clear This Area**.
4. Click . The **Advanced Properties** dialog box is displayed. Configure advanced properties parameters.

Advanced Properties

Zone Name

Region People Counting
 ☒

Pass-by Filtering
s(0-3600)

Dwell Time Detection
 ☒

Min. Dwell Time
s(0-3600)

- a. In the Zone name area, customize the region name.
- b. Enable at least one advanced property. Options: **Region People Counting** and **Dwell Time Detection**.
- c. Perform the following operations as needed.

If	Do
If Region People Counting is enabled	In the Pass-by Filtering text box, enter a value as needed.
If Dwell Time Detection is enabled	In the Min. Dwell Time text box, enter a value as needed.

d. Click  to save the configuration.

5. The region information is displayed in the list on the right.

Region Monitoring 

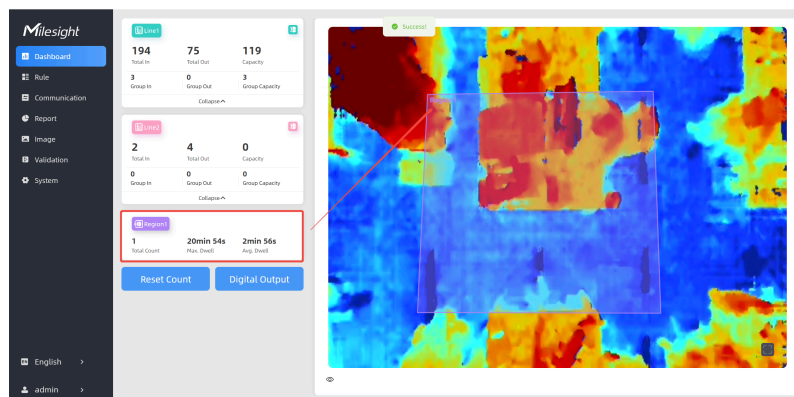
Region No.	Region Name	Advanced Properties	Operation
No.1	Region1	Region People Counti...	  
No.2	Region2	Region People Counti...	  
No.3	Region3	Region People Counti...	  
No.4	Region4	Region People Counti...	  

6. (Optional) Perform the following operations as needed.

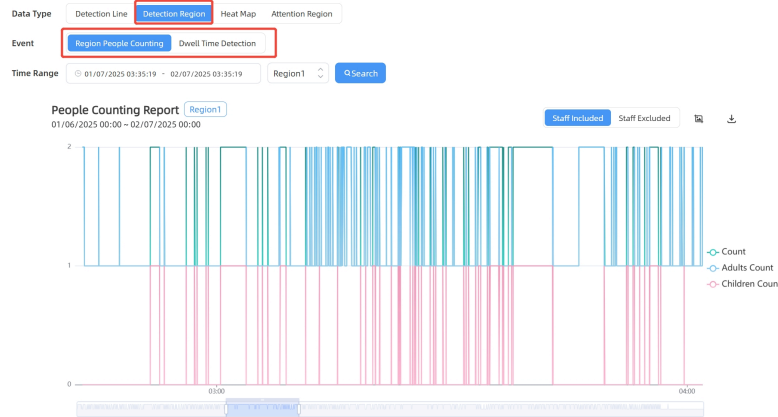
- To redraw the region, click .
- To modify the advanced properties of the region, click .
- To delete the region, click .

7. Check data through any of the following methods:

- To check the visual configuration effect, click **Dashboard** from the left navigation tree.



- To view the region data for a certain time period and generate the corresponding report, click **Report** from the left navigation tree. For details, refer to [Generate Reports](#).



- If recipients are added, check data through command line outputs. For "region_data", refer to [Uplink Data Examples for Periodic Reporting](#). For "region_trigger_data", refer to [Uplink Data Examples for Trigger Reporting](#).

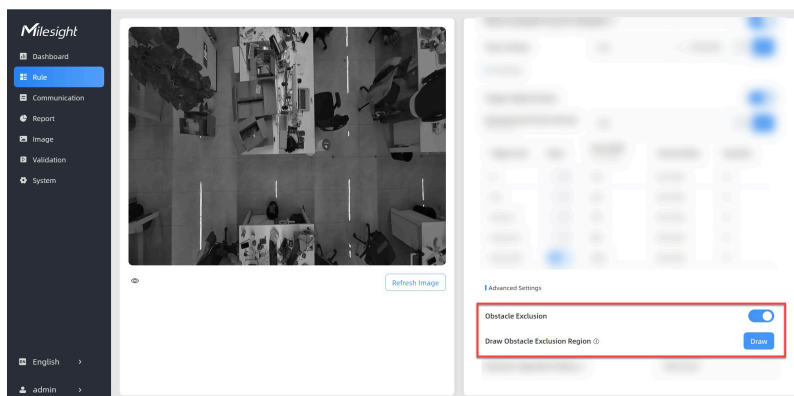
Configure Obstacle Exclusion

This section describes how to configure Obstacle Exclusion function.

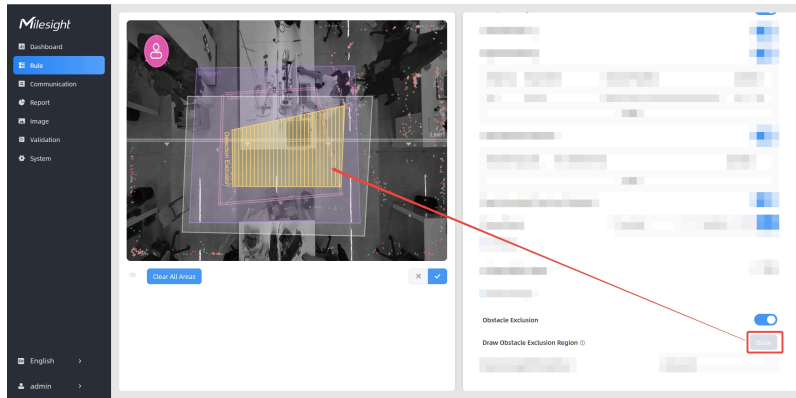
The device supports the **Obstacle Exclusion** function. It can exclude human-like static obstacles from detection when they cannot be avoided through adjustment of detection lines or regions.

Steps:

1. In the main page, click **Rule** from the navigation tree on the left.
2. In the **Advanced Settings** area in the bottom on the right, enable **Obstacle Exclusion** and click **Draw**.



3. Draw an obstacle exclusion area, you can draw up to 4 regions with a maximum of 10 segments per area:



a. Left-click to start and drag to draw the first line segment.



Tip:

You can just draw the highest part of the obstacle. The device uses this highest part as a reference to automatically exclude this specific area. For example, in a shelf scenario, you can just frame the upper edge of the shelf, then the shelf won't be mistakenly detected as a person.

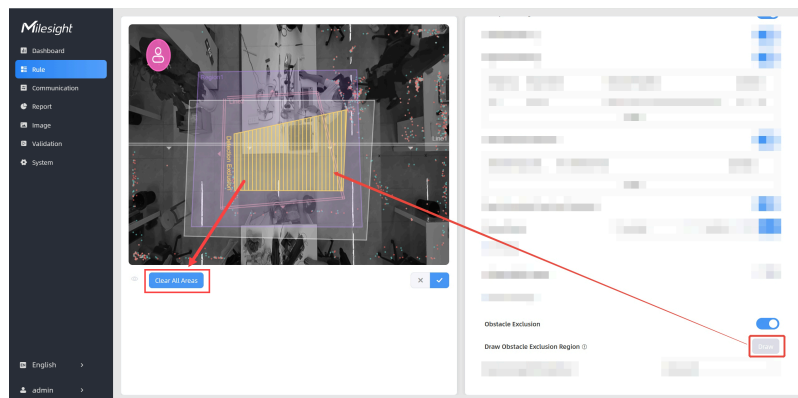
b. Left-click to add vertices and change direction and drag to draw another line segment.

c. Repeat step b to draw more line segments as needed.

d. Right-click to finish.

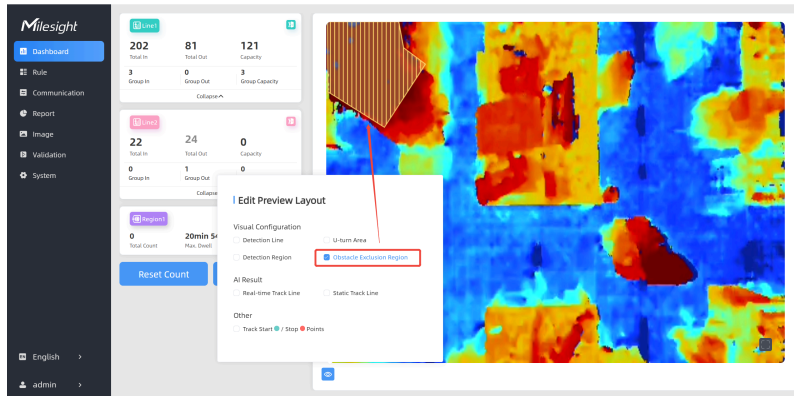
e. (Optional) Adjust the region by dragging.

f. (Optional) To redraw a region, click **Clear This Area**.



4. Click  to save the configuration.

5. To check the visual configuration effect, click **Dashboard** from the left navigation tree.



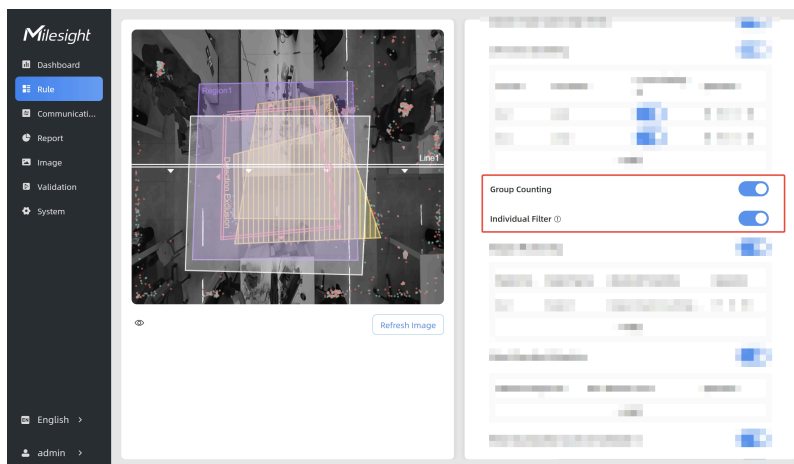
Configure Group Counting

This section describes how to configure the Group Counting function.

The device supports multi-person recognition and counting within the detection area. By analyzing variations in human spacing, movement directions, and speed differences, it provides advanced customer behavior analysis. Group Counting is built upon the Line Crossing Detection functionality.

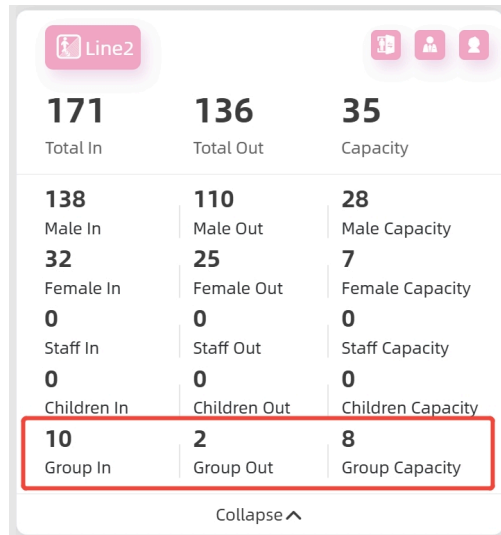
Steps:

1. In the main page, click **Rule** from the left navigation tree.



2. Enable the **Group Counting** function. The device classifies any individual and any party of two or more individuals as a group.
3. (Optional) To only classify two or more individuals as a group, enable **Individual Filter**. When it is enabled, individuals will not be counted as a group.
4. Check data through any of the following methods:

- To check the visual configuration effect, click **Dashboard** from the left navigation tree.



- To view the group data for a certain time period and generate the corresponding report, click **Report** from the left navigation tree. For details, refer to [Generate Reports](#).

Data Type: **Detection Line** | Detection Region | Heat Map | Attention Region

Event: **Line Cross Counting**

Time Unit: **Hour** | Day | Month | Time Range: 22/06/2025 07:00:00 - 23/06/2025 07:00:00 | Line1 | Individuals | **Groups**

Search

- If recipients are added, check data through command line outputs. For details, refer to [Uplink Data Examples for Periodic Reporting](#) and [Uplink Data Examples for Trigger Reporting](#).

Configure Digital Output Triggering

This section describes how to configure Digital Output Triggering function.

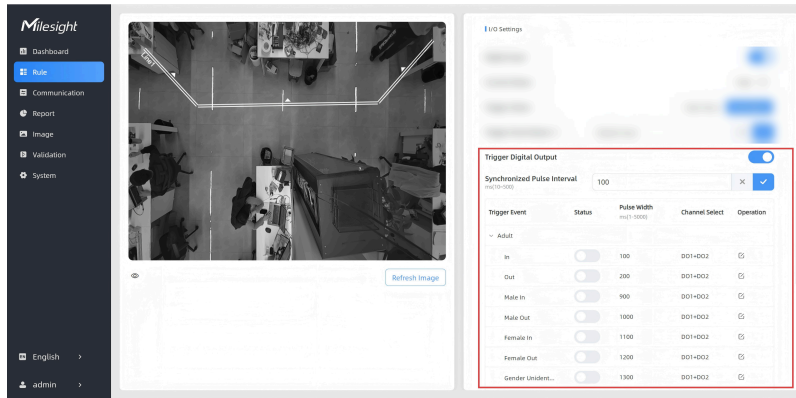
If the **Trigger Digital Output** function is enabled, the device can send pulse signals when the target passes through the detection line.

Prerequisite:

The device is connected to the corresponding external device using the multi-interface cable according to the [wiring diagram](#).

Steps:

1. In the main page, click **Rule** from the navigation tree on the left.
2. In the **I/O Settings** area on the right, enable **Trigger Digital Output**.



3. Enter a value in the **Synchronized Pulse Interval** text box and click .

Parameters	Description
Synchronized Pulse Interval	The interval between multiple pulses when several people pass through or multiple events trigger simultaneously.

4. Enable a specific trigger event. For a description of each parameter, refer to the following table.

- Click .
- Click  for the events.
- Set **Pulse Width**.
- Select a channel from the **Channel Select** drop-down list.
- Click . The device outputs high-level signals through the multi-interface automatically.

Trigger Event	Status	Pulse Width ms(1-5000)	Channel Select	Operation
In		100	DO1+DO2	
Out		200	DO2	
Group In		700	DO1+DO2	
Group Out		800	DO1	
Manual DO		5000	DO1+DO2	

Parameters	Description
Trigger Event	Events to trigger the DOs to send pulse signals.

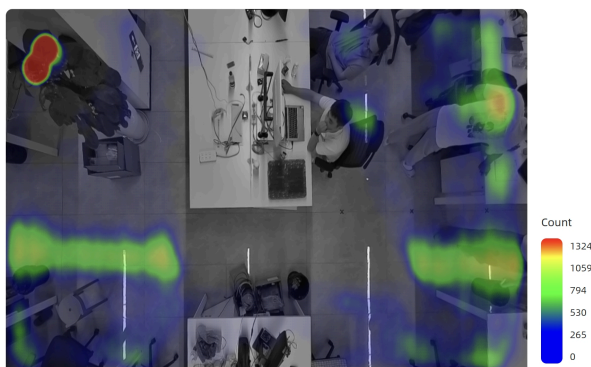
Parameters	Description
	 Note: When staff events trigger pulse signals, the device does not initiate synchronized outputs for gender or adult detection events.
Status	Enable or disable the event to trigger pulse signal output.
Pulse Width	Pulse signal duration.
Channel Select	Select which DO port to output the pulse signal.
Operation	Click  to edit the above-mentioned parameters.

Configure Heat Map

This section describes how to configure Heat Map function.

The **Heat Map** function analyzes personnel movement and dwell time data and displays the analytical results through color-coded temporal or spatial visualizations. This provides insights for better business management.

The device supports **Motion Heatmap** and **Dwell Heatmap**. **Motion Heatmap** visualizes areas with the highest pedestrian traffic density, while **Dwell Heatmap** visualizes the areas with the maximum occupant dwell duration.



Steps:

1. Enable the **Heat Map** function.
2. View the heat map data for a certain time period and generate the corresponding report, click **Report** from the left navigation tree. For details, refer to [Generate Reports](#).

The screenshot shows a web configuration interface with three filter sections:

- Data Type:** A horizontal menu with four buttons: "Detection Line", "Detection Region", "Heat Map" (highlighted in blue), and "Attention Region".
- Event:** A horizontal menu with two buttons: "Motion Heatmap" (highlighted in blue) and "Dwell Heatmap".
- Time Range:** A text input field showing a date range "22/06/2025 09:00:00 - 23/06/2025 09:00:00" with a calendar icon on the left and a blue "Search" button on the right.

Stitch Multiple Devices

This section describes how to stitch multiple devices.

The device supports multi-device stitching, which extends the monitoring coverage beyond the capability of a single device. A maximum of 16 devices can be stitched.

Device Roles in a Stitched System:

- Master device: One device is set to **Master**. It handles all functional configuration, counting, and data transmission.
- Node device: All other devices are set to **Node**. Their primary function is to extend the overall detection coverage.

Preparations:

- Installation: Multiple devices are installed according to [Install the device](#).
- Network: All devices must be on the same subnet.
- Firmware: All devices must be updated to the latest version.

Configuration Procedure:

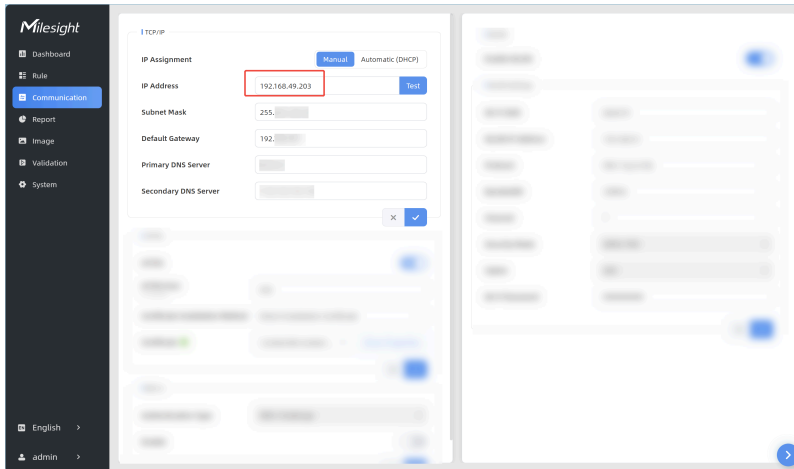
After completing the preparations, designate one device as the master device and the remaining devices as node devices, follow the sequence below sections.

Configure a Node Device

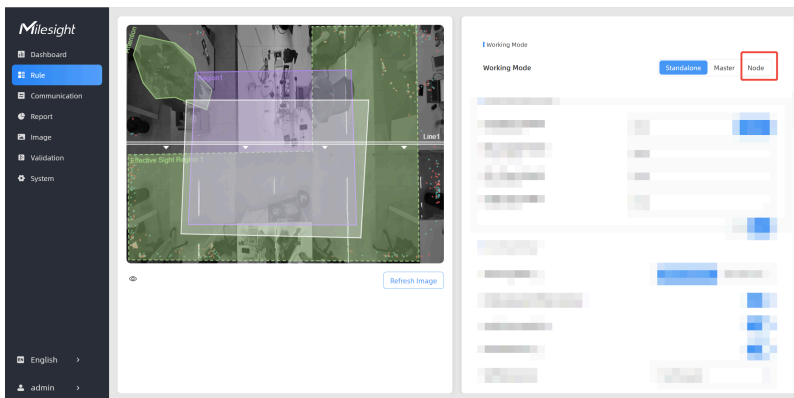
This section describes how to configure node devices.

Steps:

1. Log into the web GUI of the node device, and click **Communication** from the left navigation tree.
2. In the **IP Address** text box in the **TCP/IP** area, enter the IP address of the node device.



3. Click **Rule** from the left navigation tree. In the **Working Mode** area on the right, click **Node**.



4. The **Tips** information box is displayed. Click  to wait for the device to reboot.

Tips

The device needs to reboot to switch to the new Working Mode.
Continue?



5. The following page is displayed after successful stitching. For parameter description in the **Master Device Info.** area, refer to the following table.

Working Mode

Working Mode Standalone Master **Node**

Master Device Info.

Connection Status Connected

Master Device IP Address 192.168.

Master Device SN 6767

Master Device Name

Unbind Master Device **Unbind**

Parameters	Description
Connection Status	Connection status between the node device and master device.
Master Device IP Address	Master device IP address. If this IP address is within the same subnet as the node device, the node device can be bound to the master device.
Master Device SN	Master device serial number.
Master Device Name	Master device name.
Unbind Master Device	Click Unbind to release the connection. This device will be deleted from the list of the master device.

Stitch the Master Device and Node Devices

This section describes how to stitch the master device and node devices, which includes the following procedures:

1. Set **Working Mode** to **Master**.
2. Select a node device.
3. Bind the node device to the master device.

After all stitching configurations are completed, users can draw detection lines and even U-turn areas on the stitched preview using the same method as with standalone devices. **Multi-Device Frame** and **Master Device Frame** are displayed on the **Dashboard** page to view the stitched multi-device preview and the master device preview respectively.

Set Working Mode to Master

1. Log into the web GUI of the master device, and click **Rule** from the left navigation tree.
2. In the **Working Mode** area on the right, click **Master**. The **Tips** information box is displayed.

Tips

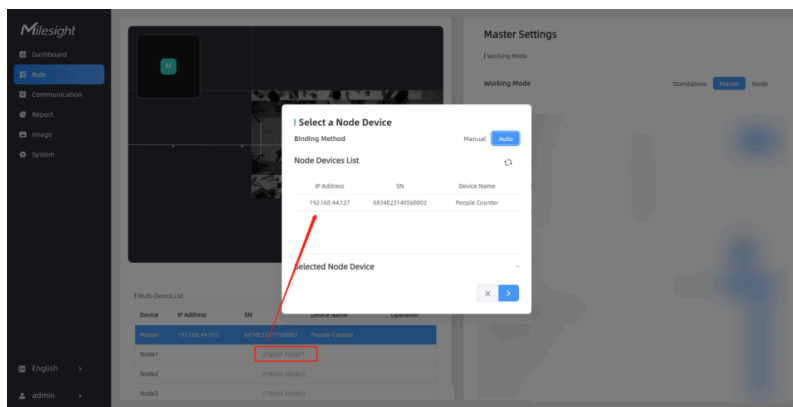
The device needs to reboot to switch to the new Working Mode.
Continue?



- Click  to wait for the device to reboot.

Select Bind Node Devices

- After the reboot is completed, click **Rule** from the left navigation tree.
- In the **Multi-Device List** area, click **Bind Node1**. The **Select a Node Device** dialog box is displayed.



- Select a node device to be added.
 - To select a node device manually:
 - Click **Manual**.
 - Enter an IP address, HTTP port, user name or password in the corresponding text box.
 - Click . The **Bind the Node Device** page is displayed.
 - To select a node device automatically:
 - Click **Auto**. Then the device automatically uses the multicast protocol to discover the unbound node devices within the same local network. The discovered devices are listed in **Node Devices List**.
 - Select the node device to be added and click . The **Confirm Authorization** dialog box is displayed.

Confirm Authorization

Selected Node Device

192.168.46.80

Node Device Username

admin

Node Device Password

••••••••

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- c. Enter the login password of the node device and click . The **Bind the Node Device** page is displayed.

Bind Node Devices to Master Device

1. In the **Installation Height** area, enter the installation height of the node device or click **Detect** to automatically measure the installation height.

Bind the Node Device

Node Device Deployment Parameters

Installation Height

cm(500~1500)

1000

Detect

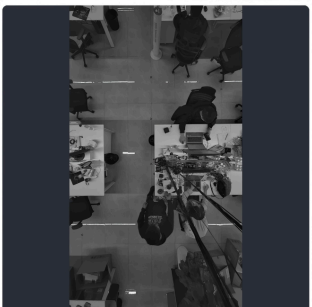
×

✓

2. Click IP addresses on the right to access the previews of the stitched devices and select the device sharing overlapping coverage areas with this node device.

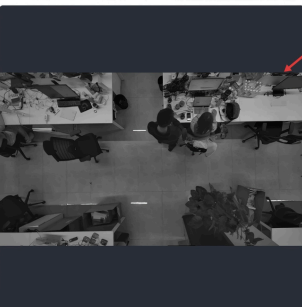
Stitch Device Frame

Selected Node Device: 192.168.44.104



Stitching Point: (0/4)

Selected Stitched Device: 192.168.44.100



Stitching Point: (0/4)

Stitched Device

192.168.44.100

192.168.44.106

192.168.44.103

192.168.44.101

192.168.44.102

Tips:

- After image stitching, the device will clear the historical heatmap data.
- Please draw four points for each device to stitch device frame.
- The points can only be drawn on the floor in the frame.
- Please arrange the stitching points in a shape of a quadrangle.
- Please place the points as far from each other as possible, without being too close to the edges of the image.

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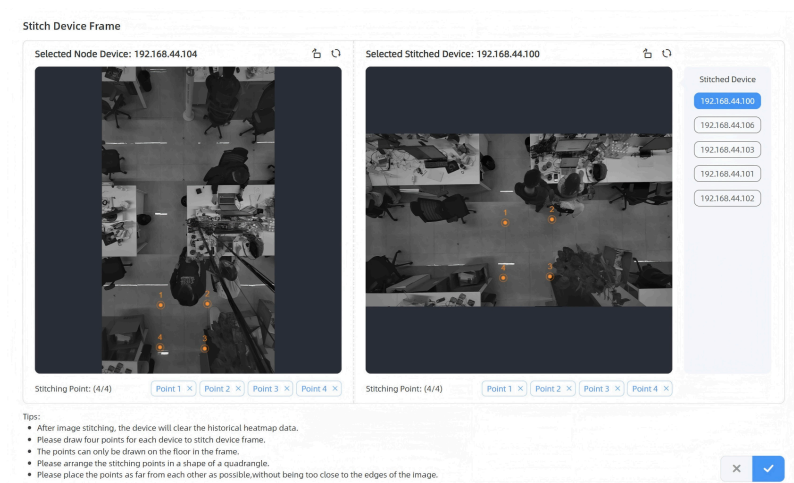
✓

- On both device previews, define the overlapping coverage areas by mark four calibration points to form a quadrilateral. Then the system automatically performs image stitching based on these points.



Tip:

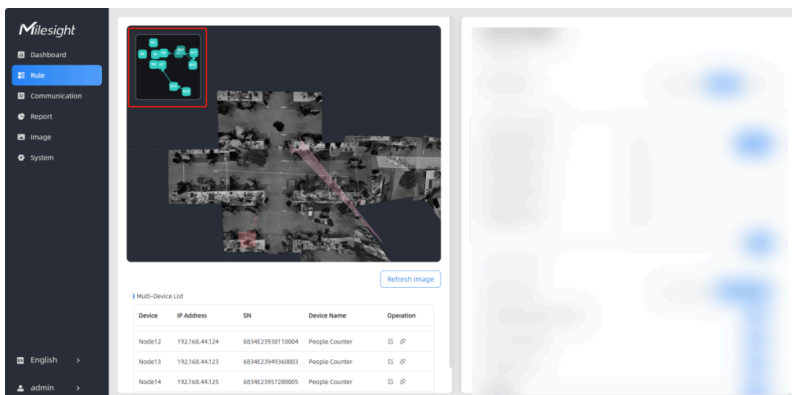
The overlapping area should be positioned in locations with minimal target traffic. It is recommended to use objects such as tiles, tables, or tape to mark the stitching points on the ground in the overlapping area.



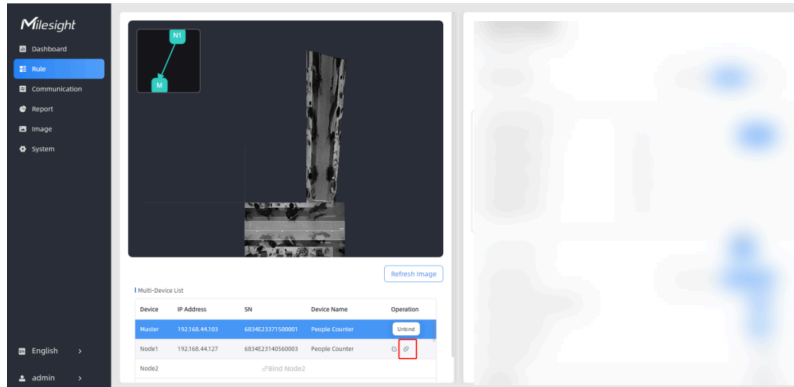
- (Optional) To modify the calibration points, click to delete the corresponding point

Point 1 Point 2 Point 3 Point 4 and mark the point again.

- Click to save the configuration. The node device is listed in the **Multi-Device List**. The following figure shows the effect after the two devices are stitched.
- To add more devices, follow steps 1 to 5 to stitch them sequentially. A small map in the upper left part of the preview shows the positions of the stitched devices.



7. (Optional) To disconnect a node device, click  in the corresponding **Operation** area.



Configure Communication Parameters

This section describes how to configure communication parameters, which includes cellular parameters, TCP/IP parameters, HTTPs parameters, 802.1x protocol parameters, WLAN parameters, recipient and MQTT API parameters.

Configure Network Parameters

Configure TCP/IP Parameters

The device uses the Ethernet port for data transmission and multi-device stitching. This section describes how to configure TCP/IP parameters.

For the cellular version, data reporting depends on the current network. When both cellular network and Ethernet connections are available, the device prioritizes cellular networks for data reporting.

Steps:

1. In the main page, click **Communication** from the left navigation tree.
2. In the **TCP/IP** area, the page is displayed.

3. Set the IPv4 address assignment method. Options: **Manual** or **Automatic (DHCP)**.
- If **Automatic (DHCP)** is selected, the device will obtain an IP address and configuration parameters from the DHCP server automatically.
 - If **Manual** is selected, configure the following parameters manually.

Parameters	Description
IP Address	An address that used to identify the sensor on the network. Click Test button to test if the IP address is conflicting.
Subnet Mask	It is used to identify the subnet where the sensor is located.
Default Gateway	The default router address.
Primary DNS Server	Preferred DNS server used to resolve domain names into IP addresses.
Secondary DNS Server	Backup DNS server used when the Primary DNS Server is unavailable.

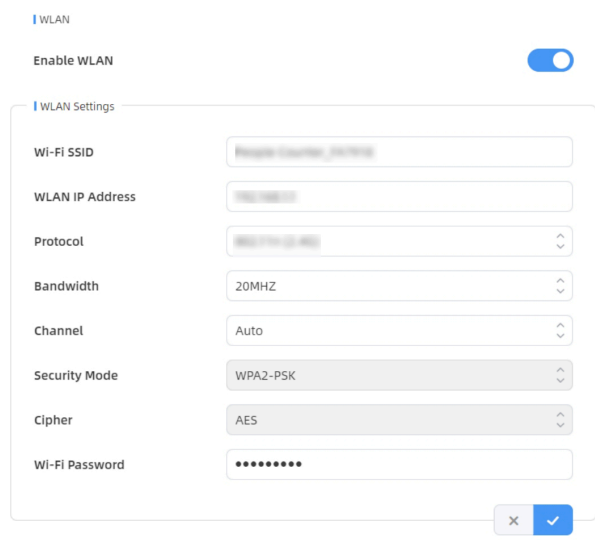
4. Click  to save the configuration.

Configure WLAN Parameters

This section describes how to configure WLAN parameters.

Steps:

1. In the main page, click **Communication** from the left navigation tree.
2. In the **WLAN** area, the page is displayed.



3. Click  to enable the Wi-Fi function, configure the following parameters as needed.

Parameters	Description
Wi-Fi SSID	Unique Wi-Fi access point identifier for this device. Format: People Counter_XXXXXX . It can be found on the device label.
WLAN IP Address	WLAN IP address for web access. Default value: 192.168.1.1 .
Protocol	Options: 802.11b (2.4G) , 802.11g (2.4G) and 802.11n (2.4G) .
Bandwidth	Options: 20MHz , 40MHz .
Channel	Wireless channel. Range: Auto, 1-11.
Security Mode	Fixed value: WPA2-PSK .
Cipher	Fixed value: AES .
Wi-Fi Password	Customize the password. It must include numbers, lowercase letters, uppercase letters and special characters. Range: 8-63 characters.

4. Click  to save the configuration.

Configure Cellular Parameters (Cellular Version Only)

This section describes how to configure cellular parameters.

Steps:

1. In the main page, click **Communication** from the left navigation tree.
2. In the **Cellular Status** area, click **Detail** to check the cellular status details.
3. In the **Cellular Settings** area, configure cellular parameters as needed. For parameter descriptions, refer to the following table.

Parameters	Description
APN	Access point name for cellular dial-up connection provided by a local ISP. Maximum length: 31 characters.
Username	Username for cellular dial-up connection provided by a local ISP. Maximum length: 31 characters.
Password	Password for cellular dial-up connection provided by a local ISP. Maximum length: 31 characters.
PIN Code	PIN code to unlock the SIM. Length: 4-8 characters.
Authentication Type	Options: None , PAP , CHAP , PAP and CHAP .
Roaming	Enables the Roaming function.
Restart When Dial-up Failed	Enables automatic device restart when multiple dial-up failed.
ICMP Server	Configures the IP address of the ICMP detection server.
ICMP Detection Max Retries	Sets the maximum number of retries when ICMP detection failed.
ICMP Detection Timeout	Configure ICMP detection timeout duration.
ICMP Detection Interval	Configures the ICMP detection interval.

4. Click **Refresh** to manually refresh the above status. The following parameters are displayed.

Parameters	Description
Modem Status	Show the corresponding detection status of the module and SIM card. ◦ No SIM Card ◦ SIM Card Error ◦ PN Error ◦ PIN Required ◦ PUK Required ◦ No Signal

Parameters	Description
	◦ Ready ◦ Down SIM
Model	Show the model name of the cellular module
Version	Show the version of the cellular module.
Signal Level	Show the current signal strength of the network.
Register Status	Show the connection status of the network, including "connect" and "disconnect".
IMEI	Show the IMEI of the module.
IMSI	Show IMSI of the SIM card.
ICCID	Show ICCID of the SIM card.
ISP	Show the network provider which the SIM card registers on. It will display "-" when the SIM card is not inserted or not recognized.
Network Type	Show the connected network type, such as LTE and 3G. It will display "-" when the device is not connected to network.
PLMN ID	Show the current PLMNID, including MCC, MNC, LAC, and Cell ID.
LAC	Show the location code of the SIM card. It will display "-" when the SIM card is not inserted or not recognized.
Cell ID	Show the Cell ID of the SIM card location. It will display "-" when the SIM card is not inserted or not recognized.
Network Status	Show the information of the current network. If the SIM card is not inserted or not recognized, it will display 0.0.0.0.
IP Address	
Netmask	
Gateway	
DNS	

Parameters	Description
Connection Duration	Show the cellular dial-up connection duration.

5. Click  to save the configuration.

Configure HTTPs Parameters (PoE Version Only)

HTTPs encrypts data transmitted between a web browser and a server. It ensures confidentiality, verifies server authenticity, and protects data integrity against tampering. This section describes how to configure HTTPs parameters to ensure secure communication.

Steps:

1. In the main page, click **Communication** from the left navigation tree.
2. In the **HTTPs** area, enable **HTTPS**.
3. Set **HTTPS Port** to configure the web GUI login port. It is **443** by default.
4. Select **Certificate Installation Method**. Options: **Create Self-Signed Certificate**, **Direct Installation Certificate**.
5. Perform the following operations as needed.

If	Do
If Certificate Installation Method is set to Create Self-Signed Certificate	a. Click Update. The Update Certificate Information dialog box is displayed. b. Update certificate information as needed and click . The certificate is uploaded. c. (Optional) To check certificate properties, click Show Properties. The Certificate Properties information box is displayed.
If Certificate Installation Method is set to Direct Installation Certificate	a. Click File to upload the CA certificate file. b. (Optional) To check certificate properties, click Show Properties. The Certificate Properties information box is displayed.

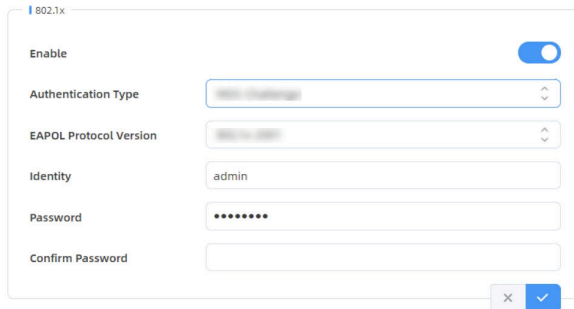
6. Click  to save the configuration.

Configure 802.1x Protocol Parameters (PoE Version Only)

The IEEE 802.1x is an authentication protocol to allow access to networks with the use of RADIUS server. This section describes how to configure 802.1x protocol parameters.

Steps:

1. In the main page, click **Communication** from the left navigation tree.
2. In the **802.1x** area, click  to enable the 802.1x function.



3. Configure 802.1x parameters as needed. For parameter descriptions, refer to the following table.

Parameters	Description
Authentication Type	Fixed value: MD5-Challenge
EAPOL Protocol Version	Options: 802.1x-2001, 802.1x-2004.
Username	Sets the user name for 802.1x authentication.
Password	Sets the password for 802.1x authentication.
Confirm Password	Enter the password again.

4. Click  to save the configuration.

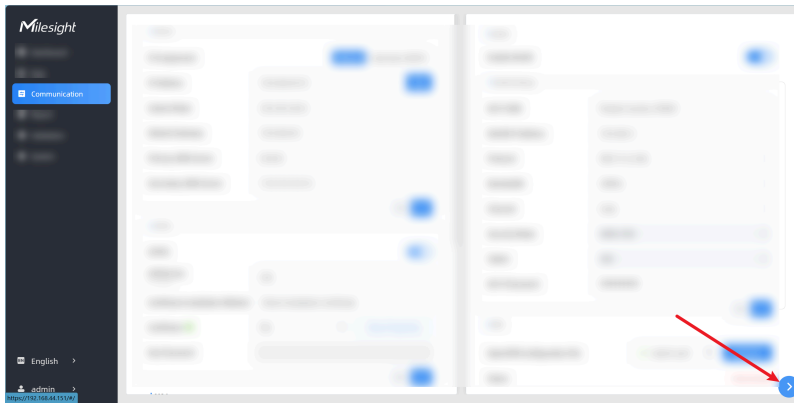
Add Data Recipients

This section describes how to add data recipients.

The device supports the addition of data recipients using HTTP(s) or MQTT(s) protocols. It proactively pushes data to configured recipients according to the specified reporting scheme. For detailed data format specifications, refer to [Uplink Data](#). Additionally, device configuration and people counting data retrieval are available through CGI interfaces. For details, refer to [Milesight AI Stereo Vision People Counting Sensor API Specification](#).

Steps:

1. In the main page, click **Communication** from the left navigation tree, then click  in the lower right corner.



2. In the **HTTP(S)/MQTT(S)** area, click **+Add** to add a recipient. You can add up to 8 recipients.

Recipient

Recipient Name	URL/Host	Protocol	Status	Operation
		+ Add		

3. The **Recipient Settings** dialog box is displayed. Configure the recipient parameters as needed.

Recipient Settings

Recipient Name	Recipient
Report Protocol	MQTT
Host	
Port (1~65535)	
ClientID	
Username	
Password	
Topic ①	
QoS	QoS 0
TLS	☒

×
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- a. In the **Recipient Name** text box, enter a recipient name.
- b. Set **Report Protocol** to **HTTP(s)** or **MQTT** as needed.
- c. Perform the following operations as needed.

- If **Report Protocol** is set to **HTTP(s)**, configure the following parameters.

Parameters	Description
URL	Data Recipient URL. It configures the target URL to receive people counting data in JSON format. This device supports multiple third-party platforms. For the supported platforms, refer to Milesight official website .
Connection Test	Click Test to send test message to a URL to check connectivity.
Username	User name used for authentication.
Password	Password used for authentication.

- If **Report Protocol** is set to **MQTT**, configure the following parameters.

Parameters	Description
Host	Address of the MQTT broker to receive data. This device supports multiple third-party platforms. For the supported platforms, refer to Milesight official website .
Port	Port of the MQTT broker used to receive data.
Client ID	Unique client identifier for the MQTT server. It must be unique across all connections to the same server and is essential for managing message delivery at QoS levels 1 and 2.
Username	User name for MQTT broker authentication.
Password	Password for MQTT broker authentication.
Topic	Topic name used for publishing messages. An example topic name is as follows: Topic ⓘ device/downlink_config The following placeholders are dynamically replaced with device information upon subscription. ▪ - \$devsn: Device SN ▪ - \$prdmd: Product model

Parameters	Description
	- \$devId: Customized device ID - \$siteId: Customized site ID
QoS	Options: QoS 0 , QoS 1 , and QoS 2 .
TLS	Enables TLS encryption for MQTT communication.
Certificate Type	Options: CA Signed Server or Self Signed. ▪ If Certificate Type is set to CA Signed Server, server verification is performed using a CA certificate that is pre-installed on the device. ▪ If Certificate Type is set to Self Signed, click  in the CA File, Client Certificate File, and Client Key File areas to upload the corresponding files for identity verification.

4. Click  to save the configuration. The **Report Strategy** dialog box is displayed.

Report Strategy

Trigger Report  ☒

Trigger Report Cooldown  ☐

Trigger Report Schedule ☐

Periodic Report ☒

Periodic Report Scheme On the Dot From Now On

Period

Real-time Data Report  ☐

Data Retransmission ☐

Customize Report Content ☐

× < ✓

5. Configure the report strategy parameters as needed. For parameter descriptions, refer to the following table.

Parameter	Description
Trigger Report	Enables reporting statistical data or event information to the platform when configured trigger events occur.

Parameter	Description
Periodic Report	Enables periodic reporting of line crossing and region counting data.
Periodic Report Scheme	Options: On the Dot or From Now On. ◦ If Periodic Report Scheme is set to On the Dot, select the interval from the Period drop-down list as needed. Then the device reports at the top of each hour. For example: ▪ 1-hour interval: Reports occur on the hour (00:00, 01:00, 02:00...) ▪ 10-minute interval: Reports occur at 10-minute marks (00:10, 00:20, 00:30...) ◦ If Periodic Report Scheme is set to From Now On, enter an interval value in the Period text box as needed. Then the device initiates periodic reporting immediately upon activation and regularly report at the configured interval.
Data Retransmission	If enabled, the device automatically transmits all buffered data packets from the offline period once the network connection is restored. Each recipient endpoint supports a maximum capacity of 50,000 data records.
Customize Report Content	Enables report content customization. Select the required content to avoid data redundancy. Customize Report Content ☒ Device Info ☐ Time Info ☒ Line ☒ Region ☒ Attention Region ☒ I/O ☒ Alarm ☒ Live Data

6. Click  to save the configuration. The added recipient is displayed in the **Recipient** page.

Recipient

Recipient Name	URL/Host	Protocol	Status	Operation
Recipient	https://webhook.site/f4461bc-d755-44d...	HTTP	Disconnect	 
Recipient	192.168.44.325	MQTT	Disconnect	 
+ Add				

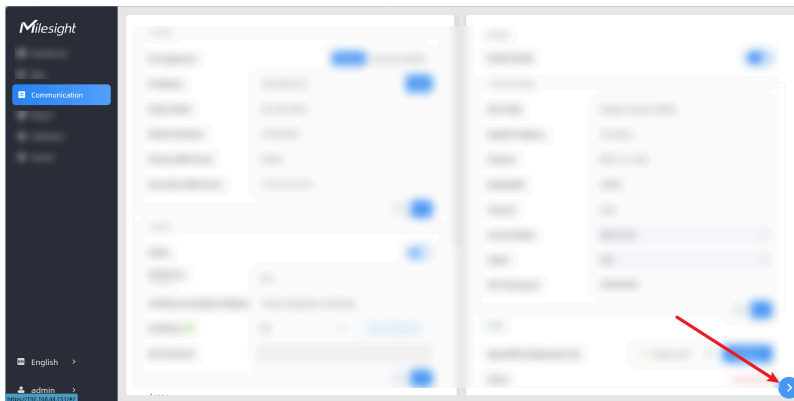
7. (Optional) To edit or delete the recipient, click  or .

Configure MQTT API Parameters (Cellular Version Only)

The device provides an MQTT API that receives [downlink commands](#) for retrieving people counting data. This section describes how to configure MQTT API parameters. It applies for the cellular version only.

Steps:

1. In the main page, click **Communication** from the left navigation tree, then click  in the lower right corner.



2. Click  in the lower right corner. The **MQTT API** page is displayed.

The image shows a web configuration interface for an MQTT API. It features a sidebar with the title 'MQTT API'. The main area contains several configuration fields: 'Status' (Disconnected), 'Host' (112.48.19.183), 'Port' (10566), 'Topic' (12345), 'Client ID' (empty), 'Username' (admin), 'Password' (masked with dots), 'QoS' (QoS 1), and 'TLS' (toggle switch). At the bottom right, there are 'x' and '✓' buttons.

3. Configure the following parameters as needed. For parameter descriptions, refer to the following table.

Parameters	Description
Status	Connection status between the device and the MQTT broker.
Host	Address of the MQTT broker to receive data. This device supports multiple third-party platforms. For the supported platforms, refer to Milesight official website .
Port	Port of the MQTT broker used to receive data.
Topic	Topic name used for publishing messages. An example topic name is as follows: Topic ⓘ device/downlink_config The following placeholders are dynamically replaced with device information upon subscription. ◦ - \$devsn: Device SN ◦ - \$prdmd: Product model

Parameters	Description
	◦ - \$devid: Customized device ID ◦ - \$siteid: Customized site ID
Client ID	Unique client identifier for the MQTT server. It must be unique across all connections to the same server and is essential for managing message delivery at QoS levels 1 and 2.
Username	User name for MQTT broker authentication.
Password	Password for MQTT broker authentication.
QoS	Options: QoS 0 , QoS 1 , and QoS 2 .
TLS	Enables TLS encryption for MQTT communication.
Certificate Type	Options: CA Signed Server or Self Signed. ◦ If Certificate Type is set to CA Signed Server, server verification is performed using a CA certificate that is pre-installed on the device. ◦ If Certificate Type is set to Self Signed, click  in the CA File, Client Certificate File, and Client Key File areas to upload the corresponding files for identity verification.

4. Click  to save the configuration.

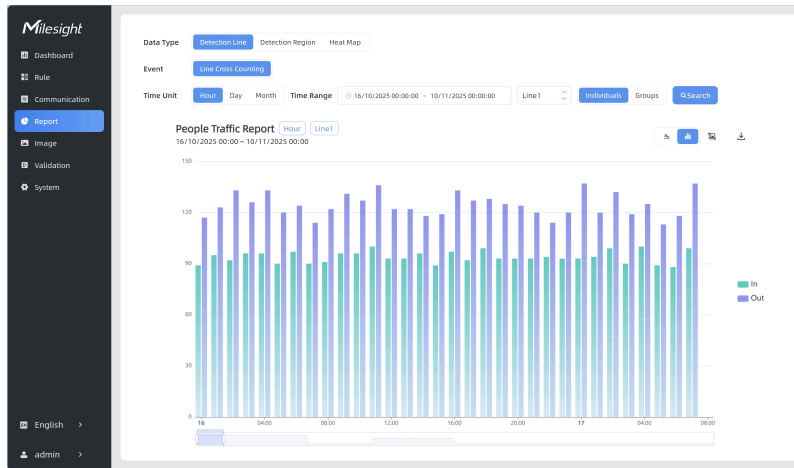
Generate Reports

Upon configuration of both basic counting and advanced AI recognition functions, the device provides multiple data presentation options such as the dashboard, reports and command line outputs.

The device supports visual line chart or bar chart generation to display people traffic and supports report exporting. Before using this feature, do ensure that the device time is correct on **System** page. This function is available only in Master Mode and Standalone Mode.

Steps:

1. In the main page, click **Report** from the left navigation tree.



2. Select the data type for report generation. Options: **Detection Line**, **Detection Region**, **Heat Map**.

If	Do
If Data Type is set to Detection Line	- Set Time Unit and Time Range. - Select a line from the drop-down list. - Select Individuals or Groups as needed. - Click Search. The People Traffic Report is displayed correspondingly. - Click  or  to display the report in the corresponding form. - Click  to download the chart screenshot. - Click  to export the historical traffic data to a CSV file. The system supports exporting up to 1,000,000 data records per CSV file. - Click on any category on the following figure to hide it from the chart. 
If Data Type is set to Detection Region	- Select an event. Options: Region People Counting, Dwell Time Detection - Perform any of the operations as needed.

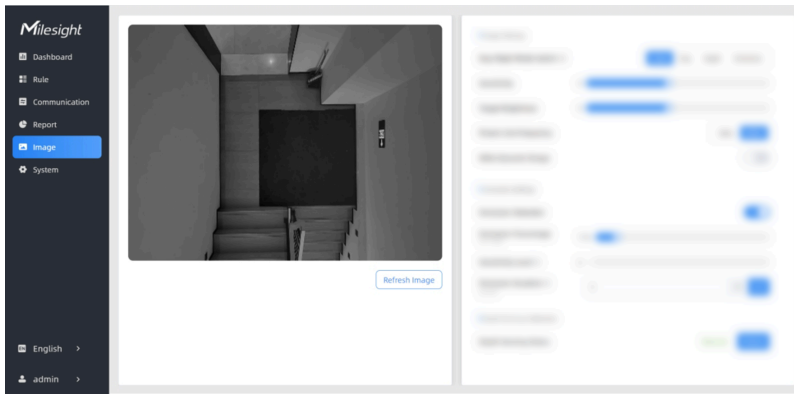
If	Do
	▪ If Event is set to Region People Counting: set Time Range and select a region from the drop-down list. ▪ If Event is set to Dwell Time Detection: set Time Range, Min. Value, Bin Width and Number Of Bins and select a region from the drop-down list. c. Click Search. The People Counting Report or Total Dwell Time Report is displayed correspondingly. d. Click  to download the chart screenshot. e. Click  to export the historical traffic data to a CSV file. The system supports exporting up to 1,000,000 data records per CSV file. f. Click on any category on the following figure to hide it from the chart. In Out
If Data Type is set to Heat Map	a. Select an event. Options: Motion Heatmap, Dwell Heatmap. b. Set Time Range. c. Click Search. The Motion Heatmap Report or Dwell Heatmap Report is displayed correspondingly. d. Click  to download the chart screenshot. e. Click  to refresh image.

Configure Image Parameters

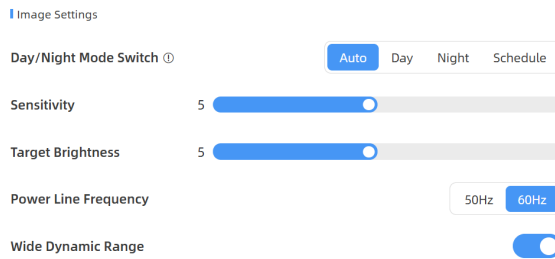
The device has great lighting adaptability that allows it to operate properly in low light and even complete darkness. It supports day and night mode switching based on the no-photosensitive scheme. This section describes how to configure image parameters.

Steps:

1. In the main page, click **Image** from the left navigation tree.



2. In the **Image Settings** area on the right, configure the following parameters as needed.



Parameters	Description
Day/Night Mode Switch	Set image mode. Options: Auto, Day, Night and Schedule. ◦ Auto: Automatic switch between day and night modes according to image brightness. ◦ Day: Black and white mode. ◦ Night: Infrared based black and white mode. ◦ Schedule: Switches between day and night modes based on the configured schedule.
Sensitivity	Set the sensitivity of the automatic day and night mode switching. The higher the sensitivity is, the easier to switch between day and night modes.
Night Mode Duration	Set the night mode duration.
Target Brightness	Set the brightness of the target to make image clearer. The higher brightness is, the brighter the target brightness is.

Parameters	Description
Power Line Frequency	Select the frequency to avoid the image flashing. Options: 50Hz , 60Hz .
Wide Dynamic Range	Enable or disable Wide Dynamic Range . Enabling it can capture more detail in scenes where light conditions vary greatly.

- Click **Refresh Image** to check image changes.

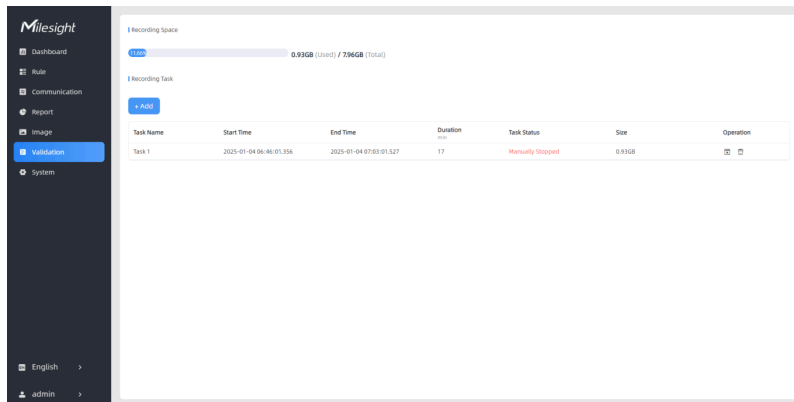
Configure Video Validation

This section describes how to configure Video Validation function.

The video validation function can be used to verify people counting accuracy by comparing results against a recorded video.

Steps:

- In the main page, click **Validation** from the left navigation tree.



- In the **Recording Task** area on the right, click **+ Add**. The **Set a Task of Recording** dialog box is displayed. The device can add up to 50 tasks.

Set a Task of Recording

Task Name

Recording Mode Record Now Setting Time

Start Time

Duration min(1~60)

✕ ✓

3. Configure the following parameters as needed.

Parameters	Description
Task Name	Customize a task name.
Recording Mode	Options: Record Now or Setting Time .
Start Time	This parameter is displayed only when Recording Mode is set to Setting Time . It sets the recording start time.
Duration	Set the recording duration. Range: ≤ 60 minutes.



Note:

The configured time ranges for different tasks must not overlap.

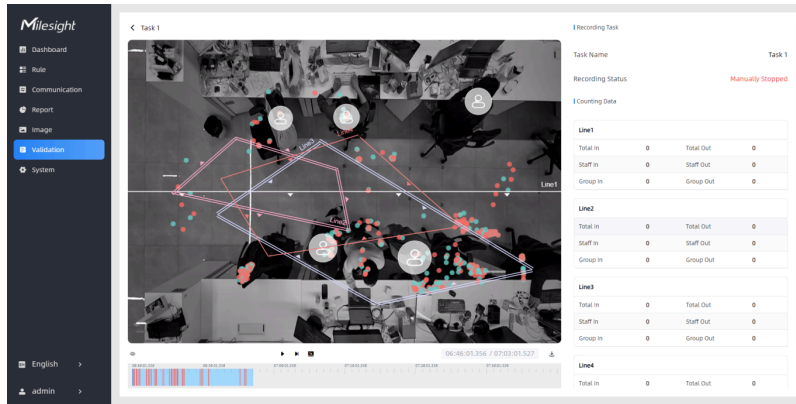
4. Click ✓. The task is listed in the **Recording Task** area.



Restriction:

Detection rules cannot be modified during the recording process.

5. After recording completed, click  in the **Operation** area of the task. The following page is displayed.



6. Click  to edit the preview layout. For details, refer to the following table.

Edit Preview Layout

Visual Configuration

☒ Detection Line
 ☒ U-turn Area

☒ Detection Region
 ☒ Obstacle Exclusion Region

AI Result

☒ Real-time Track Line
 ☒ Static Track Line

Other

☒ Track Start / Stop Points

🕒

2025-11-11 19:10 - 2025-11-12 19:10

Search

Parameters	Description
Visual Configuration	Select the items to be displayed in the preview as needed. The items displayed here are dependent on the functions enabled.
AI Result	Click the corresponding lines to show/hide them in the video. ◦ Real-time Track Line: Show or hide the target's track line in the preview. ◦ Static Track Line: Show or hide the history of the target's track line in the preview. Up to 1000 historical track records are supported. They are cleared upon page refresh.
Other	Click  to show/hide track points in the video.

7. Click  to play the video to verify people counting accuracy, supports switching between 0.5x, 1x, 2x, and 4x playback speed.

**Note:**

The playback progress bar in the bottom highlights video frames where data changes occur.

8. (Optional) Click  to download the video and use the dedicated [Milesight VS Player](#) for local playback.

Configure System Parameters

This section describes how to configure system parameters.

Configure Device Parameters

The device hardware and software information can be checked on the **System** page. Besides, users can customize the device name, the device ID and the site ID for multi-device management.

Steps:

1. In the main page, click **System** from the left navigation tree.

Device Info.

Device Name	People Counter
Product Model	
SN	
Hardware Version	
Software Version	
MAC Address	
WLAN MAC Address	
Customized Device ID	
Customized Site ID	
Running Time	1 day 3 hours 25 minutes 41 seconds

2. In the **Device Info.** area, check device information and configure the device name, the device ID and the site ID as needed.
3. Click  to save the configuration.

Configure User Parameters

This section describes how to configure user parameters.

User Roles:

- Administrator: Has full system privileges with access to all webpage settings
- Viewer: Has access only to the **Dashboard** and **Report** pages

Modify Administrator's Parameters

1. In the main page, click **System** from the left navigation tree.
2. To change the login password of the device:

- a. In the **User** area, click  in the **Operation** column. The **Users modify** dialog box is displayed.

Users modify

Username	admin
User Level	Administrator
Administrator Password	
New Password	
Confirm Password	

At least

- 8 characters
- Must contain uppercase letters, lowercase letters, numbers, and special characters

- b. In the **Administrator Password** area, enter the login password of the device.
 - c. In the **New Password** area, enter a new password.
 - d. In the **Confirm Password** area, enter the new password again.
 - e. Click  to save the configuration.
3. To configure the security questions:

- a. Click . The **Secure Question Settings** dialog box is displayed.

Secure Question Settings Already Set

Password	
Security Question1	What is your lucky number? 
Answer1	
Security Question2	What is your favorite sport? 
Answer2	
Security Question3	What is your favorite color? 
Answer3	

- b. Enter the login password and provide answers to the three security questions.
- c. Click  to save the configuration.



Troubleshooting:

In case that you forget the password, you can click **Forget Password** on the login page to reset the password by answering the three security questions.

Add a Viewer

1. Click **+ Add User**. The **Add User** dialog box is displayed.

Add User

Username	viewer
User Level	Viewer 
Password	
Confirm Password	

At least

- 8 characters
- Must contain uppercase letters, lowercase letters, numbers, and special characters

2. In the **Password** area, enter a new password.
3. In the **Confirm Password** area, enter the new password again.

4. Click  to save the configuration. The user is listed in the **Users** area.

5. (Optional) Click  to change the password of the viewer.

Configure Time Parameters

This section describes how to configure time parameters.

Steps:

1. In the main page, click **System** from the left navigation tree.
2. In the **Set the System Time** area, configure the following parameters as needed.

Parameters	Description
Time Zone	Select the time zone for system synchronization.
Daylight Saving Time	Enable or disable Daylight Saving Time (DST). Start Time: Start time of the DST time range. End Time: End time of the DST time range. DST Bias: Specifies the offset value for advancing clock time during Daylight Saving Time periods.

3. In the **Synchronize Time** area, perform the following operations as needed.
 - a. Set **Synchronize Mode** to **NTP Timing** or **Manual Timing** as needed.
 - b. Perform the following operations as needed.

If	Do
If Synchronize Mode is set to NTP Timing	i. In the Server Address area, enter the NTP server address and click . ii. In the Time Interval area, enter the time synchronization interval between the device and the NTP server and click .

If	Do
If Synchronize Mode is set to Manual Timing	i. In the Setting Time area, set the device time and click . ii. In the Synchronize with your computer time area, click Synchronize to synchronize the device time with the computer system time.

Configure Remote Management Parameters

This section describes how to configure remote management.

Milesight provides remote management service for this device via Milesight DeviceHub platform or Development Platform.

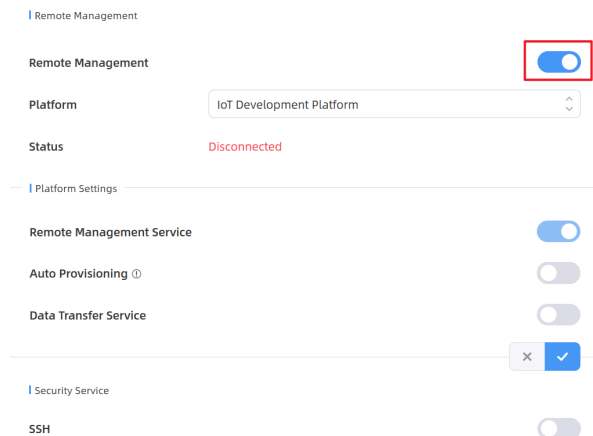


Note:

Before connecting, do ensure that the device has been connected to the network via Ethernet port, and there is seamless Internet connection.

Steps:

1. In the main page, click **System** from the left navigation tree.
2. Click  in the lower right corner to go to **Remote Management** page.
3. In the **Remote Management** area, enable **Remote Management**.



4. Set **Platform** to **DeviceHub2.0** or **IoT Development Platform** as needed. For detailed platform information, refer to [DeviceHub2.0](#) and [Milesight Development Platform](#) respectively.
5. Perform the following operations as needed.

If	Do
If Platform is to Device-Hub2.0 (PoE Version Only)	a. In the Platform Settings area, enter the IP address or the host name for the DeviceHub 2.0 management server. b. Enable Synchronize Device Name to synchronize the device name with DeviceHub 2.0. c. Enable Synchronize Customized ID to synchronize the device ID and site ID with Devicehub 2.0. d. Click Connect to apply the settings.
If Platform is set to IoT Development Platform	a. Enable Remote Management Service to modify device configuration through the Milesight Development platform. b. Enable Auto Provisioning to receive and deploy the configurations from Milesight Development Platform after the device is connected to Internet. c. Configure data transfer parameters to report people counting data to the Milesight Development platform at the specified interval. i. Enable Data Transfer Service. Periodic Report is enabled automatically. ii. Set Periodic Report Scheme to On the Dot or From Now On as needed. iii. Select Period. iv. Enable Trigger Report as needed. d. Click  to apply the settings.

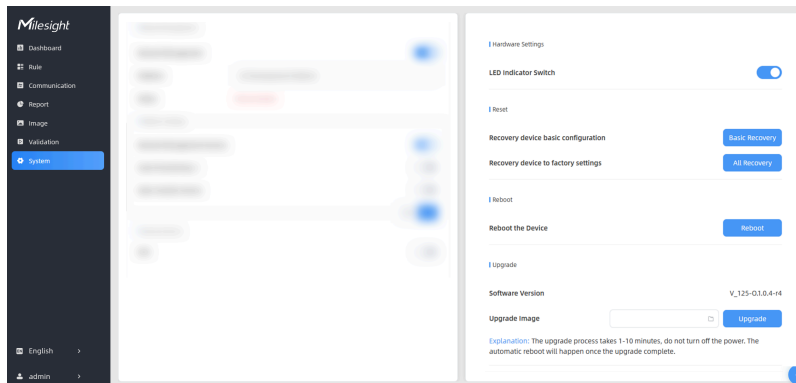
6. In the **Security Service** area, enable **SSH** to enable SSH access. The SSH port is fixed as 22.

Configure System Maintenance Parameters

This section describes how to configure system maintenance parameters.

Steps:

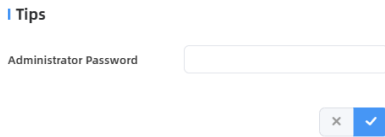
1. In the main page, click **System** from the left navigation tree.
2. Click  in the lower right corner to go to the **System Management** page.



3. In the **Hardware Settings** area, configure the following parameters as needed:

Parameters	Description
LED Indicator Switch	Enable or disable the LED indicator when the device is in normal operation.

4. In the **Reset** area, configure the following parameters as needed:

Parameters	Description
Recovery device basic configuration	Click Basic Recovery to reset the device while keeping the IP settings and user information.
Recovery device to factory settings	a. Click All Recovery to reset the device to default factory settings. The Tips dialog box is displayed.  b. Enter the login password of the device.

5. In the **Reboot** area, click **Reboot** button to restart the device immediately.

6. In the **Upgrade** area, configure the following parameters as needed:

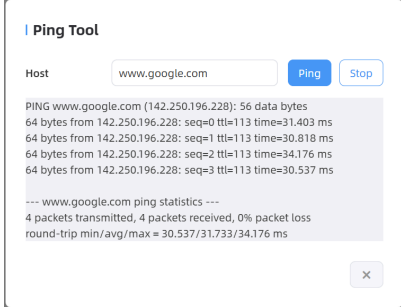
Parameters	Description
Software Version	The software version of the sensor.

Parameters	Description
Upgrade Image	a. Click  to upload the upgrade file. b. Click Upgrade. The upgrade takes 1-10 minutes , and the device will restart automatically upon completion.  Note: Do not disconnect the power of the device during the upgrade process.

7. In the **Backup and Restore** area, configure the following parameters as needed:

Parameters	Description
Export Config File	Export configuration file.
Import Config File	Click the  button and select the configuration file, click Import button to import configuration file.

8. In the **Diagnostics** area, configure the following parameters as needed:

Parameters	Description
System Log	Click Download to download log files for troubleshooting.
IP Ping	a. Click Open Ping Tool. The Ping Tool dialog box is displayed. b. In the Host area, enter an IP address or a URL to test network connection. c. Click Ping. 

Chapter 5. Uplink Packets & Downlink Commands

This chapter describes the uplink data packets and downlink commands supported by the device.

Uplink Data

The device can transmit people counting data in JSON format to a HTTP URL or an MQTT broker. For configuration details, refer to [Configure Recipient Parameters](#). This section provides uplink data examples for real-time, periodic and alarm reporting.

Uplink Data Examples for Trigger Reporting

If the report strategy is set to **Trigger Report** (real-time reporting is enabled), the device reports the uplink data upon data change. This section provides uplink data examples for trigger reporting.

Data Example for Line Crossing People Counting

```
{
  "device_info": {
    "cus_device_id": "123456",
    "cus_site_id": "789123",
    "device_mac": "24:E1:24:FA:0C:6C", //PoE version only
    "device_name": "People Counter11",
    "device_sn": "6384E16179950009",
    "firmware_version": "V_126.1.0.1",
    "hardware_version": "V1.0",
    "ip_address": "192.168.60.183",
    "running_time": 58
  },
  "network_info": { //Cellular version only
    "network_status": "1", //1 is connected, 0 is disconnected
    "iccid": "89860117838009934120",
    "imei": "860425047368939",
    "cell_id": "340db80",
    "lac": "5299"
  },
  "line_trigger_data": [
    {
      "group": {
```

```

    "in": 0,
    "out": 0
  },
  "total": {
    "in": 27,
    "out": 27
  },
  "line": 1,
  "line_name": "Line11111111111111111111111111111111",
  "line_uuid": "9a0440de-3188-4f6d-b886-bb20c97bd26b"
},
{
  "group": {
    "in": 0,
    "out": 0
  },
  "total": {
    "in": 27,
    "out": 27
  },
  "line": 3,
  "line_name": "Line33333333333333333333333333333333",
  "line_uuid": "82ffe54d-0191-484b-a2fc-495628a8f2a1"
}
],
"time_info": {
  "dst_status": false,
  "enable_dst": true,
  "time": "2024-05-30T20:11:32+08:00",
  "time_zone": "UTC+8:00 China Standard Time (CT/CST)"
}
}

```

Data Example for Region People Counting

```

{
  "device_info": {
    "cus_device_id": "123456",

```

```

"cus_site_id": "789123",
"device_mac": "24:E1:24:FA:0C:6C", //PoE version only
"device_name": "People Counter11",
"device_sn": "6384E16179950009",
"firmware_version": "V_126.1.0.1",
"hardware_version": "V1.0",
"ip_address": "192.168.60.183",
"running_time": 105
},
"network_info": {//Cellular version only
  "network_status": "1", //1 is connected, 0 is disconnected
  "iccid": "89860117838009934120",
  "imei": "860425047368939",
  "cell_id": "340db80",
  "lac": "5299"
},
"region_trigger_data": {
  "region_count_data": [{
    "total": {
      "current_total": 2
    },
    "region": 1,
    "region_name": "Region1",
    "region_uuid": "bd1e6ce2-e113-4ce4-a9b6-0633f7083cac"
  }]
},
"time_info": {
  "dst_status": false,
  "enable_dst": true,
  "time": "2024-05-30T20:12:20+08:00",
  "time_zone": "UTC+8:00 China Standard Time (CT/CST)"
}
}

```

Data Example for Dwell Time Detection

```

{
  "device_info": {

```



```

"cus_device_id": "123456",
"cus_site_id": "789123",
"device_mac": "24:E1:24:FA:0C:6C", //PoE version only
"device_name": "People Counter11",
"device_sn": "6384E16179950009",
"firmware_version": "V_126.1.0.1",
"hardware_version": "V1.0",
"ip_address": "192.168.60.183",
"running_time": 106,
"wlan_mac": "24:E1:24:54:23:0A"
},
"network_info": {//Cellular version only
  "network_status": "1", //1 is connected, 0 is disconnected
  "iccid": "89860117838009934120",
  "imei": "860425047368939",
  "cell_id": "340db80",
  "lac": "5299"
},
"region_trigger_data": {
  "dwell_time_data": [{
    "duration": 96799,
    "dwell_end_time": "2024-05-30T20:12:20+08:00",
    "dwell_start_time": "2024-05-30T20:10:43+08:00",
    "people_id": 5,
    "region": 1,
    "region_name": "Region1",
    "region_uuid": "bd1e6ce2-e113-4ce4-a9b6-0633f7083cac"
  }]
},
"time_info": {
  "dst_status": false,
  "enable_dst": true,
  "time": "2024-05-30T20:12:20+08:00",
  "time_zone": "UTC+8:00 China Standard Time (CT/CST)"
}
}

```

Uplink Data Examples for Periodic Reporting

If the report strategy is set to **Periodic Report**, the device reports the uplink data upon data change at the configured interval. This section provides a uplink data example for periodic reporting.

```
{
  "device_info": {
    "cus_device_id": "123456",
    "cus_site_id": "789123",
    "device_mac": "24:E1:24:FA:0C:6C", //PoE version only
    "device_name": "People Counter11",
    "device_sn": "6384E16179950009",
    "firmware_version": "V_126.1.0.1",
    "hardware_version": "V1.0",
    "ip_address": "192.168.60.183",
    "running_time": 141,
    "wlan_mac": "24:E1:24:54:23:0A"
  },
  "network_info": {//Cellular version only
    "network_status": "1", //1 is connected, 0 is disconnected.
    "iccid": "89860117838009934120",
    "imei": "860425047368939",
    "cell_id": "340db80",
    "lac": "5299"
  },
  "line_periodic_data": [{
    "line": 1,
    "line_name": "Line11111111111111111111111111111111",
    "line_uuid": "9a0440de-3188-4f6d-b886-bb20c97bd26b",
    "total": {
      "in": 0,
      "out": 0
    },
    "group": {
      "in": 0,
      "out": 0
    }
  }
],
}
```

```

{
  "line": 2,
  "line_name": "Line22222222222222222222222222222222",
  "line_uuid": "b138b9a1-ce58-40bd-98f4-c401dfc118c8",
  "total": {
    "in": 0,
    "out": 0
  },
  "group": {
    "in": 0,
    "out": 0
  }
}
],
"line_total_data": [{
  "line": 1,
  "line_name": "Line11111111111111111111111111111111",
  "line_uuid": "9a0440de-3188-4f6d-b886-bb20c97bd26b",
  "total": {
    "in_counted": 0,
    "out_counted": 0,
    "capacity_counted": 0
  },
  "group" {
    "in_counted": 0,
    "out_counted": 0
  }
},
{
  "line": 2,
  "line_name": "Line11111111111111111111111111111111",
  "line_uuid": "9a0440de-3188-4f6d-b886-bb20c97bd26b",
  "total": {
    "in_counted": 0,
    "out_counted": 0,
    "capacity_counted": 0
  }
}

```

```

    },
  }
],
"region_data": {
  "dwell_time_data": [{
    "avg_dwell_time": 308367,
    "max_dwell_time": 519934,
    "region": 1,
    "region_name": "Region1",
    "region_uuid": "bd1e6ce2-e113-4ce4-a9b6-0633f7083cac"
  }],
  "region_count_data": [{
    "total": {
      "current_total": 2
    },
    "region": 1,
    "region_name": "Region1",
    "region_uuid": "bd1e6ce2-e113-4ce4-a9b6-0633f7083cac"
  }]
},

"time_info": {
  "dst_status": false,
  "enable_dst": true,
  "end_time": "2024-05-30T20:21:49+08:00",
  "start_time": "2024-05-30T20:20:49+08:00",
  "time_zone": "UTC+8:00 China Standard Time (CT/CST)"
}
}

```

Uplink Data Examples for Alarm Reporting

When the device encounters an abnormal situation, it will report an alarm. This section provides uplink data examples for alarm reporting.

Data Example for Device Abnormal Tilt

```
{
  "device_abnormal_tilt_alarm": [
    {
      "alarm_status": "alarm",
      "device_sn": "6834E23009150005"
    }
  ],
  "device_info": {
    "cpu": {
      "cpu_temperature": 60,
      "cpu_usage": 54
    },
    "device_mac": "24:E1:24:FA:77:49",
    "device_name": "66",
    "device_sn": "6834E23009150005",
    "device_tilt_pitch_roll": {
      "pitch": 105,
      "roll": -153
    },
    "firmware_version": "V_126.1.0.1",
    "hardware_version": "V1.1",
    "ip_address": "192.168.49.152",
    "ram": {
      "memory_usage": 36.01,
      "total_memory_mb": 480.62,
      "used_memory_mb": 173.05
    },
    "running_time": 7362,
    "storage": {
      "storage_usage": 0.04,
      "total_space_gb": 11.71,
      "used_space_gb": 0
    },
    "wlan_mac": "24:E1:24:FA:77:4A"
  },
  "isRetransmission": false,
```

```

"time_info": {
  "dst_status": false,
  "enable_dst": false,
  "time": "2026-01-13T19:49:58+08:00",
  "time_zone": "UTC+8:00 China Standard Time (CT/CST)"
}
}

```

MQTT API Commands

This section provides examples of the MQTT API commands supported by the device. For how to configure MQTT API parameters, refer to [Configure MQTT API Parameters \(Cellular Version Only\)](#).

Search Report Commands

Request example:

```

{
  "dst": "all",
  "type": 0,
  "command": "/api/v1/system/searchReport",
  "msgId": "1",
  "requestData": {
    "event": 0,
    "startTime": "2025-01-22T08:00:00.000",
    "endTime": "2025-01-23T08:00:00.000",
    "lineParam": {
      "lineId": 0,
      "timeUnit": 0,
      "mode": 0
    },
    "regionCount": {
      "regionId": 0
    },
    "dwellDetect": {
      "regionId": 0,
      "timeMin": 10,
      "timeBinWidth": 10,
      "numOfBins": 10
    }
  }
}

```

```

    },
    "heatMap":{
      "type":0
    },
    "uuid":"1d4f62b5-37f0-4bda-80f8-a5625613fc6e"
  }
}

```

For request example parameter descriptions, refer to the following table.

Parameter	Type	Description
dst	string	all : Send to all recipients that subscribe the MQTT API topic. SN : Send to a certain recipient.
type	number	0 : Request, 1 : Response.
msgId	number	Request identifier.
requestData	object	
event	number	0 : Line crossing counting 1 : Region people counting 2 : Dwell time detection 3 : Heat map 4 : History Point
startTime		
endTime		
lineParam		
regionCount		
dwellDetect		
heatMap		
uuid	string	Random unique ID defined by the user

Response example: Success

```
{
  "code":0,
  "message":"ok",
  "msgId":"1",
  "src":"6834E16184430017",
  "transmitTime":2,
  "type":1
}
```

For response example parameter descriptions, refer to the following table.

Parameter	Type	Description
code	integer	
message	string	
msgId	number	Response identifier
src	string	Response SN
type	number	0 : Request, 1 : Response

Get Report Result Commands**Request example:**

```
{
  "dst": "all",
  "type":0,
  "command":"/api/v1/system/getReportResult",
  "msgId":"1",
  "requestData":{
    "uuid":"1d4f62b5-37f0-4bda-80f8-a5625613fc6e",
    "event":0
  }
}
```

For request example parameter descriptions, refer to the following table.

Parameter	Type	Description
dst	string	all : Send to all recipients that subscribe the MQTT API topic. SN : Send to a certain recipient.
type	number	0 : request, 1 : response.
msgId	number	Request identifier.
requestData	object	
uuid	string	Random unique ID defined by the user.
event	number	0 : Line crossing counting. 1 : Region people counting. 2 : Dwell time detection. 3 : Heat map.

Response example:

```
{
  "code": 0,
  "data": {
    "event": 0,
    "isReady": true,
    "line": [
      {
        "in": 6,
        "out": 1
      },
      {
        "in": 9,
        "out": 3
      }
    ],
    "time": "2024-08-15T09:00:00.000",
    "total": {
      "in": 9,
```

```

        "out": 3
      }
    }
  ]
},
"message": "ok",
"transmitTime": 1
}

```

For response example parameter descriptions, refer to the following table.

Parameter	Type	Description
code	integer	
data	object []	Return data
event	number	0: Line crossing counting 1: Region people counting 2: Dwell time detection 3: Heat map
isReady	boolean	
line,region	object	Including group, total
group ,dwell , total	object	Including in, out
heatmap	object	
height	number	Height of the heatmap data grid
width	number	Width of the heatmap data grid
max	number	Maximum value of heat map
min	number	Minimum value of heat map
values	object[]	
X	number	
Y	number	

Parameter	Type	Description
value	number	
historyPoints		
values	object[]	Trajectory point types: 0 : Start trajectory point 1 : Stop trajectory point
X	number	
Y	number	
message	string	Return information
transmitTime	number	Processing time

Search Log Commands

Request example:

```
{
  "dst": "all",
  "type": 0,
  "command": "/api/v1/system/searchLog",
  "msgId": 12345678,
  "requestData": {
    "startTime": "0",
    "endTime": "1800211081920",
    "logType": 0,
    "admin": true
  }
}
```

For request example parameter descriptions, refer to the following table.

Parameter	Type	Description
dst	string	all : Send to all recipients that subscribe the MQTT API topic.

Parameter	Type	Description
		SN : Send to a certain recipient.
type	number	0 : Request, 1 : Response.
msgId	number	Request identifier.
requestData	object	
startTime	string	Start timestamp. Unit: ms.
endTime	string	End timestamp. Unit: ms.
logType	number	0 : Starting up log.
admin	boolean	true : Display response parameter rebootCode . false : Hide response parameter rebootCode .

Response example:

```

{
  "code": 0,
  "data": {
    "log": [
      {
        "PowerOnTime": "2024-07-22T09:34:27+08:00",
        "ShutdownTime": "2024-07-22T09:41:59+08:00",
        "rebootCode": 1,
        "rebootMessage": "normal",
        "runningTime": 451
      },
      {
        "PowerOnTime": "2024-07-22T09:42:05+08:00",
        "ShutdownTime": "2024-07-22T09:54:47+08:00",
        "rebootCode": 3,
        "rebootMessage": "upgrade success",
        "runningTime": 761
      }
    ],
    "recordCount": 5
  }
}

```

```

},
"message": "ok",
"transmitTime": 3
}

```

For response example parameter descriptions, refer to the following table.

Parameter	Type	Description
code	integer	
data	object	
log	object[]	Item type: object
PowerOnTime	string	Boot time
ShutdownTime	string	Power outage time
rebootCode	string	-1: Running 0: Unknown reason reboot 1: Manual reboot 2: Network modification reboot 3: Web upgrade reboot 4: Software reset reboot 5: Hardware reset reboot 6: Configuration import reboot 7: Remote management configuration import 8: Remote management upgrade 9: Upgrade failure reboot 10: Multicast network configuration modification reboot 11: mssserver crash 12: avserver crash

Parameter	Type	Description
		13: lighttpd crash 14: Multi-device stitching mode change 15: Multiple 4G dial-up failures
runningTime	integer	
runningTime	string	
recordCount	integer	Number of restarts. Maximum display 1000.
message	string	
transmitTime	number	Processing time

Chapter 6. Services

Milesight provides customers with timely and comprehensive technical support services. End-users can contact their local dealer to obtain technical support. Distributors and resellers can contact Milesight directly for technical support.

Technical Support Mailbox: iot.support@milesight.com

Online Support Portal: <https://support.milesight-iot.com>

Resource Download Center: <https://www.milesight.com/iot/resources/download-center/>

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