VIGI
by tp-link

User Guide

Wired Camera Web Interface

This guide uses the VIGI PTZ5425 web page for demonstration.
Features and pictures may differ from your actual product.

Contents

About This Guide

This User Guide provides information for using and managing VIGI cameras via a web browser. It explains functions of VIGI cameras and shows you how to configure them.

Conventions

When using this guide, notice that:

- Features available in VIGI cameras may vary due to your region, device model, and firmware version. All images, steps, and descriptions in this guide are for demonstration purposes only and may not reflect your actual experience.
- The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute the warranty of any kind, express or implied. Users must take full responsibility for their application of any products.
- This guide uses the specific formats to highlight special messages. The following table lists the conventions that are used throughout this guide.

Underlined	Indicates hyperlinks. You can click to redirect to a website or a specific section.
Green	Indicates contents to be emphasized and texts on the web page, including the menus, tabs, buttons and so on.
>	The menu structures to show the path to load the corresponding page.
Caution	Reminds you to be cautious, and ignoring this type of note might result in device damage or data loss.
Note	Indicates information that helps you make better use of your device.

More Information

- For technical support, the latest version of the User Guide and other information, please visit https://www.vigi.com/us/support.
- The Quick Installation Guide can be found where you find this guide or inside the package of the product.
- To ask questions, find answers, and communicate with TP-Link users or engineers, please visit https://community.tp-link.com to join TP-Link Community.

Chapter 1

Getting Started

This chapter guides you on how to log in to the web UI of the VIGI camera:

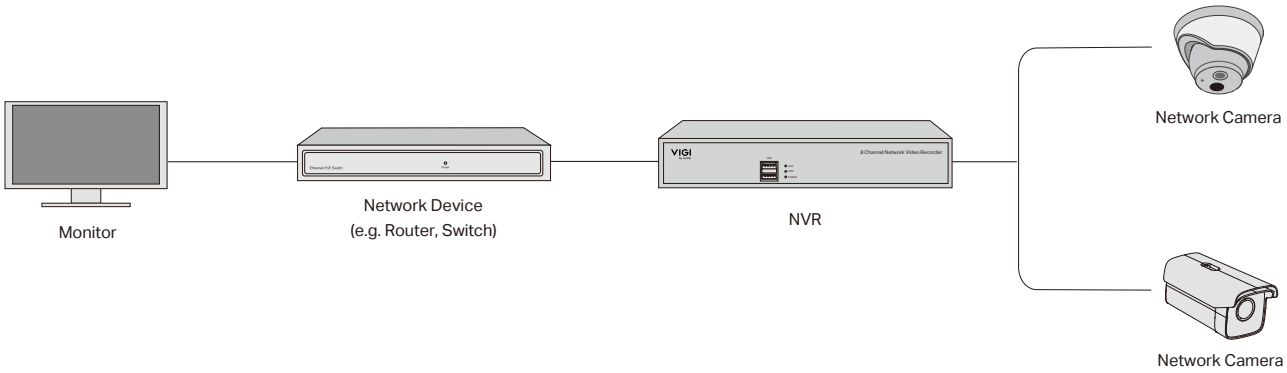
After the cameras are added to network, multiple methods are provided for you to monitor and manage cameras. You can manage and monitor the cameras remotely via the VIGI app or directly via a web browser. Check the support page of the product for more manuals at https://support.vigi.com/.

1. 1 Connect the Camera to Network

The camera works with an NVR for easier batch access and management. You can add cameras to network via an NVR.

1. Connect your cameras to the same network as your NVR (as shown below).
2. Power on your cameras.
3. Follow the NVR manual to add and activate your cameras.

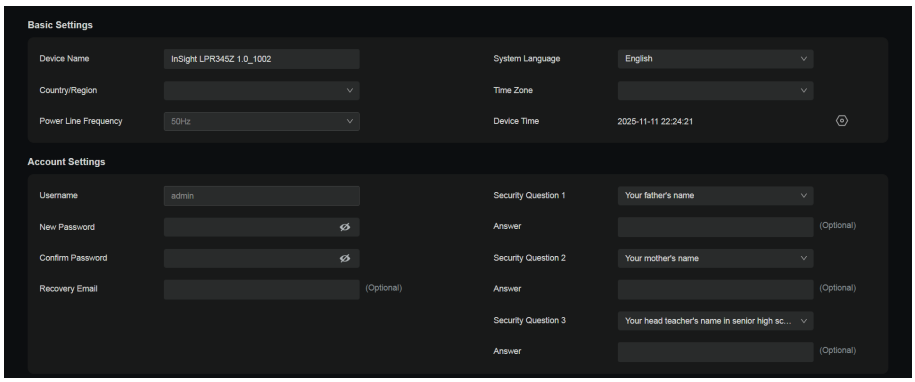
Note: You can follow the Quick Start Guide included in the package to mount and add cameras to your network.



1. 2 Access the Web Interface

With an intuitive user interface, it is easy to configure and manage the camera via a web browser. Follow the steps below to log in to the web UI of the camera for the first time.

1. Find the camera's IP address on your router's client page.
2. **On your local computer, open a web browser and enter https://camera's IP address (https://192.168.0.60 by default).**



3. When the login page appears, enter the default username admin or set up your own name. You may change it later in System Settings.
4. Configure Basic Settings:

Country/Region	Determines regional formats (date, time) and may affect certain functions.
Power Line Frequency	Select 50Hz or 60Hz to reduce image flickering based on local electrical standards.
System Language	Sets the interface language displayed in the web client.
Time Zone	Ensures recorded events and logs show accurate timestamps.
Device Time	Current system time used for all logs, video recordings, and event triggers.

5. In the New Password field, create a secure password, then re-enter it in Confirm Password.
6. (Optional) Enter a Recovery Email to receive password-reset information if needed.
7. (Optional) Set up Security Questions to enable additional account recovery options.
8. Click **Next** to save the settings and proceed to the main interface.

Chapter 2

Monitoring and Playback

With your camera's Live View and Playback features, you can access the camera's interface, view realtime footage, adjust display settings, and navigate essential controls. Additionally, you'll discover how to review recorded video and manage playback tools for efficient monitoring and security management. This chapter contains the following sections:

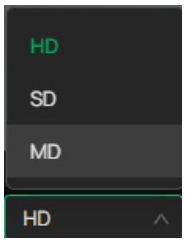
2. 1 Watch Live Video Feeds

The Live View page is the primary interface for real-time monitoring. It allows users to view live video streams, capture manual recordings or snapshots, and control camera movement and positioning for PTZ-enabled models.

To access the camera's live stream from a local computer:

1. Identify the camera's IP address (The default is 192.168.0.60) via your gateway's client list.
2. Open a web browser and enter https://[camera's IP address].
3. Log in using your custom username and password.
4. The interface will default to the Live View tab upon successful login.

Note: This is for demonstration only.

	Select the aspect ratio. 1x refers to the original window size. 4:3 refers to 4:3 window size. 16:9 refers to 16:9 window size. 100% refers to self-adaptive window size.
	**HD (High Definition):** This mode provides the maximum available resolution and bit rate for the clearest image quality, ideal for capturing fine details like faces or license plates. **SD (Standard Definition):** This mode uses a lower resolution and compressed data rate to ensure smooth video playback in environments with limited bandwidth or weak network signals. **MD (Medium Definition:** A balanced stream option (often referred to as the "Third Stream") that provides better clarity than SD while remaining more bandwidth-efficient than HD.
	**PTZ:** Click to enable or expand the PTZ control panel for motorized movement.
	**Screenshot**: Click to capture a screenshot.
	**Record:** Click to start or stop recording the live stream directly to your local computer.
	**Talk:** (Supported models only) Click and hold to speak through the camera's built-in speaker.
	**White Light:** Click to manually toggle the white light on or off to illuminate the scene or provide full-color video at night.

	**Digital Zoom**: Click to see more details of any area in the image.
	**Smart Frame:** After enabling the Smart Frame feature under Events, use this switch to choose whether to display detection frames on the current web preview screen.
	**Alarm:** (Supported models only) Click to trigger a 10-second siren and flashing light alert. Note: While most cameras include both sound and light, models with infrared-only lighting will trigger a sound alarm only.
	**Volume:** (Supported models only) Click to adjust the volume of the speaker.
	**Full Screen:** Click to change the live view image to the entire screen.
	**Zoom Out:** (Supported models only) Click to zoom out the live image.
	**Zoom In:** (Supported models only) Click to zoom in the live image.
	**Focus -:** (Supported models only) Adjusts the focal length to nearby objects. Use this to sharpen subjects close to the camera.
	**Focus +:** (Supported models only) Adjusts the focal length to distant objects. Use this to sharpen subjects in the background.
	**Aperture -:** (Supported models only) Reduces the lens diaphragm opening to decrease light intake.
	**Aperture +:** (Supported models only) Increases the lens diaphragm opening to improve visibility in low-light conditions.
	**Lens Initialization:** (Supported models only) Click to reset lens when long time zoom or focus results in blurred image.
	**Auxiliary Focus:** (Supported models only) Click to focus automatically.

For speed dome cameras (refer to Controlling Camera Movement (PTZ) for detailed operations):

	**Zoom:** Use the slider or the + / - buttons to adjust the focal length. Slide toward + to see distant objects in more detail or - to widen the field of view.
	**PTZ Speed:** Adjusts how quickly the camera rotates, tilts, or zooms. Higher values increase responsiveness for tracking fast-moving subjects, while lower values allow for precise positioning (The default is 4).

	**Manual Track:** Click a target's smart frame or drag a box to track a specific subject as it moves; if no target is detected, the camera zooms in on the area and resets to its original position after a short delay.
	**3D Positioning:** Drag a box from top-left to bottom-right to center and zoom in on an area; drag from bottom-right to top-left to center and zoom out. The camera will stop only after both the PTZ movement and zoom adjustment are fully complete, and it will not track further movement.
	**Quick Patrol:** Automatically initiates a continuous loop using the first eight configured presets to provide broad area coverage. If more than eight presets exist, only the first eight will be included in the sequence.
	**Quick Park:** Captures the current view as the new idle position and automatically saves it as a preset for the camera to return to during inactivity.
	**Preset:** Saves a specific location (pan, tilt, and zoom level). To create one, navigate to the desired view and click Save as Preset or press "S".
	**Patrol:** An automated path consisting of multiple presets. You must add at least 2 presets before you can create and run a patrol.
	**Pattern Scan:** Records a sequence of manual movements or preset calls, allowing the camera to precisely replay the entire path, including pans, tilts, and specific preset locations.

2. 2 Find and Play Recorded Footage

The Playback interface allows you to search, review, and export previously recorded footage stored on your camera's microSD card. You can examine historical events with granular control over playback speed and timing.

To configure which specific events trigger a recording, please refer to the Detecting Events and Alarms chapter.

2. 2. 1 Replay Video Files

Use Video Playback tab to review continuous or event-based video streams using a chronological timeline.

To review recorded footage, follow these steps:

1. Navigate to the Playback tab from the top navigation bar.
2. Select the desired Type and define your Time range using the calendar tool.

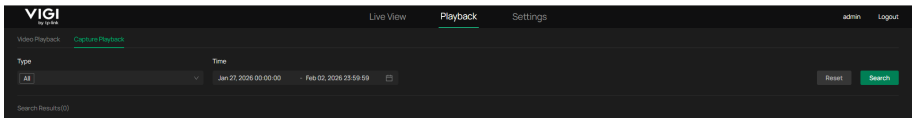
3. Click Search to populate the timeline or results list.
4. Use the Timeline at the bottom to scrub through video. Click  to start the stream.

	Hit to pause or resume the playback.
	**Speed Playback:** Increase the speed for fast-forward or decrease for slow-motion review.
	**Time Span:** Click to change the period of time between 10 minutes to 24 hours.
	**Screenshot:** Take manual snapshots for the live view window.
	**Record:** Click once to begin recording, and click again to end it; the recordings will be automatically saved to your designated path.
	**Digital Zoom:** Zoom in to get a closer look at the image for finer details; zoom out for a wider panoramic image.
	**Volume:** (Supported models only) Click to adjust the volume of the speaker.
	**Full Screen:** Click to change the live view image to the entire screen.

2. 2. 2 View Captured Snapshots

Use Capture Playback tab to search for and view still images (snapshots) captured by the system.

1. Go to **Playback** > **Capture Playback**.
2. Choose specific triggers from the Type dropdown menu.
3. Select the desired date and time range in the Time field.
4. Click **Search**. All matching snapshots will appear in the Search Results area below.



Chapter 3

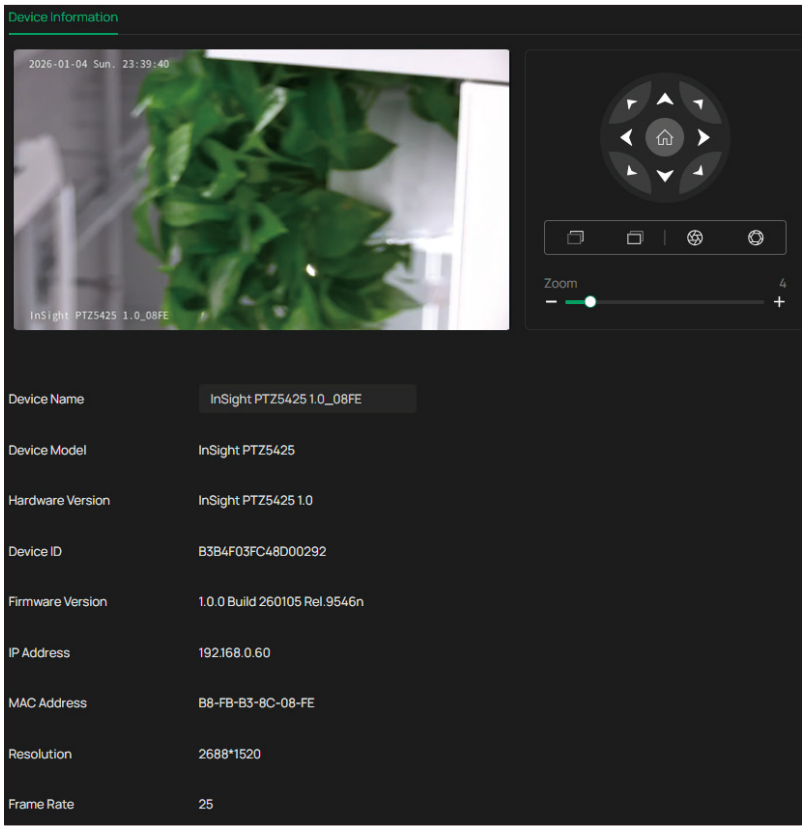
Monitoring Device Health

This chapter introduces how to check the system logs and view your device information on the web UI. This chapter contains the following sections:

3. 1 Check Device Status and Hardware Info

You can view basic information about the camera, including device model, firmware version, network information, stream information, and device QR code.

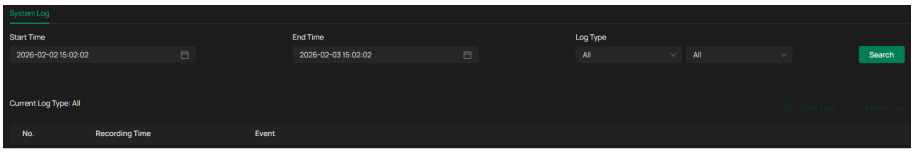
Go to **Settings** > **Information** > **Device Information** > **Device Information**.



3. 2 Review System Logs

The camera uses logs to record, classify, and manage system and device messages. You can search, view, and export the logs.

1. Go to **Settings** > **Information** > **System Log** > **System Log**.
2. Specify search conditions, including the Start Time, End Time, and Log Type, and click **Search**. The filtered logs that match the search conditions will appear in the table.



Start/End Time	Specify a time range to filter the logs based on the recording time.

Log Type	Select a type from the drop-down list to filter the logs. **All:** All types of logs. **Alarm:** Alarms triggered by events, such as tampering, line crossing, and area intrusion. **Exception:** Abnormal events that may influence the camera's functions, such as video signal loss and hard drive errors. **Operation:** Actions that take place on the camera, such as login and upgrade. **Information:** General status updates and device metadata.
Clear Logs	Delete all logs.
Export Logs	Save log files to your computer.

Chapter 4

Optimizing Image and Audio

This chapter introduces how to change the camera display settings and camera streams settings. It contains the following sections:

4. 1 Adjust Image Quality and Display

You can adjust image features according to your needs.

4. 1. 1 Fine-tune Brightness, Contrast, and Color

1. Go to **Settings** > **Camera** > **Display** > **Image**.
2. Configure the following parameters.

Rotation	Choose to turn the live view image by 0, 90 or 270 degrees on your display. When you select **Off**, the image displays normally. Note: Rotation function is not featured in speed dome cameras.
Mirror	Select the mirror mode as needed. When you select **Off**, the image displays normally. By choosing **Left-Right**, you mirror the image on the vertical axis. By choosing **Up-Down**, you flip the image on the horizontal axis. By choosing **Central**, you rotate the image by 180 degrees around its center.
General Settings	
Power Line Frequency	Set the Power line frequency consistent with local utility settings to eliminate image flickering associated with fluorescent lights.

Night Vision Mode

Smart Focus-Based (Available only for speed dome cameras):

At zoom levels below 3x, the camera utilizes Human/Vehicle Triggered Full-Color with human/vehicle detection. At 3x and above, it automatically switches to IR mode, during which white light cannot be enabled.

Human/Vehicle Triggered Full-Color: The camera switches to the full-color mode once it detects a person or vehicle.

Note: For speed dome cameras, Human/Vehicle Triggered Full-Color remains disabled during active Tracking, even if a human or vehicle is detected.

Auto Color: The camera turns on or off the white supplement light according to the light condition of the environment.

Auto IR: The camera turns on or off the IR supplement light according to the light condition of the environment.

White LED Always On: White supplement light is on.

IR Always On: IR supplement light is on.

Off: Supplement light is off.

Custom: Select it to configure **Day/Night Switch** and **Illuminator**.

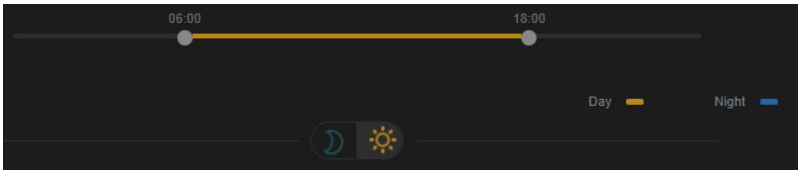
Switch Day and Night Settings

Day/Night Switch

Select a method to switch the image settings of day and night.

Unified: The camera applies the same image settings throughout a day.

Scheduled: The camera switches the image mode of day and night at your specified time. If you select this method, adjust the slide bar to specify the switch time.



Auto: The camera switches the image mode of day and night automatically according to the light condition of the environment.

Image Scene	Select the desired image style to optimize visual performance based on your environment. **Default:** The standard image profile balanced for most monitoring scenarios. **Bright:** Enhances contrast and vividness for a more dynamic and clear visual effect. **Custom:** Allows for manual configuration of all image parameters. **Low Illuminator (Speed Dome Cameras Only):** Optimizes image clarity in dark environments via internal ISP processing without changing external parameter sliders. Note: • Selecting Default or Bright will automatically synchronize the values within the "Image Adjustment" module; other configuration sections remain unchanged. • To ensure peak performance, Exposure Settings and WDR are automatically managed and hidden from the menu while this mode is active.
Image Adjustment	
Brightness	Increasing the value will lighten the image.
Contrast	Increasing the value will increase the difference between the brighter and darker parts.
Saturation	Increasing the value will enrich the color of the image.
Sharpness	Increasing the value will sharpen the image.
Exposure Settings	

Exposure	Select the exposure mode as needed. **Auto:** The camera adjusts the exposure automatically. **Manual:** Image exposure is fixed at a user-defined level. Adjust the Gain slider and select specific values for both Shutter Speed and Aperture. Brighter images are achieved by increasing the gain, selecting a slower shutter speed, or utilizing a larger aperture. Note: Manual Aperture adjustment is available only for speed dome cameras. **Aperture Priority:** (Only for some models) The camera automatically adjusts the shutter speed and gain while prioritizing a user-defined Aperture value. This mode is ideal for controlling depth of field and consistent light intake. **Exposure Priority:** (Only for some models) The camera automatically adjusts the aperture and gain while prioritizing a user-defined Shutter Speed (Exposure Time). This mode is ideal for motion blur control and capturing fast-moving subjects. **Low Motion Blur:** Prioritizes a fast shutter speed to reduce "ghosting" or trailing behind moving targets. While this may result in a slightly darker image in low light, it ensures that moving objects (like license plates or faces) remain sharp and identifiable. **Anti-flicker:** This function minimizes influences caused by flickering.
Backlight Settings	
BLC Area	BLC (Backlight Compensation) optimizes the camera to increase light exposure for darkened areas and helps you to see details more clearly. Select an area to compensate light. If you select **Custom**, draw a blue rectangle on the live view image as the BLC area.
WDR	WDR (Wide Dynamic Range) can improve the image quality under high-contrast lighting conditions where both dimly and brightly lit areas are present in the field of view. If you select **On**, the camera balances the light of the brightest and darkest areas automatically. You may set the gain value, or the sensor's sensitivity, manually.
HLC	HLC (Highlight compensation) can compensate for brighter parts of your image, maintaining detail in brighter parts of the image that would otherwise be blown out.
White Balance	

White Balance	White balance is a process of removing unrealistic color casts, so that objects which appear white in person are rendered white in the image. Auto: The camera adjusts the color temperature automatically. Locked: The camera keeps the current color settings all the time. Daylight/Natural Light/Incandescent/Warm Light: The camera adjusts the color temperature to remove the color casts caused by the corresponding light. Custom: Drag the slide bar to configure the color temperature, and the camera keeps the settings all the time. You may specify the red/blue gain values separately. The higher the value is, the more intense the red/blue color is.
Image Enhancement	
Prevent IR Overexposure	Select the standard mode or enhanced mode or manually adjust the brightness of image. Standard Mode: In this mode, the brightness of the infrared light will be automatically adjusted to prevent overexposure. The brighter the environment, the dimmer the infrared supplement light. Enhanced Mode: This mode intensifies its protection against overexposure, by darkening the bright areas of the image. Manual: Manually adjust the brightness of image. The higher the value is, the dimmer the image gets. Note: For speed dome cameras, IR brightness is controlled via the IR Light Intensity parameter (see the following section) instead of these standard modes.
Space DNR Level	Space Digital Noise Reduction Level controls the reduction of static noise in individual frames. Drag the slider to set a value between 0 and 100. Higher values apply stronger noise reduction, which may smooth image details.
Time DNR Level	Temporal Noise Reduction filters out flashing or flickering noise by comparing pixel changes across consecutive video frames to improve clarity in low-light conditions. Drag the slider to set a value between 0 and 100. Higher values provide stronger noise suppression and a smoother image, though very high settings may cause slight motion blur for fast-moving subjects.

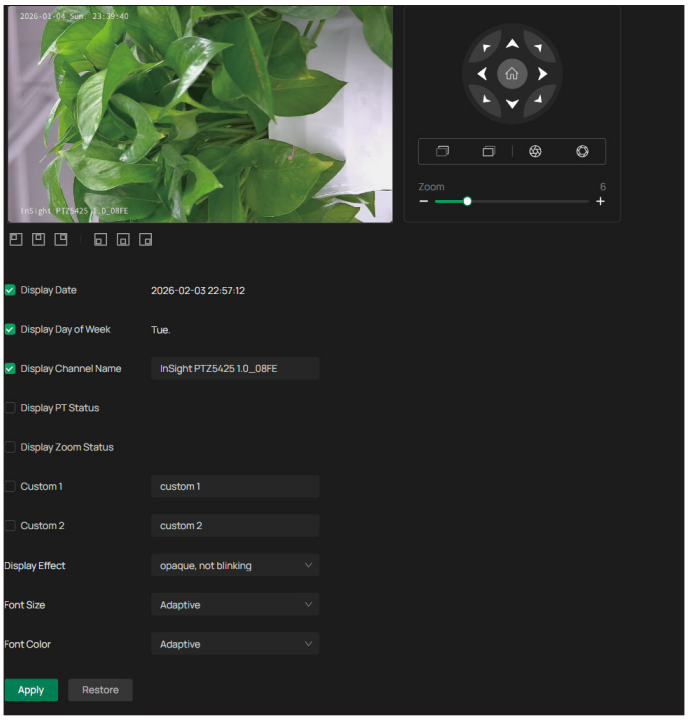
Defog	Available only for speed dome cameras. Enables or disables the algorithm designed to improve image contrast and clarity in environments obscured by fog, smog, or heavy mist.
Image Stabilization	Available only for speed dome cameras. Select EIS (Electronic Image Stabilization) to minimize video blurring and "shaking" caused by physical camera vibrations; select **Off** if the camera is mounted on a completely stable surface. Note: EIS is automatically suspended during panning, tilting, or zooming and will resume once the camera reaches a static position.
Illuminator Settings	
Illuminator Switch	Select a mode to decide the usage of supplement light. The available options vary due to the mode set in **Night Vision Mode** and **Day/Night Switch**. **Auto**: The camera turns on the light once it detects the environment gets dark, and keeps the light off in a sufficiently lit environment. You can customize the values in **Sensitivity** and **Delayed Switch**. **Scheduled**: Specify the time to turn on and off the light. Drag the slider to change between the day and night mode. **Always On:** The illuminator remains on at all times. **Always Off:** The illuminator remains off at all times. **Note:** This setting is only available when Night Vision Mode (under General Settings) is set to Custom.
Illuminator Type	**Smart Focus-Based:** At zoom levels below 3x, the camera uses Human/Vehicle Triggered Full-Color with human/vehicle detection. At 3x and above, it automatically switches to IR mode, where the illuminator intensity and angle synchronize with the lens's focal length. This prevents "overexposure" of close-up subjects and ensures adequate illumination for distant subjects. **Infrared Lighting:** Uses non-visible infrared light to provide clear black-and-white images in total darkness. This mode is discreet and does not disturb the environment. **Human/Vehicle Trigger Full-Color:** The camera turns on the full-color mode once it detects a person or vehicle. **White Light Illuminator:** Uses visible white light to provide full-color images at night. This also serves as a visual deterrent to potential intruders. With this selected, you may customize **White Light Intensity** parameters.
Sensitivity	Decide the ambient light intensity that can trigger the switch of the light. The lower the value is, the easier it is to trigger the supplement light.

Delayed Switch	Decide how long the camera waits to turn on or off the light when the ambient light reaches the threshold to trigger the switch.
White Light Intensity	Smart White Light-Standard: The camera illuminates with a standard white light to provide consistent visibility in low-light conditions. Smart White Light-Soft: The camera illuminates with a softer, warmer white light to provide consistent visibility while reducing glare. Manual: Drag the slide bar to manually adjust the intensity of the white light. The light gets brighter when the value increases.
Always Full-Color at Live View	The camera will automatically turn on Full-Color Night Vision when you stream Live Video.
IR Light Intensity	Available only for speed dome cameras. IR Light Intensity allows for precise control of the infrared output. In Auto mode, the camera adjusts intensity based on environmental light levels. In Manual mode, users can define specific output levels for two ranges: Near Light Intensity Level: Adjusts the brightness for subjects close to the lens to prevent overexposure. Distant Light Intensity Level: Adjusts the brightness for far-field subjects to ensure sufficient visibility at a distance.
Focus	
Focus Mode	Select the lens adjustment method to ensure the target remains clear and sharp. Auto: The camera automatically adjusts the focus as the scene or lighting changes to maintain a clear image. Manual: You manually adjust the lens's focus to achieve a sharp image for a specific target. Semi-auto: The camera triggers autofocus only when zoom, pan, tilt, or mode transitions (etc.) occur, but remains fixed otherwise. This prevents unnecessary "focus hunting" in static scenes, ensuring image stability.
Min. Focus Distance	Sets the minimum distance at which the camera will attempt to focus. Defining this prevents the lens from hunting for focus on objects that are too close, such as raindrops or dust on the lens cover.
Restore	Revert to factory default settings.

4. 1. 2 Customize On-Screen Display (OSD) Text

You can configure OSD (On Screen Display) to edit the information displayed in Live View and recordings.

1. Go to **Settings** > **Camera** > **Display** > **OSD**.
2. Configure the following parameters, and click **Apply**.

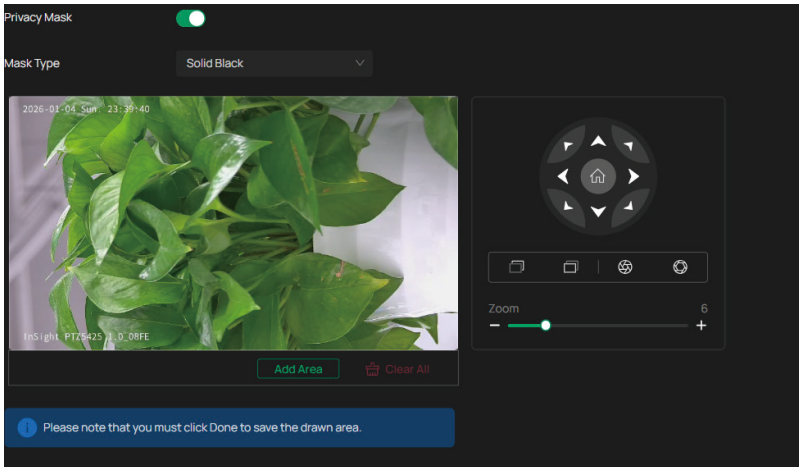


Date	Check to display the date on the image.
Week	Check to display the week on the image.
Display Channel Name	Check to display the channel name on the image. You can also check **Custom** and specify a text to display.
Display PT Status	When enabled, the camera's current Pan (horizontal angle) and Tilt (vertical angle) coordinates are overlaid on the live video.
Display Zoom Status	When enabled, the current Zoom magnification level is displayed on the screen.
Display Effect	Set the display effect of the image.
Font Size	Set the font size.
Font Color	Set the font color.
Restore	Revert factory default settings.

4. 1. 3 Block Out Private Areas (Privacy Mask)

Privacy Mask conceals parts of the image from view and protects your privacy. The area you set cannot be recorded and monitored.

1. Go to **Settings** > **Camera** > **Display** > **Privacy Mask**.
2. Enable **Privacy Mask**.
3. Click **Add Area** below the preview screen to generate a new masking square.
4. Drag the square on the screen to set its location, or pull the corners to adjust its size.
5. Choose between Solid Black or Mosaic to determine the visual effect of the masked area.



6. To remove a certain privacy area, select it and click **Delete**.
7. To remove all privacy areas, click **Clear**.
8. Click **Add** to automatically add an area on the center of the screen.
9. Click **Apply**.

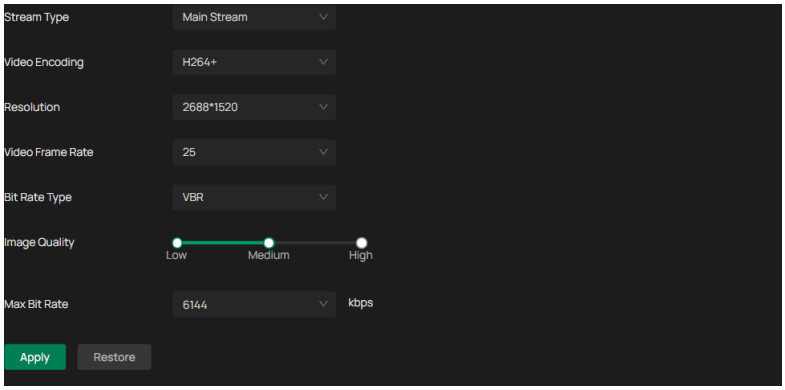
4. 2 Manage Video and Audio Streaming

In Stream Settings, you can configure video stream levels, change the audio output settings and ROI (Region of interest) level.

Video stream levels decide the video quality in Live View and recording, and you can adjust the video quality of certain area by specifying the ROI level.

4. 2. 1 Set Resolution and Bitrate

1. Go to **Settings** > **Camera** > **Stream** > **Video**.



2. Configure the following parameters.

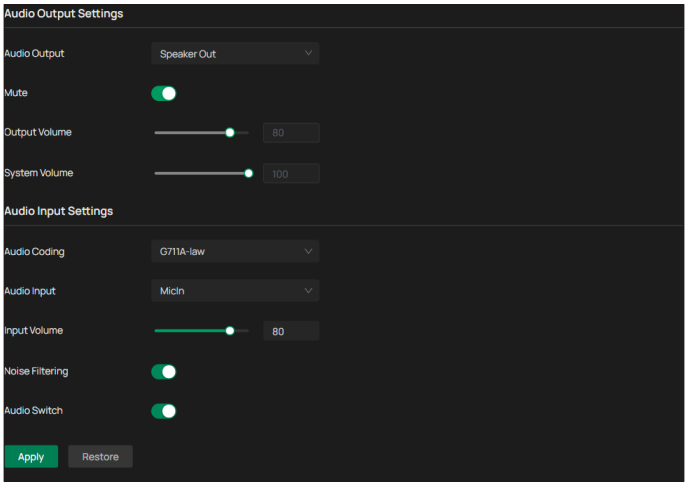
Stream Type	Main Stream is the primary video feed used for recording and provides the highest video quality. It has higher definition and higher bandwidth than substream. Substream is a secondary video feed that is used mainly for remote viewing from computers from outside the network. Third Stream is an additional independent feed that allows for a third set of resolution and bit rate settings. It is ideal for specialized tasks, such as third-party platform integration, AI analysis, or multi-screen monitoring setups that require a balance between quality and performance.
Video Encoding	Select the encoding type of the stream. H.265 (HEVC): The most efficient encoding standard. it significantly reduces file size and bandwidth requirements compared to H.264 while maintaining the same high video quality. H.264 (AVC): A widely compatible standard that provides good video quality and is supported by almost all legacy playback devices and browsers. MJPEG (Motion JPEG): Available when the Third Stream is enabled. Unlike H.264/H.265, which compress data across multiple frames, MJPEG treats every frame as an individual high-quality JPEG image.
Resolution	The screen displays images more clearly when the resolution increases.
Video Frame Rate	The video is more fluent when the rate increases.
Bite Rate Type	VBR: The bit rate changes with the image within Maximum Bit Rate. CBR: The bit rate is Maximum Bit Rate all the time.
Image Quality	When VBR selected as the bit rate type, set the video quality as high, medium, or low.

Max Bit Rate	When VBR selected as the bit rate type, specify the upper limit of bit rate. When CBR selected as the bit rate type, specify the bit rate.
Restore	Revert to factory default settings.

3. Click Apply.

4. 2. 2 Configure Audio Input and Output (Only for some models)

1. Go to Settings > Camera > Stream > Audio.
2. Configure the following parameters, and click Apply.

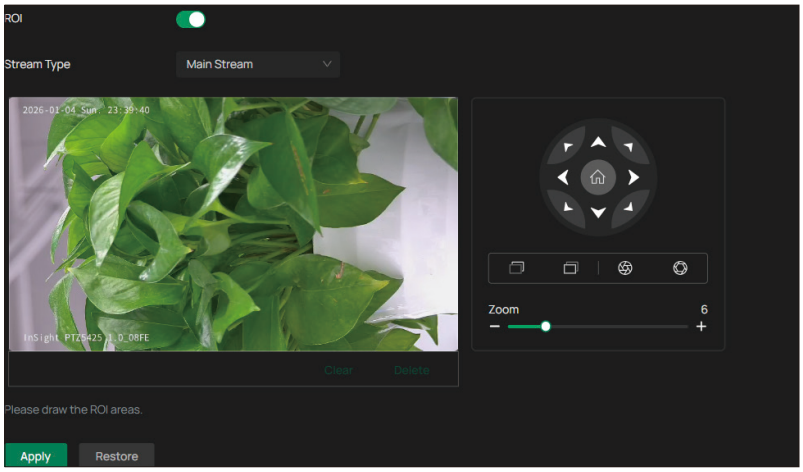


Mute	Silence all live audio playback from the device.
Output Volume	Control the loudness of the built-in speaker.
System Volume	Set the intensity of audible alerts and sirens.
Audio Coding	Define the compression format for sound data.
Audio Input	Choose the source for capturing sound.
Input Volume	Gain control for the connected microphone or source.
Noise Filtering	Lower the noise from the video.
Audio Switch	Turn on the microphone.
Restore	Revert to factory default settings.

4. 2. 3 Focus Quality on Specific Areas (ROI)

ROI (region of interest) concentrates on delivering high quality video from interested region. In ROI, you can configure the interest level of a specified area in each channel. The level 1–6 is ranked from low to high. The higher the ROI level, the better image quality.

1. Go to **Settings** > **Camera** > **Stream** > **ROI**.
2. Select the stream type and enable ROI. Draw an area on the preview screen. Drag to adjust its size and location. Specify the ROI level and click **Apply**.



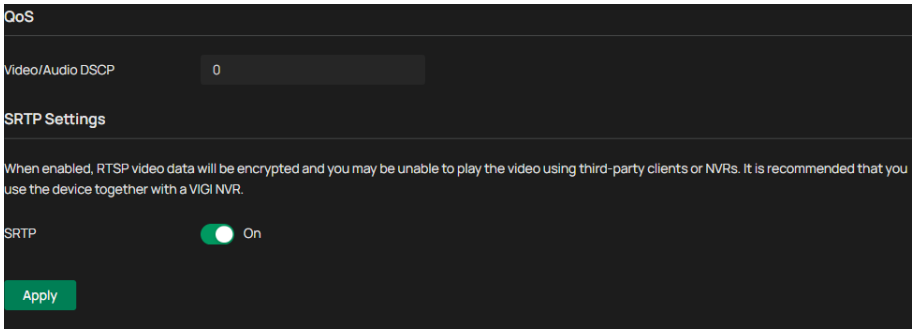
4. 2. 4 Access Advanced Settings

In Advanced Settings, you can set QoS and SRTP.

QoS (Quality of Service) can help improve the network delay and network congestion by setting the priority of data sending.

SRTP (Secure Real-time Transport Protocol) is a Real-time Transport Protocol (RTP) internet protocol, intended to provide encryption, message authentication and integrity, and replay attack protection to the RTP data in both unicast and multicast applications.

1. Go to **Settings** > **Camera** > **Stream** > **Advanced Settings**.



2. Set Video/Audio DSCP.

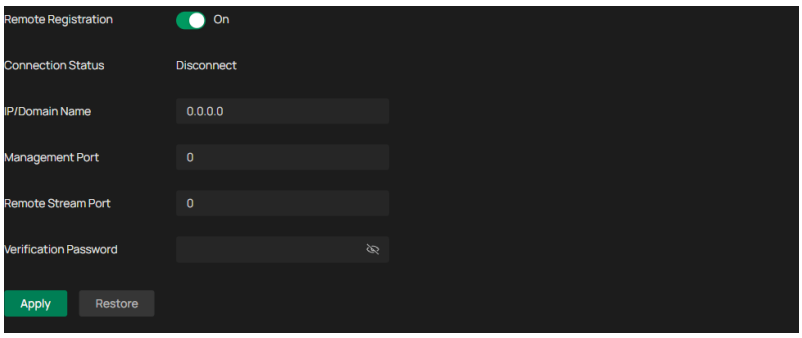
   Network can identify the priority of data transmission. The bigger the DSCP value is, the higher the priority is.

3. Enable SRTP if needed. When enabled, RTSP video data will be encrypted and you may be unable to play the video using third-party clients or NVRs. It is recommended that you use the device together with a VIGI NVR.
4. Click Apply.

4. 3 Register Remote Devices

The Remote Registration feature allows the camera to connect to a remote management platform or server. This is typically used for centralized monitoring and management across different network segments.

Follow these steps to register the device to a remote server:



1. Toggle the Remote Registration switch to On.
2. In the IP/Domain Name field, enter the static IP address or the Fully Qualified Domain Name (FQDN) of the destination server.
3. Configure Ports:
   1) Management Port: Enter the port number used for device management communication (assigned by the server).
   2) Remote Stream Port: Enter the port number designated for video data transmission.
4. Enter the registration password required by the remote server in the Verification Password field.
5. Click Apply.

Parameter	Description
Connection Status	Displays the current real-time connection state.
IP/Domain Name	The network location of the remote management host.
Management Port	The communication port for control commands.
Remote Stream Port	The communication port for streaming video/audio data.
Verification Password	The security key used to authenticate the camera with the remote server.

Note: If the Connection Status remains "Disconnect" after clicking Apply, verify your network gateway settings and ensure the specified ports are open on the server-side firewall.

Chapter 5

Controlling Camera Movement (PTZ)

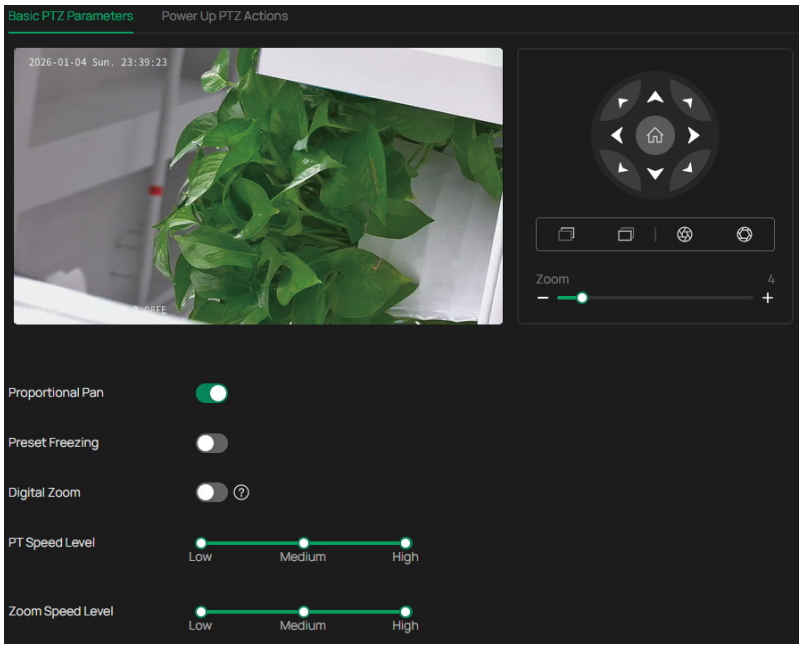
This chapter provides comprehensive instructions for configuring the camera's Pan-Tilt-Zoom (PTZ) capabilities, covering manual control calibration, automated power-on and idle behaviors, movement boundary restrictions, intelligent target tracking, and synchronization with external serial controllers or time-based task schedules.

5. 1 Set Up Movement Parameters

The PTZ Settings interface allows users to fine-tune the mechanical movements of the camera and manage how the device behaves upon reboot. Through the Basic PTZ Parameters and Power Up PTZ Actions tabs, operators can balance control precision with automated recovery protocols.

5. 1. 1 Basic PTZ Parameters

1. Go to **Settings** > **PTZ** > **General PTZ Settings** > **Basic PTZ Parameters**.



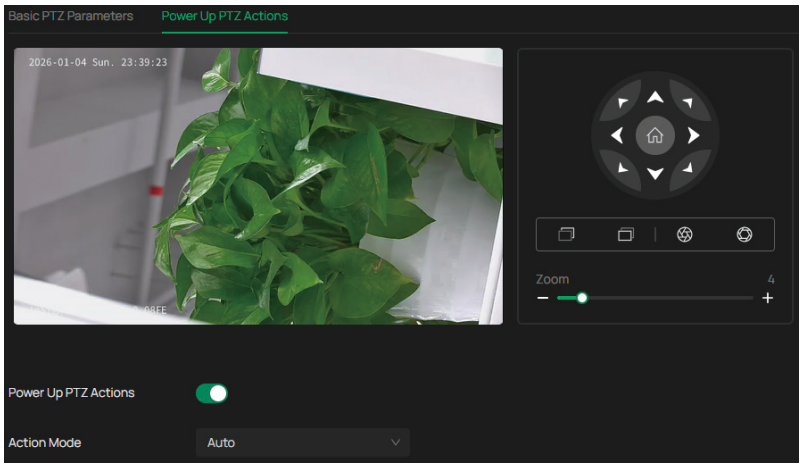
2. Use the Directional Pad to manually tilt or pan the camera.
3. Adjust the Zoom slider to narrow or widen the field of view.
4. (Optional) Click the Focus or Aperture icons to refine image clarity and light exposure.

Proportional Pan	Automatically reduces pan and tilt speed as the zoom level increases to ensure precise manual control. This applies only to continuous manual movement and does not affect the speed of automated tasks like calling Presets or Patrols.
Preset Freezing	Freeze the live image while the camera moves between presets to avoid displaying blurred motion.
Digital Zoom	Enable software-based magnification once the optical limit is reached.
PT Speed Level	Set the manual rotation speed of the camera (Low, Medium, or High).
Zoom Speed Level	Set how quickly the lens transitions between focal lengths.

5. 1. 2 Power Up PTZ Actions

The Power Up PTZ Actions configuration ensures the camera automatically resumes a specific monitoring routine after a reboot or power restoration. This eliminates the need for manual repositioning and maintains consistent surveillance of critical areas.

1. Go to **Settings** > **PTZ** > **General PTZ Settings** > **Power Up PTZ Actions**.



2. Toggle the Power Up PTZ Actions switch to ON.
3. Select the desired Action Mode from the drop-down menu:

Auto	The camera automatically resumes the task it was performing for at least 30 seconds prior to power loss. This includes returning to a specific position or resuming a manual Patrol/Pattern. Note: Tasks triggered by "Tracking Schedule" or "Park" are not recorded for recovery.
Preset	The camera moves to a specific pre-defined location. (Requires ID selection)
Patrol Scan	The camera begins a specific sequence of presets. (Requires ID selection)
Pattern Scan	The camera repeats a specific recorded movement path. (Requires ID selection)

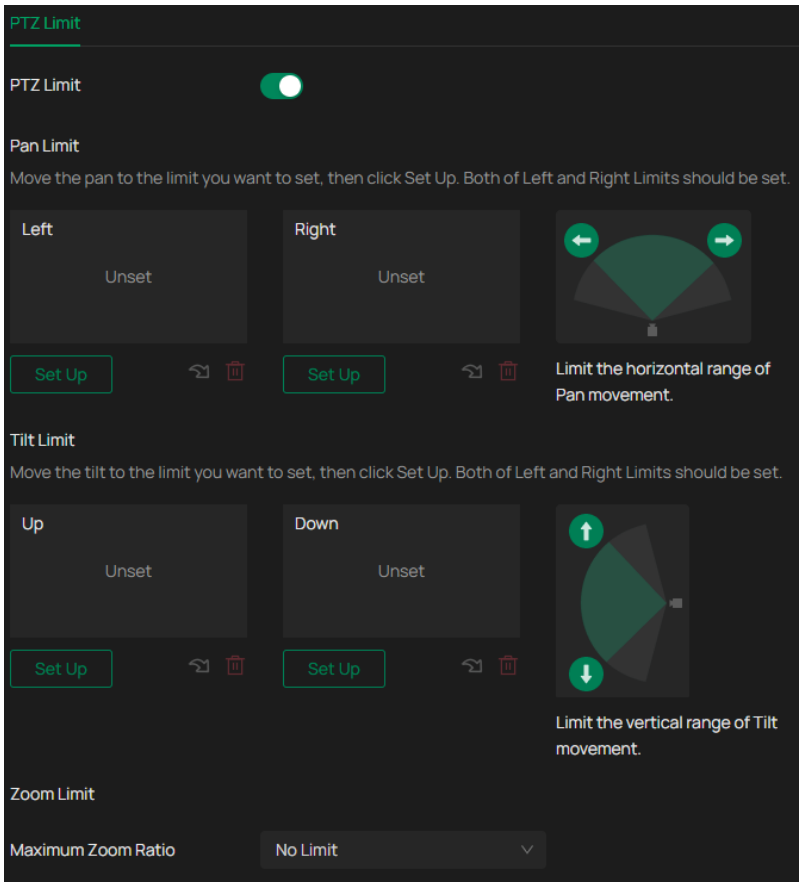
5. Click **Apply**.

5. 2 Define Physical Movement Limits

The PTZ Limit configuration allows you to define the mechanical boundaries for the camera's pan, tilt, and zoom movements. Restricting these ranges prevents the camera from monitoring unnecessary areas or hitting physical obstructions.

1. Go to **Settings** > **PTZ** > **PTZ Limit**.

Caution: Enabling limits may restrict manual control, impact the accuracy of preset thumbnails, and limit the range of Auto-tracking or other automated tasks.



2. Toggle the PTZ Limit switch to ON.
3. Set Pan Limits (Horizontal):

   1) Use the PTZ controls to move the camera to your desired Left boundary and click **Set Up**.

   2) Move the camera to your desired Right boundary and click **Set Up**.

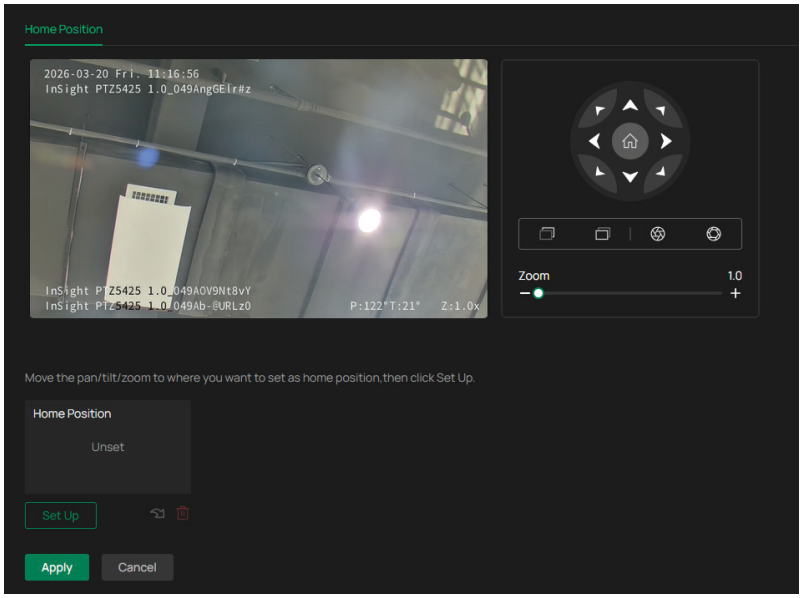
   Note: If the Left and Right limits are set in reverse order, the active movement area will also be reversed.
4. Set Tilt Limits (Vertical): Move the camera to the desired Up and Down boundaries and click **Set Up** for each. The camera will only operate within this vertical window.
5. Set Maximum Zoom (Optical Only): Adjust the Zoom Ratio to the maximum desired magnification level. This limit applies only to the camera's optical zoom range.
6. Click **Apply**.

5. 3 Set the Default Home Position

The Home Position serves as the primary reference point for your camera's coordinate system. You can define this position as a high-priority monitoring area that can be quickly recalled through manual commands or integrated into automated functions such as Park actions.

Follow these steps to define or modify the camera's default position:

1. Go to **Settings** > **PTZ** > **Home Position**.

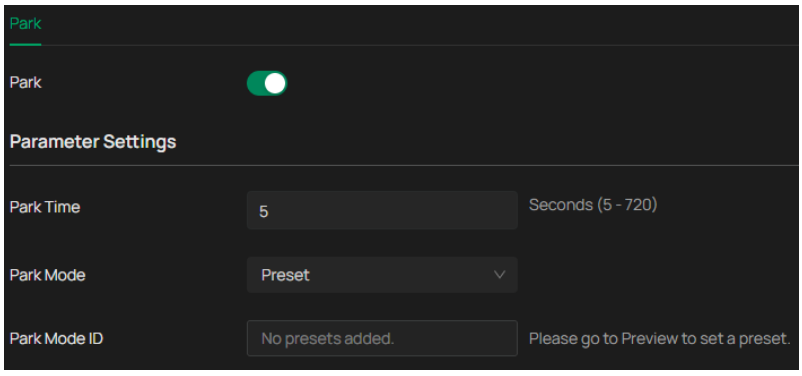


2. Click **Set Up** located beneath the Home Position status box.
3. Click **Apply**.

5. 4 Automate Idle Actions (Park Action)

The Park feature allows the camera to automatically initiate a predefined action (such as moving to a preset or starting a scan) after it has remained inactive for a specified duration. This ensures the camera returns to a productive monitoring state if an operator forgets to manually resume a routine after taking manual control.

1. Go to **Settings** > **PTZ** > **Park**.



2. Toggle the Park switch to the right to activate the feature.
3. Enter a value in the Park Time field to define how long the camera must be idle before the action begins.
4. Choose the specific type of action the camera should perform from the Park Mode drop-down menu (e.g., Preset, Patrol Scan, or Pattern Scan).

5. Select the specific ID for the chosen mode in the Park Mode ID field.

Note: If no tasks are available, you must first configure them in the Preview interface.

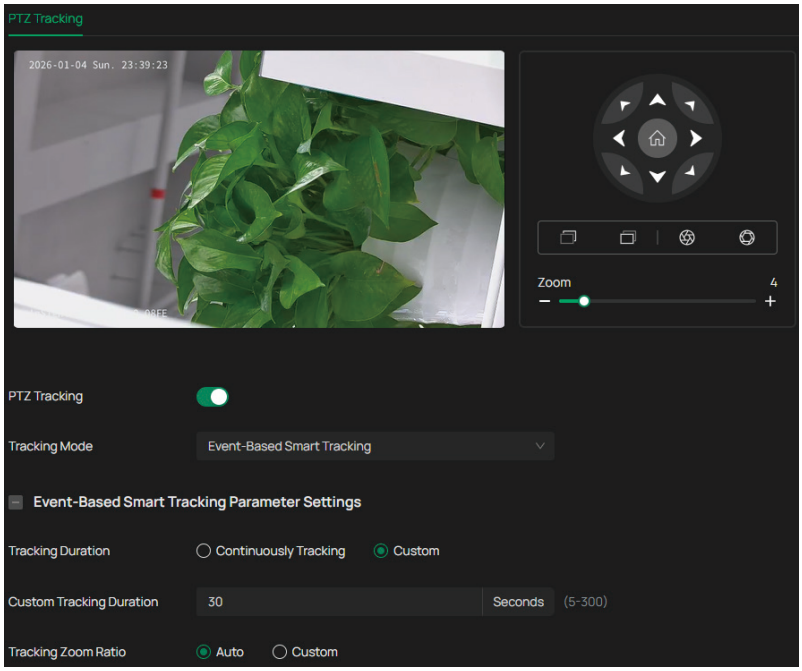
6. Click Apply.

5. 5 Enable Automatic Target Tracking

The PTZ Tracking feature enables your camera to automatically follow moving objects within its field of view. Once a target is detected, the camera maintains visual contact by dynamically adjusting its pan, tilt, and zoom positions.

In addition to autonomous movement, you can configure Linked Events to trigger specific actions when tracking is activated. These linked responses provide an integrated security layer to deter intruders while the camera maintains its focus on the target.

1. Go to Settings > PTZ > PTZ Tracking.



2. Toggle the PTZ Tracking switch to the right.
3. Select tracking mode:
   1) Event-Based Smart Tracking: Tracking triggered by specific intelligent events.
   2) Auto Tracking: Provides general automated tracking of moving targets detected within the monitoring area.

■ Event-Based Smart Tracking

Tracking Duration	Determines if the camera follows a target until it is lost or for a set period.

Custom Tracking Duration	The specific time limit for a tracking event, ranging from 5 to 300 seconds.
Tracking Zoom Ratio	Controls whether the camera automatically zooms in on targets (Auto) or uses a manual zoom setting (Custom). Auto: The camera automatically adjusts the zoom level based on the target's size and distance to maintain optimal framing. Custom: You can manually define a maximum magnification limit for tracking. For example, setting this value to 10 restricts the camera to an optical zoom range between 1 and 10 while following a target.

4. Select the specific smart events that will initiate tracking.

   Caution:

   - You must first enable and configure the desired Smart Events under Settings > Event > Smart Event. If an event is not enabled there, it cannot be selected for tracking.
   - To support linked tracking, the Human/Vehicle Enhancement (AI filtering) must be enabled for each event. Smart events that do not have this feature active will not support automatic PTZ tracking.

■ Auto Tracking

Object Classification	Select the target types the camera should track. You can choose to track only humans, only vehicles, or both.
Tracking Priority	None: The camera tracks the first detected target regardless of its classification. Human First: If multiple targets are present, the camera prioritizes tracking human targets. Vehicle First: If multiple targets are present, the camera prioritizes tracking vehicle targets.
Tracking Duration	Continuously Tracking: The camera follows the target until it exits the field of view or is lost. Custom: Define a specific time limit (in seconds) for tracking. After this time expires, the camera returns to its original position.
Tracking Zoom Ratio	Auto: The camera dynamically adjusts magnification to maintain optimal framing of the target. Custom: Sets the maximum allowable magnification for tracking. For example, a value of 10 allows the camera to zoom dynamically within a range of 1 to 10 times.

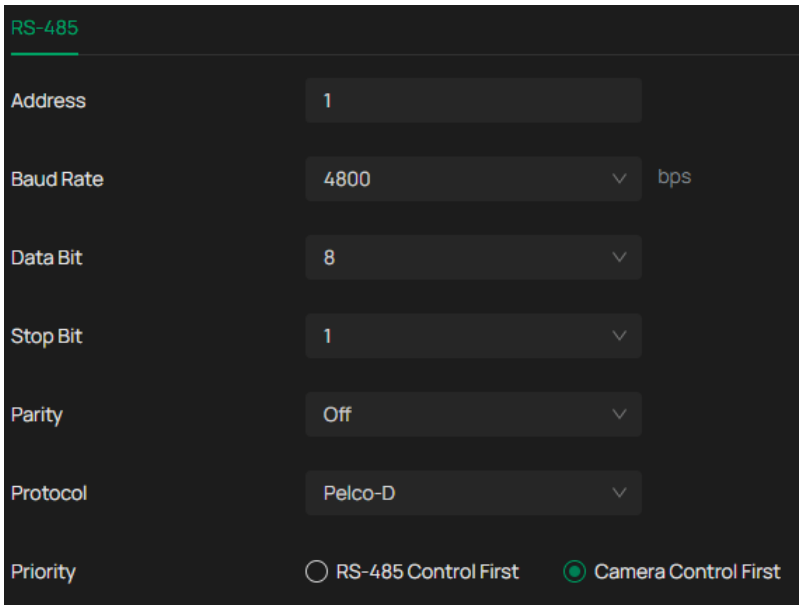
5. Define the tracking schedule. Use the Tracking Schedule grid to specify active hours for the tracking feature.

6. Check the Record box under Processing Mode to force the device to start local recording automatically whenever a tracking event is triggered.
7. Click Apply.

5. 6 Configure Serial Communication (RS-485)

The RS-485 settings allow the camera to communicate with external control devices, such as analog keyboards or PTZ controllers, using serial communication protocols. This section ensures that the physical serial port parameters of the camera match those of the connected controller for seamless command transmission.

1. Go to Settings > PTZ > RS-485.



2. Enter the unique identification number for the camera in the Address field.
3. Follow these steps to synchronize the camera with an external RS-485 controller:

Baud Rate	Higher rates (e.g., 9600+) offer faster response but are more susceptible to interference over long cables.
Data Bit	Standard PTZ protocols typically require 8 bits.
Stop Bit	Use 1 (default) for most modern controllers; 2 is used only for specific legacy hardware requirements.
Parity	Set to Off (default) unless your specific hardware controller requires parity checking for error detection.
Protocol	Use Pelco-D or Pelco-P for most industry-standard keyboards. Use Auto if you want the camera to attempt to detect the incoming command type.

Priority	Choose RS-485 Control First if the physical joystick should override web-based users. Choose Camera Control First (default) if web/app control is the primary management method.

4. Click **Apply**.

5. 7 Schedule Automated Tasks

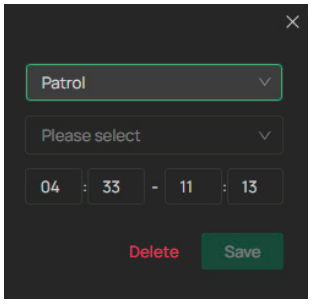
The Scheduled Task feature allows the camera to perform specific PTZ routines, such as Patrols, Patterns, or moving to Presets, automatically during predefined time slots. This ensures systematic surveillance coverage without requiring manual operator input.

1. Go to **Settings** > **PTZ** > **Scheduled Task**.

2. Toggle the Recording Schedule switch to the right.
3. Click one of the task category buttons (Patrol, Pattern, or Preset) to define which type of action will be scheduled.
4. Click and drag across the 24-hour timeline for each day to highlight the desired active periods.

   Note:

   - You can configure a maximum of 24 segments per day.
   - Once a scheduled task segment ends, the camera will automatically return to the original position it occupied immediately before the task started.



5. Select Patrol, Pattern, or Preset from the drop-down menu and choose the corresponding ID number for the selected mode.
6. Use  at the far right of any day's row to replicate that specific schedule to other days of the week.
7. Click Apply.

Chapter 6

Detecting Events and Alarms

This chapter guides you on how to configure the event settings and alarm actions when your cameras detect different types of events. VIGI camera monitors your pre-defined areas and you'll be automatically alerted to any suspicious activity in your home and office. This chapter includes the following sections:

6. 1 Create Arming Schedules and Response Actions

Arming schedule is a customized time period in which the device performs certain tasks. Linkage is the response to the detected certain incident or target during the scheduled time. This configuration is optional.

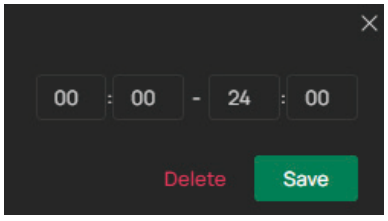
1. Go to **Settings** > **Event**, and locate Arming Schedule and Processing Mode in the related event interface.

2. Drag the time bar to draw desired valid time.

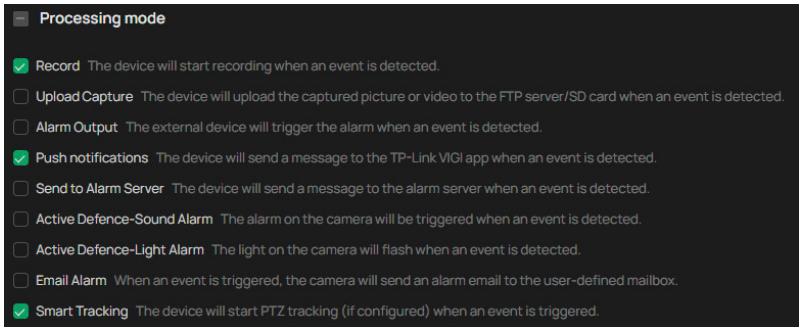
   Note:

- Each cell represents one hour.
- The default setting is 24/7.
- Up to six time periods can be configured for a day.

3. Click the time block you have drawn and a pop up window will appear. Fine-tune the start time and end time (down to the minute) and click **Save**. You may copy a schedule for a day to any other days.



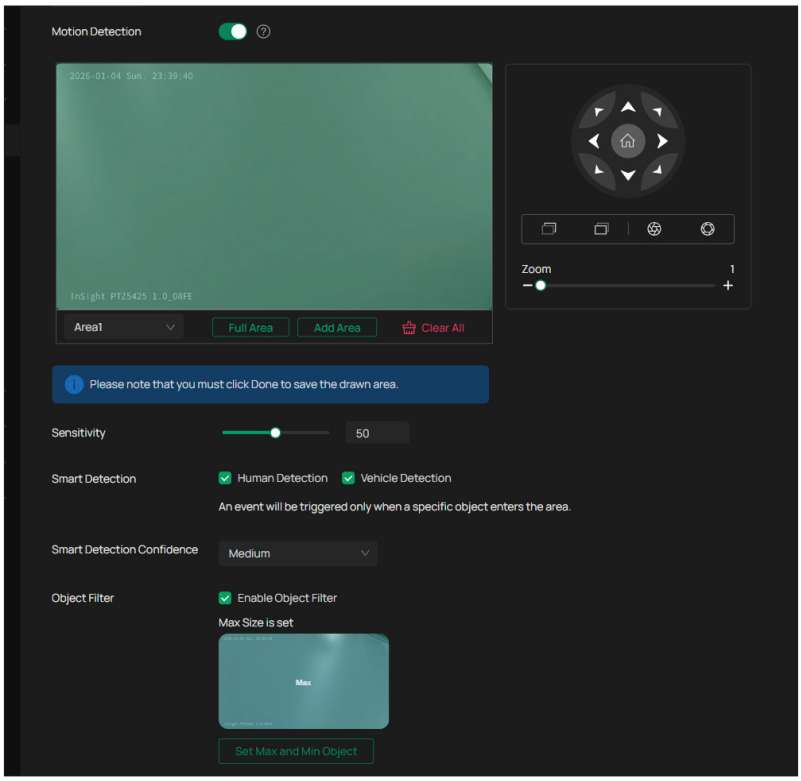
4. Set processing modes as needed.



6. 2 Detect Motion

Motion detection allows cameras to detect the moving objects in the monitored area and triggers alarm actions. You can customize the motion detection settings, set the alarm schedule, and select the triggered actions.

1. Go to **Settings** > **Event** > **Basic Event** > **Motion Detection.** Click the toggle to turn on **Motion Detection**.



2. Draw motion detection areas on the preview screen (the full screen is selected by default). Drag the corners to reshape an area or drag the entire shape to move it.

   To customize the detection zone, click any point on a polygon's edge to add a new vertex, or double-click an existing vertex to delete it.

   You can also delete selected areas, clear all zones, expand a selection to full screen, or add new shapes before configuring your detection settings.

   Note: You may customize up to four areas.

3. In Area Settings section, you may modify the following parameters:

Sensitivity	Adjust the value of sensitivity. The higher the value is, the easier it is to trigger an alarm.
Smart Detection	Filter alerts based on specific object types. Checking Human or Vehicle Detection ensures the camera only triggers an event when these specific subjects are identified in the frame.

Smart Detection Confidence	Sets the overall threshold required to trigger an AI-based alert. **High:** Requires maximum certainty to trigger an alert. This level is best for clear environments where you want to minimize false positives. It requires the target to have a distinct, unobstructed shape and silhouette. **Medium (Default):** Provides a balance between detection accuracy and environmental tolerance. This is the recommended setting for most standard monitoring scenarios with minor background interference. **Low:** Increases detection sensitivity. This level allows the camera to trigger alerts even for subjects that are partially obscured, blurry, or at a significant distance from the lens.
Object Filter	Defines the physical size limits for detected targets to filter out irrelevant motion, such as insects or large shadows. Only targets within the specified size range will trigger an alert.
Set Max and Min Object	Requires Object Filter to be enabled. Use these tools to draw reference boxes directly on the live view: Min Object: Defines the smallest target size required to trigger an event. Anything smaller than this box is ignored. Max Object: Defines the largest target size allowed. Anything larger than this box will not trigger an alarm.

4. Refer to Create Arming Schedules and Response Actions for settings if needed.
5. Click **Apply**.

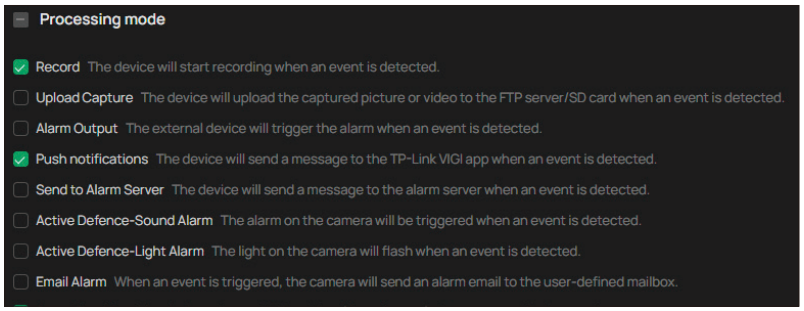
6. 3 Get Alerts for Camera Tampering

Camera tampering triggers alarm actions when an area of camera's lens is purposely blocked, obstructed or vandalized. You can customize the video tampering settings, select the triggered actions and set the alarm schedule for cameras.

1. Go to **Settings** > **Event** > **Basic Event** > **Camera Tampering.**

2. Enable **Camera Tampering**.
3. Set the sensitivity of video tampering. A higher value can trigger the alarm actions more easily.
4. Set the Processing Mode.

Note: The options vary by model.

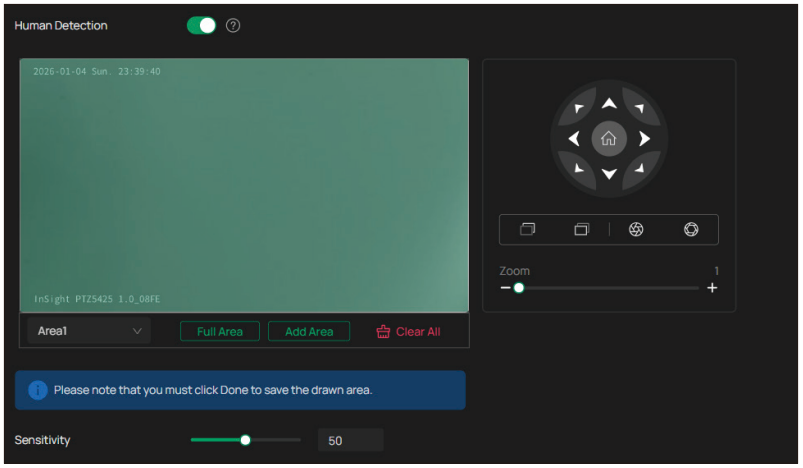


5. Refer to Create Arming Schedules and Response Actions for settings if needed.
6. Click **Apply**.

6. 4 Identify Human Presence

Human detection triggers alarm actions when cameras detect persons are moving in the specified areas. You can customize the area settings, select the triggered actions and set the alarm schedule.

1. Go to **Settings** > **Event** > **Smart Event**, click the **Human Detection** tab at the top, and click the toggle to turn it on.

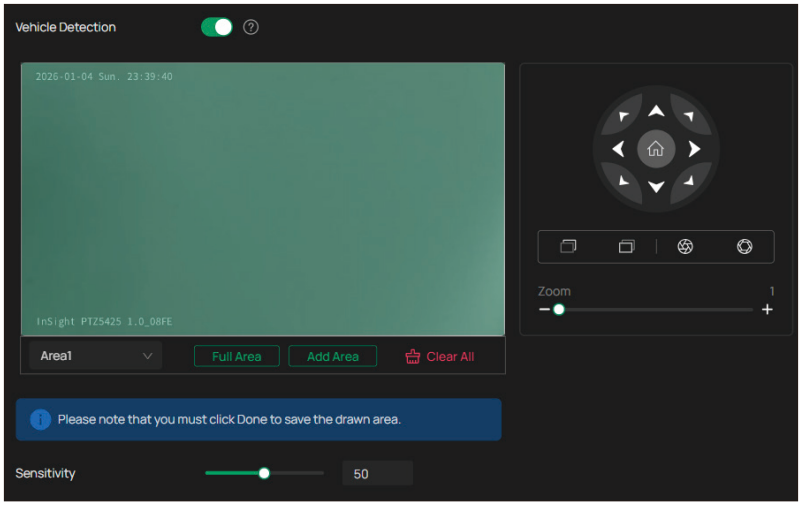


2. Click **Add Area**, then click and drag on the live view to draw a specific detection zone. You can adjust the shape by dragging the corner points. Click **Done** above the area to save it.
3. Adjust the value of sensitivity. A higher value can trigger alarm actions more easily.
4. Refer to Create Arming Schedules and Response Actions for settings if needed.
5. Click **Apply**.

6. 5 Identify Vehicles

Vehicle detection triggers alarm actions when cameras detect vehicles are moving in the specified areas. You can customize the area settings, select the triggered actions and set the alarm schedule.

1. Go to **Settings** > **Event** > **Smart Event,** click the **Vehicle Detection** tab at the top, and click the toggle to turn it on.

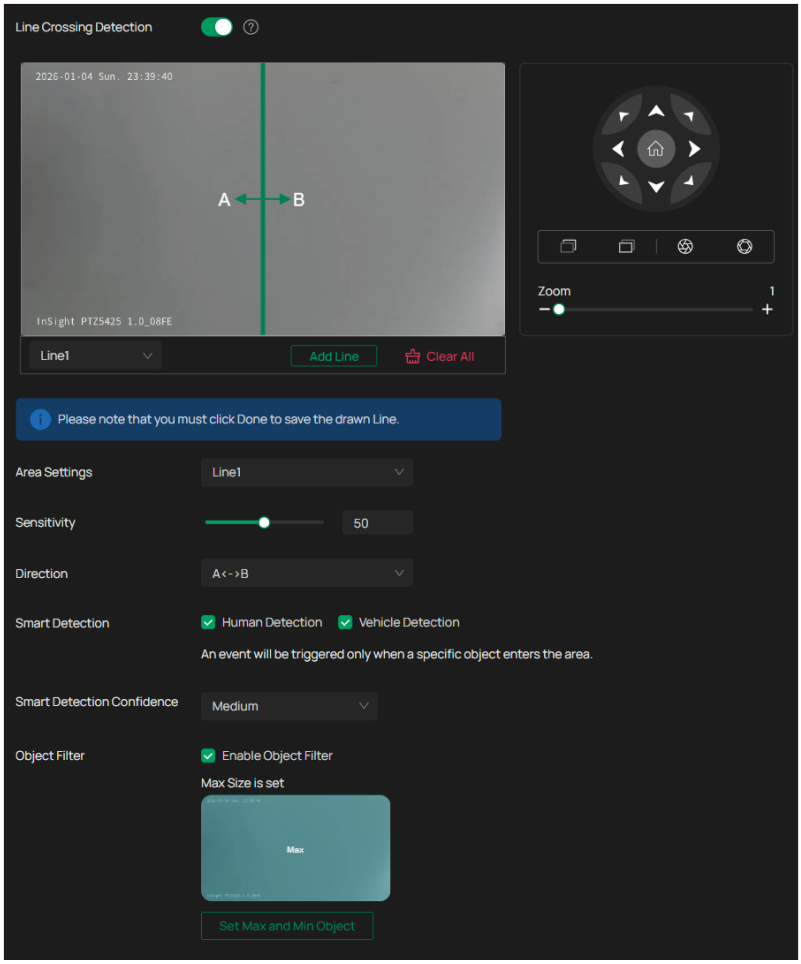


2. Click **Add Area**, then click and drag on the live view to draw a specific detection zone. You can adjust the shape by dragging the corner points. Click **Done** above the area to save it.
3. Adjust the value of sensitivity. A higher value can trigger alarm actions more easily.
4. Refer to Create Arming Schedules and Response Actions for settings if needed.
5. Click **Apply**.

6. 6 Alert when a Line is Crossed

Line crossing detection triggers alarm actions when cameras detect that moving objects cross a customized virtual line.

1. Go to **Settings** > **Event** > **Smart Event**, click the **Line Crossing Detection** tab at the top, and click the toggle to turn it on.



2. Draw lines on the preview screen. Select the line and configure its settings.

   Note: You can draw up to four lines and need to configure settings for each line.

Sensitivity	The higher the value is, the easier it is to detect a target that crosses the line.
Direction	Choose the direction from which the target crosses the line. A->B: Only the target crossing the configured line from the A side to the B side can be detected. B->A: Only the target crossing the configured line from the B side to the A side can be detected. A<->B: The target going across the line from both sides can be detected and alarms are triggered.
Object Width Filter	Sets the minimum and maximum width for the target to be detected. Only targets with a width between the minimum and maximum values will be detected.

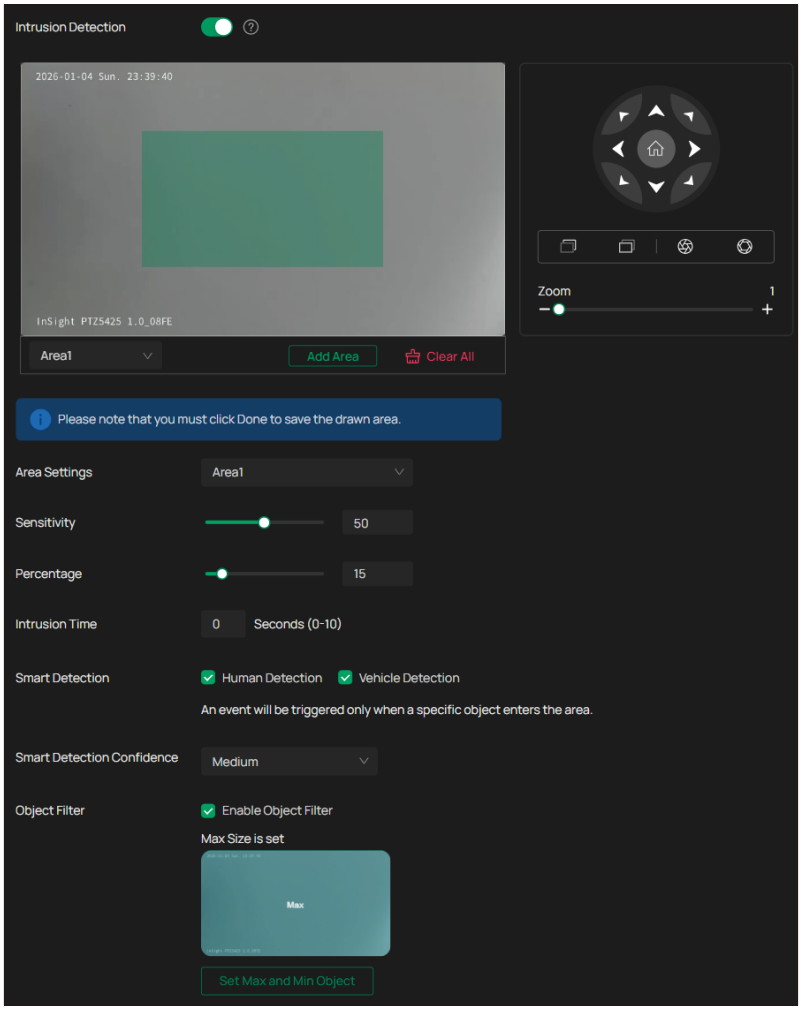
Object Height Filter	Sets the minimum and maximum height for the target to be detected. Only targets with a height between the minimum and maximum values will be detected.
Object Classification: Human/Vehicle	Choose whether you want to detect humans only, vehicles only, or both. The function is available only for cameras which support human detection and vehicle detection.
Object Detection Confidence	Sets the certainty threshold for identifying specific target types (Human or Vehicle). This feature is only available on models supporting Human and Vehicle Detection. High: Requires maximum certainty to trigger an alert. This level is best for clear environments where you want to minimize false positives. It requires the target to have a distinct, unobstructed shape and silhouette. Medium (Default): Provides a balance between detection accuracy and environmental tolerance. This is the recommended setting for most standard monitoring scenarios with minor background interference. Low: Increases detection sensitivity. This level allows the camera to trigger alerts even for subjects that are partially obscured, blurry, or at a significant distance from the lens.

3. Refer to Create Arming Schedules and Response Actions for settings if needed.
4. Click **Apply**.

6. 7 Alert when a Perimeter is Intruded

Intrusion detection is used to detect objects entering and loitering in a predefined virtual region. Once it happens, the camera will take linkage actions.

1. Go to **Settings** > **Event** > **Smart Event**, click the **Intrusion Detection** tab at the top, and enable it.



2. Draw intrusion areas on the preview screen. Select the area and configure the settings.

   Note: You may draw up to four areas and need to configure settings for each area.

Sensitivity	The higher the value is, the more easily an intrusion action can be detected.
Percentage	Set the percentage of intrusion detection. When an object takes up the specific percentage of the area, the alarm actions will be triggered.
Intrusion Time	Intrusion time stands for the threshold a target loiters in the area. Any stay longer than the intrusion time will trigger the linkage action.
Object Width Filter	Set the minimum and maximum width for the target to be detected. Only targets with sizes between the maximum and minimum value will be detected.
Object Height Filter	Sets the minimum and maximum height for the target to be detected. Only targets with a height between the minimum and maximum values will be detected.

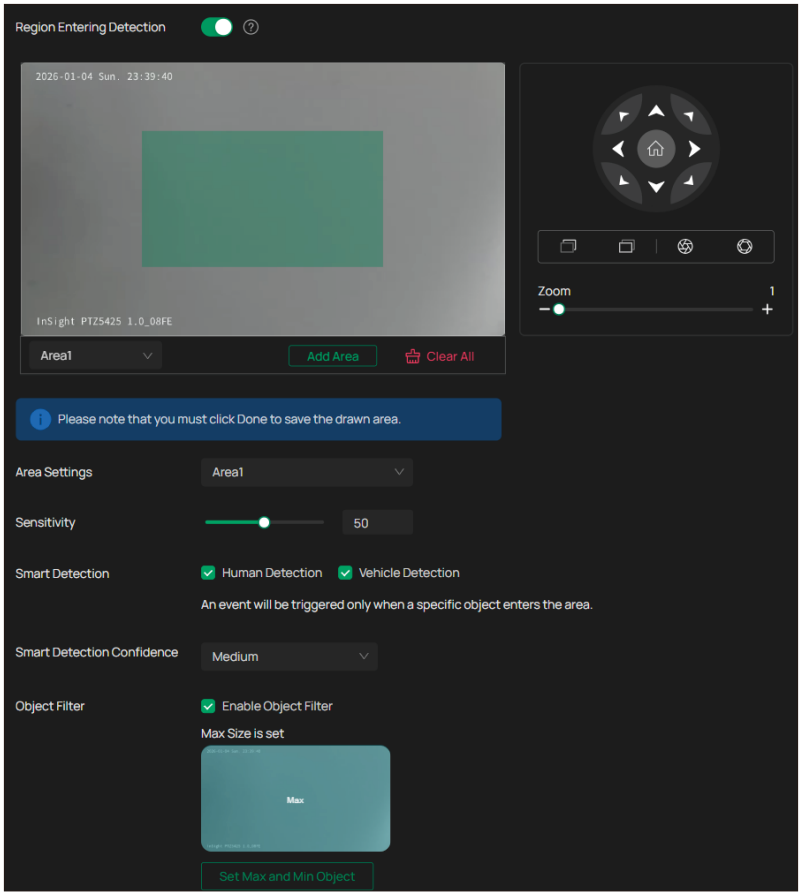
Object Classification: Human/Vehicle	Choose whether you want to detect humans only, vehicles only, or both. The function is available only for cameras which support human detection and vehicle detection.
Object Classification Confidence	Sets the certainty threshold for identifying specific target types (Human or Vehicle). This feature is only available on models supporting Human and Vehicle Detection. High: Requires maximum certainty to trigger an alert. This level is best for clear environments where you want to minimize false positives. It requires the target to have a distinct, unobstructed shape and silhouette. Medium (Default): Provides a balance between detection accuracy and environmental tolerance. This is the recommended setting for most standard monitoring scenarios with minor background interference. Low: Increases detection sensitivity. This level allows the camera to trigger alerts even for subjects that are partially obscured, blurry, or at a significant distance from the lens.

3. Refer to Create Arming Schedules and Response Actions for settings if needed.
4. Click **Apply**.

6. 8 Detect Objects Entering a Region

Region entering detection triggers alarm actions when cameras detect moving objects enter the specified regions. You can customize the region settings, select the triggered actions and set the alarm schedule.

1. Go to **Settings** > **Event** > **Smart Event.** Click the **Region Entering Detection** tab at the top and enable it.



2. Draw shapes for area entrance detection on the preview screen.

Note: You may draw up to four areas and need to configure settings for each area.

Sensitivity	Adjust the value of sensitivity. A higher value can trigger alarm actions more easily.
Object Width Filter	Sets the minimum and maximum width for the target to be detected. Only targets with a width between the minimum and maximum values will be detected.
Object Height Filter	Sets the minimum and maximum height for the target to be detected. Only targets with a height between the minimum and maximum values will be detected.
Object Classification: Human/Vehicle	Choose whether you want to detect humans only, vehicles only, or both. The function is available only for cameras which support human detection and vehicle detection.

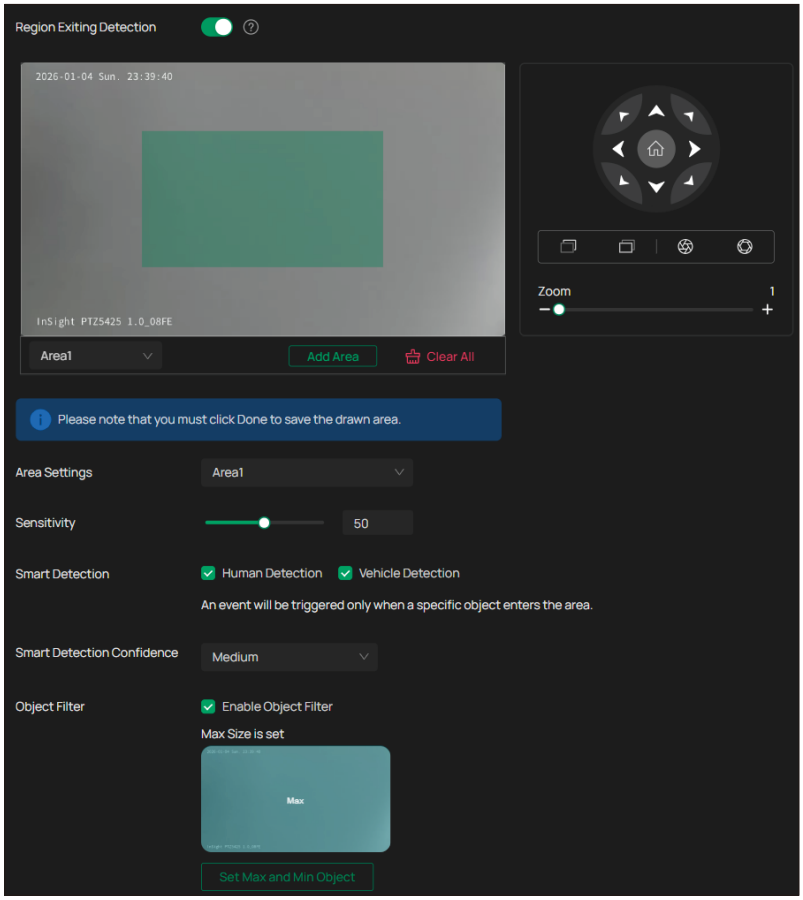
Object Classification Confidence	Sets the certainty threshold for identifying specific target types (Human or Vehicle). This feature is only available on models supporting Human and Vehicle Detection. High: Requires maximum certainty to trigger an alert. This level is best for clear environments where you want to minimize false positives. It requires the target to have a distinct, unobstructed shape and silhouette. Medium (Default): Provides a balance between detection accuracy and environmental tolerance. This is the recommended setting for most standard monitoring scenarios with minor background interference. Low: Increases detection sensitivity. This level allows the camera to trigger alerts even for subjects that are partially obscured, blurry, or at a significant distance from the lens.

3. Refer to Create Arming Schedules and Response Actions for settings if needed.
4. Click **Apply**.

6. 9 Detect Objects Exiting a Region

Region exiting detection triggers alarm actions when cameras detect moving objects exit the specified regions. You can customize the region settings, select the triggered actions and set the alarm schedule.

1. Go to **Settings** > **Event** > **Smart Event**, click the **Region Exiting Detection** tab at the top, and enable it.



2. Click and drag on the live view to draw a specific detection zone. You can adjust the shape by dragging the corner points. Click **Done** above the area to save it.

   Note: You may draw up to four areas and need to configure settings for each area.

Sensitivity	Adjust the value of sensitivity. A higher value can trigger alarm actions more easily.
Object Width Filter	Sets the minimum and maximum width for the target to be detected. Only targets with a width between the minimum and maximum values will be detected.
Object Height Filter	Set the minimum and maximum height for the target to be detected. Only targets with sizes between the maximum and minimum value will be detected.
Object Classification: Human/Vehicle	Choose whether you want to detect humans only, vehicles only, or both. The function is available only for cameras which support human detection and vehicle detection.

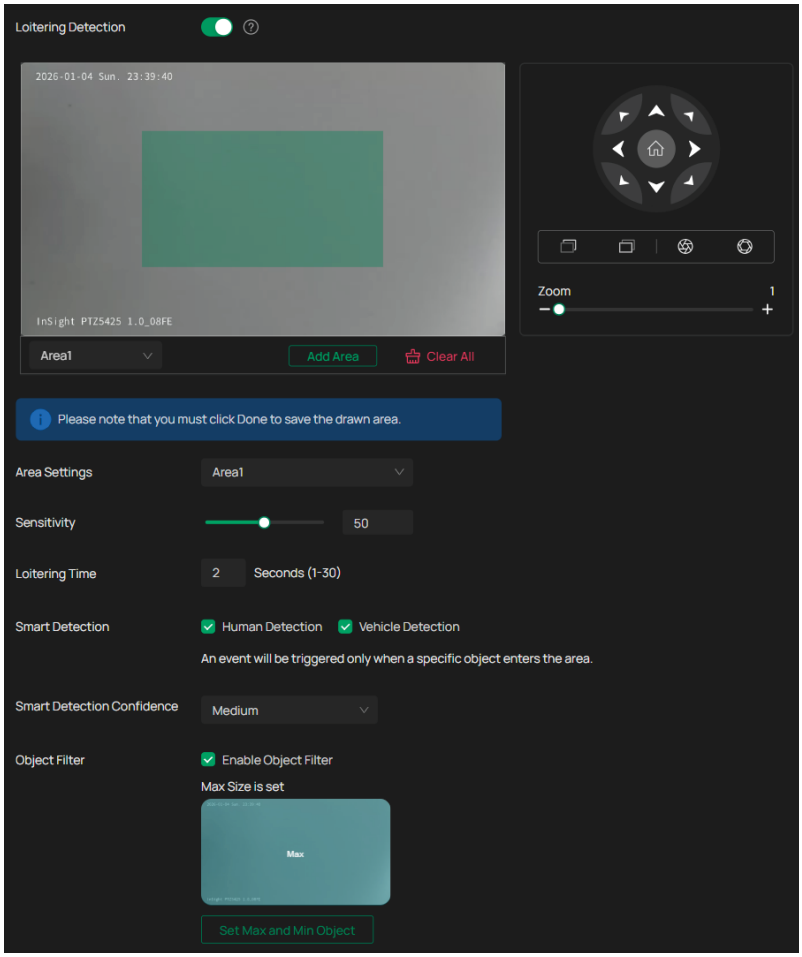
Object Classification Confidence	Sets the certainty threshold for identifying specific target types (Human or Vehicle). This feature is only available on models supporting Human and Vehicle Detection. High: Requires maximum certainty to trigger an alert. This level is best for clear environments where you want to minimize false positives. It requires the target to have a distinct, unobstructed shape and silhouette. Medium (Default): Provides a balance between detection accuracy and environmental tolerance. This is the recommended setting for most standard monitoring scenarios with minor background interference. Low: Increases detection sensitivity. This level allows the camera to trigger alerts even for subjects that are partially obscured, blurry, or at a significant distance from the lens.

3. Refer to Create Arming Schedules and Response Actions for settings if needed.
4. Click **Apply**.

6. 10 Detect Loitering Behavior

Loitering detection triggers alarm actions when a moving object remains in a predefined area for a specific amount of time. You can customize the area settings, select the triggered actions and set the alarm schedule.

1. Go to **Settings** > **Event** > **Smart Event**, click the **Loitering Detection** tab at the top, and enable it



2. Draw shapes for area exiting detection on the preview screen.

   Note: You may draw up to four areas and need to configure settings for each area.

Sensitivity	Adjust the value of sensitivity. A higher value can trigger alarm actions more easily.
Loitering Time	It stands for the threshold for the time of the object loitering in the region. If the time that one object stays exceeds the threshold, the alarm is triggered.
Object Width Filter	Sets the minimum and maximum width for the target to be detected. Only targets with a width between the minimum and maximum values will be detected.
Object Height Filter	Set the minimum and maximum height for the target to be detected. Only targets with sizes between the maximum and minimum value will be detected.
Object Classification: Human/Vehicle	Choose whether you want to detect humans only, vehicles only, or both. The function is available only for cameras which support human detection and vehicle detection.

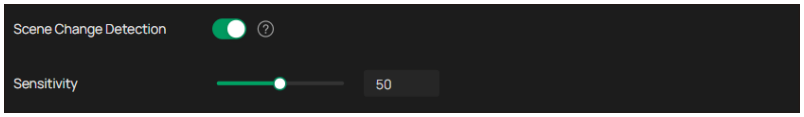
Object Classification Confidence	Sets the certainty threshold for identifying specific target types (Human or Vehicle). This feature is only available on models supporting Human and Vehicle Detection. High: Requires maximum certainty to trigger an alert. This level is best for clear environments where you want to minimize false positives. It requires the target to have a distinct, unobstructed shape and silhouette. Medium (Default): Provides a balance between detection accuracy and environmental tolerance. This is the recommended setting for most standard monitoring scenarios with minor background interference. Low: Increases detection sensitivity. This level allows the camera to trigger alerts even for subjects that are partially obscured, blurry, or at a significant distance from the lens.

3. Refer to Create Arming Schedules and Response Actions for settings if needed.
4. Click **Apply**.

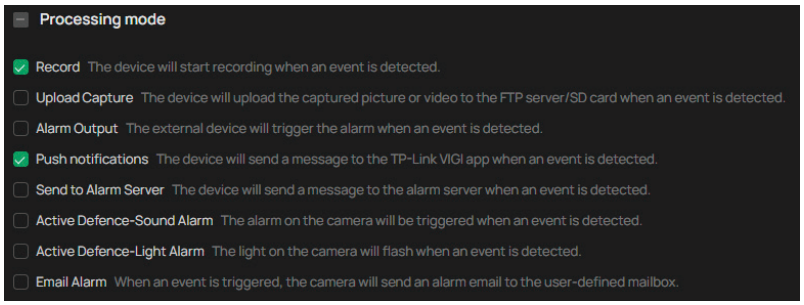
6. 11 Alert on Sudden Scene Changes

Scene change detection function detects the change of video security environment affected by the external factors, such as intentional rotation of the camera. Certain actions can be taken when the alarm is triggered.

1. Go to **Settings** > **Event** > **Smart Event** > **Scene Change Detection.**
2. Click the toggle to turn on **Scene Change**.



3. Specify Sensitivity. The higher the value is, the more easily the change of the scene can be detected.
4. Refer to Create Arming Schedules and Response Actions for settings if needed.

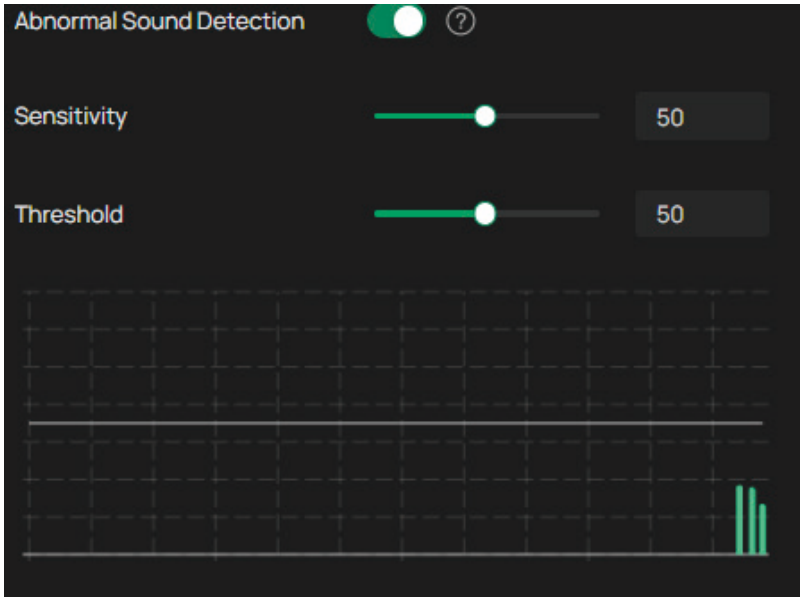


5. Click **Apply**.

6. 12 Detect Abnormal Sounds

Abnormal sound detection identifies uncommon or irregular sounds and triggers alarm actions. You can select the triggered actions and set the alarm schedule.

1. Go to **Settings** > **Event** > **Smart Event,** click the **Abnormal Sound Detection** tab at the top, and click the toggle to turn it on.



2. Adjust the value of sensitivity and alert threshold. The higher the sensitivity and the lower the threshold, the easier it gets to trigger processing modes.

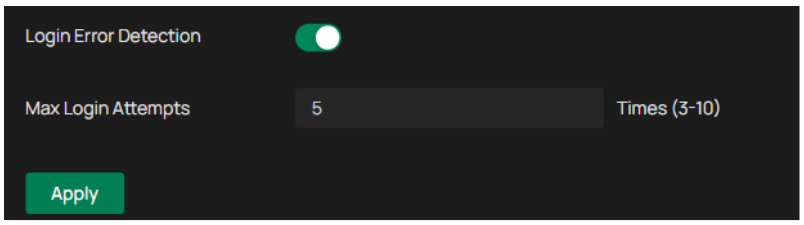
   Note: For speed dome cameras, use the real-time audio bar chart to calibrate your settings. This visualizer displays current noise levels relative to your set threshold, allowing you to fine-tune the detection accuracy based on the environment's ambient noise.

3. Refer to Create Arming Schedules and Response Actions for settings if needed.
4. Click **Apply**.

6. 13 Limit Login Attempts

Set the maximum login attempts to protect the security of your camera. The camera will be locked for 30 minutes if you enter the wrong password more than the specified attempts.

1. Go to **Settings** > **Event** > **Exception Event**.



2. Enable **Login Error Detection** to limit the login attempts.

3. Set the maximum login attempts. The number should between 3 and 10.
4. Click Apply.

Note: To unlock the camera and try to log in again, power the camera off and then power it on.

6. 14 Enable Smart Visual Tracking Frames

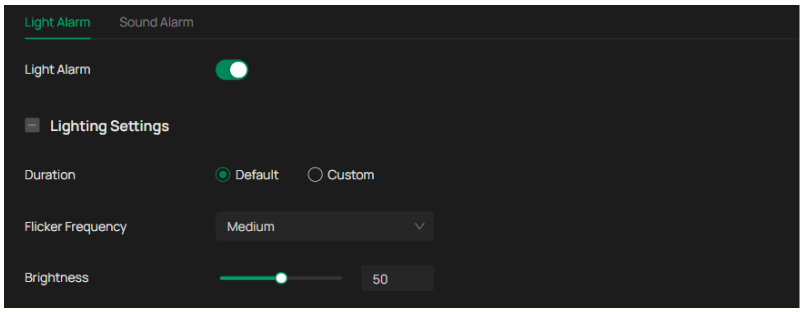
Smart frame is an AI-powered function that can precisely mark and capture detected movement, people, or vehicle objects on the screen.

Click the toggles to specify the type of detection: motion, human, or vehicle. You may enable more than one types. Click Apply.

6. 15 Configure Warning Lights (Only for some models)

With Light Alarm enabled, the light on the camera will flash when an event is detected.

1. Go to Settings > Event > Active Defence > Light Alarm.
2. Enable Light Alarm.



Duration	Default: The light alarm remains active for a pre-set factory duration when a linked event is triggered. Custom: Allows you to manually define the specific length of time (in seconds) that the light alarm stays active.
Flicker Frequency	Sets the speed at which the light flashes during an alarm. High frequency is recommended for maximum deterrence in high-security areas.
Brightness	Adjusts the intensity of the alarm light. Higher values provide stronger illumination for target identification and deterrence.

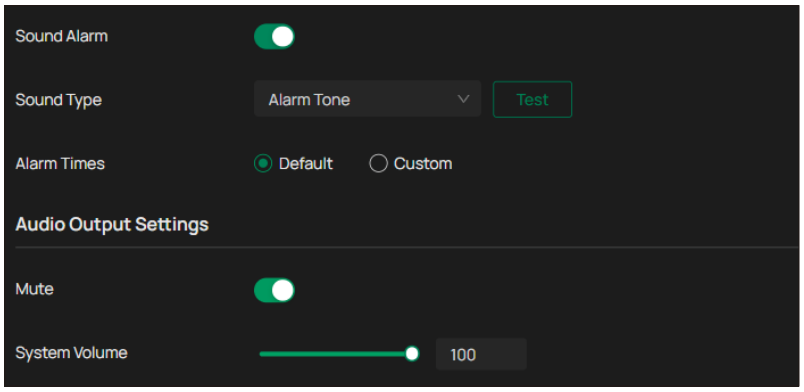
3. Refer to Create Arming Schedules and Response Actions for settings if needed.

4. Click **Apply**.

6. 16 Configure Alarm Sounds (Only for some models)

Enable Sound Alarm, then the alarm on the camera will be triggered when an event is detected.

1. Go to **Settings** > **Event** > **Active Defence** > **Sound Alarm**.
2. Enable **Sound Alarm**, select the **Sound Type**, and click **Test**.

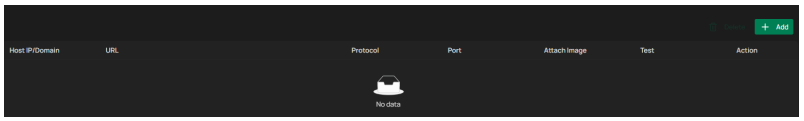


3. Set Alarm Times.
4. Under Audio Output Settings, click the toggle to mute or drag the slide bar to set the system volume.
5. Refer to Create Arming Schedules and Response Actions for settings if needed.
6. Click **Apply**.

6. 17 Connect to an Alarm Management Server

The device can send alarms to destination IP address or host name through HTTP, HTTPS, or ISUP protocol. The destination IP address or host name should support HTTP, HTTP, or ISUP data transmission.

1. Go to **Settings** > **Event** > **Alarm Server**.
2. Click **Add**.



3. Enter Host IP/Domain, URL, and Port, and select Protocol. Enable Attach Image if needed.

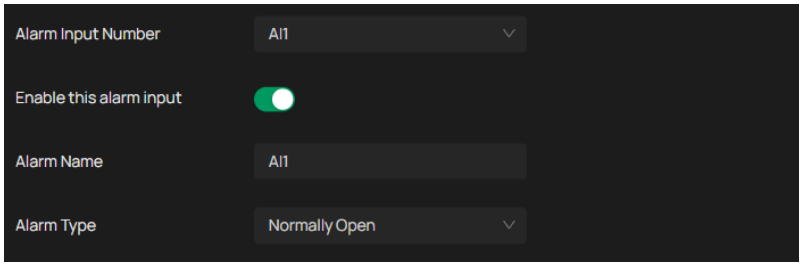
   Note: HTTP and HTTPS are selectable. It is recommended to use HTTPS, as it encrypts the data transmission during communication.

4. Click **Apply**.

6. 18 Manage Physical Alarm Inputs

Alarm signal from the external device triggers the corresponding actions of the current device. Before you start, make sure the external alarm device is connected. See https://www.tp-link.com/hk/support/faq/4041/ for cable connection.

1. Go to **Settings** > **Event** > **Alarm Device** > **Alarm Input**.



2. Select an Alarm Input Number.
3. Check **Enable This Alarm Input**.
4. Edit the Alarm Name.
5. Select the Alarm Type from the dropdown list.

   1) Normally Open means that under normal conditions, the circuit is open and no current passes through the device. When the alarm is triggered, the current passes through the device and the device alarms.

   2) Normally Closed means that normally the circuit is closed, and the device will alarm in case of a circuit fault or alarm trigger.

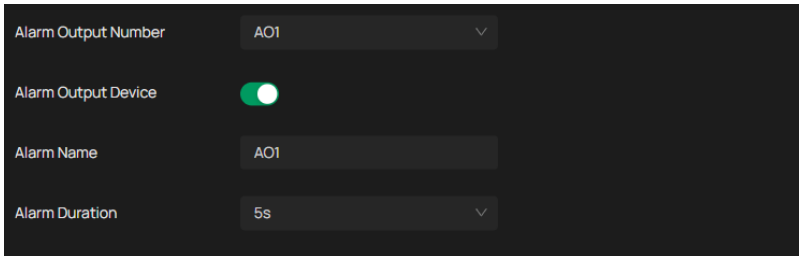
   Note: Speed dome cameras support multiple Alarm In channels. If you have enabled multiple inputs, the system operates on "OR" logic: the device will initiate an alarm response as long as at least one of the enabled channels is in an alarm state.

6. Refer to Create Arming Schedules and Response Actions for schedule setting and proceessing modes.
7. Click **Apply**.

6. 19 Trigger External Alarm Outputs

If the device has been connected to an alarm output device, and the alarm output No. has been configured, the device sends alarm information to the connected alarm output device when an alarm is triggered. Before you start, make sure the external alarm device is connected. See https://www.tp-link.com/hk/support/faq/4041/ for cable connection.

1. Go to **Settings** > **Event** > **Alarm Device** > **Alarm Output**.



2. Select the Alarm Output Number according to the alarm interface connected to the external alarm.
3. Enable the **Alarm Output Device**.
4. Edit the Alarm Name.
5. Select the Alarm Duration from the dropdown list.
6. Refer to Create Arming Schedules and Response Actions for schedule setting and proceessing modes.
7. Click **Apply**.

Chapter 7

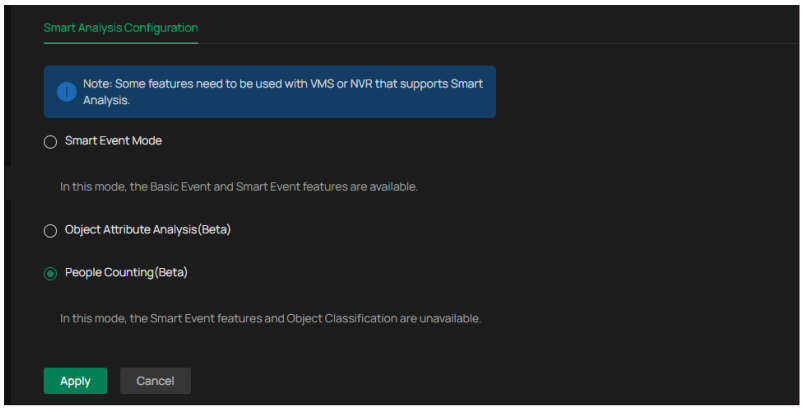
Smart Analysis

This chapter guides you on how to configure settings about human or vehicle analysis on your camera. Some features require an NVR that has smart analysis compatibility. This chapter includes the following sections:

7. 1 Set Up Smart Analytics

Smart analysis serves as the primary engine selector for the camera's artificial intelligence capabilities. By selecting a specific analysis mode, you determine which advanced features—such as facial recognition, vehicle classification, or foot traffic monitoring—the camera will prioritize. Note that some features may require a compatible Video Management System (VMS) or Network Video Recorder (NVR) to fully utilize the generated data.

1. Go to **Settings** > **Smart** > **Configuration**.



2. Select the Mode that fits your current needs.

Mode	Purpose
Smart Event	Monitors for specific rule violations like crossing a line or entering a restricted zone.
Face Analysis	(For Some Models Only) Detects human faces, captures snapshots, and can compare them against a "whitelist" or "blacklist" (if supported).
People Counting	(For Some Models Only) Tracks the number of people entering and exiting a specific area in real-time.
Object Attribute Analysis	Identifies and logs specific traits of people (e.g., clothing color, or glasses) or vehicles (e.g., type, or color).

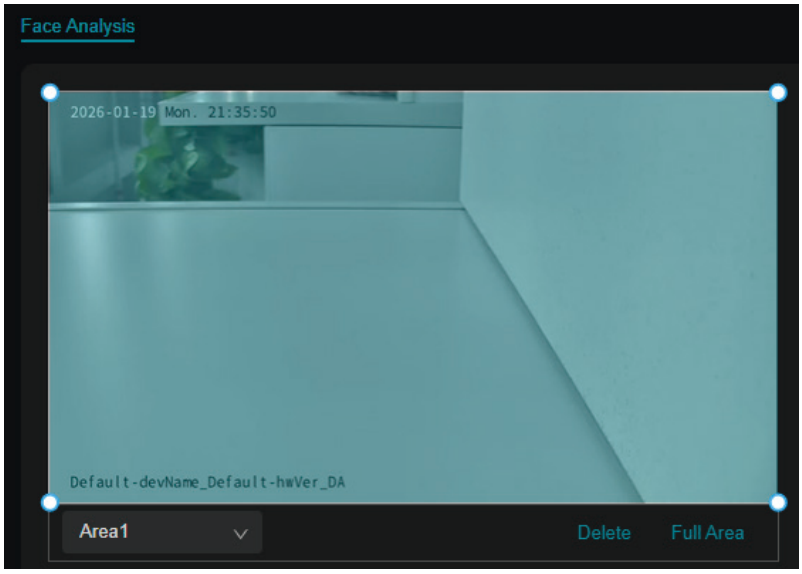
4. Click **Apply**.

Note: Switching between these modes may require the camera to reboot to reallocate its internal processing power.

7. 2 Perform Face Analysis and Recognition (For Some Models Only)

The Face Analysis feature allows the camera to detect human faces within a specified detection area. When a face is identified, the camera can capture a snapshot and trigger specific alarm responses. This is primarily used for identifying individuals entering a premises or for high-security entrance monitoring.

1. Go to **Settings** > **Smart** > **Face Analysis**.

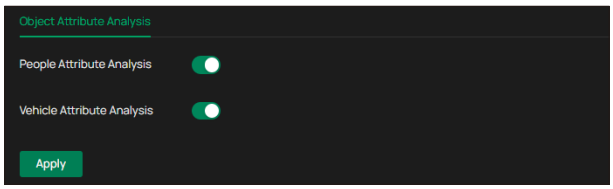


2. Click and drag the blue corner markers on the Live View image to resize and position the detection zone.
3. (Optional) If you need to redraw the zone, click **Delete** to remove the current detection box.
4. Click **Apply**.

7. 3 Identify Object Attributes

In Object Attribute Analysis, you can choose whether to send human or vehicle images to the NVR for analysis.

1. Go to **Settings** > **Smart** > **Object Attribute Analysis.**



2. Enable People Attribute Analysis and/or Vehicle Attribute Analysis.
3. Click **Apply**.

7. 4 Manage People Counting

People Counting allows you to track and count people entering or exiting specific areas, which is useful for various applications such as monitoring foot traffic in retail stores or managing occupancy levels. Ensure that your camera supports the People Counting feature.

Note: Ensure your camera is compatible with this feature and complete the initial setup via VIGI VMS before use.

1. Go to **Settings** > **Smart** > **People Counting.**

2. Enable or disable People Counting.

   Disable People Counting: Find your device in the Devices in People Counting Mode list, and toggle off the People Counting Status.

   Enable People Counting: Locate your device in the Devices NOT in People Counting Mode list, check the box, and click Switch to People Counting Mode.

3. To modify people counting parameters, click  in the Action column of a device.

4. Add a monitoring area.

   1) Click the + icon at the bottom right of the live view screen.

   2) Drag the corners to adjust the size and shape of the area.

   3) To set a division line (inside vs. outside), drag the end of the line.

   4) Click  to remove a specific area.

   5) Click  to remove all areas.

5. Use the slider to choose between Low, Medium, or High sensitivity.

- Note: High sensitivity detects more movement (potential false positives), while low sensitivity may miss some people but reduce false positives.

6. Configure direction of counting.

   Select A→B or B→A to track people entering or exiting an area.

   For A→B: A represents the outside and B represents the inside. People moving in this direction are counted as entries, while those moving against this direction are exits.

   Passing-by Count: This tracks people appearing in the outside area but not crossing the preset line. The count is used to calculate the entry rate.

7. Set opening hours.

   1) Use the time bar to define your desired opening hours.

- Note: Each cell represents one hour, and the default is 24/7. You can configure up to six time periods per day.

   2) Fine-tune the time periods (Optional). Double-click a time block to open a pop-up window, allowing you to adjust the start time and end time with minute-level accuracy. Click **Save**.

   3) You can also copy the schedule from one day to another by clicking the copy icon next to the time block and selecting the days you want to copy it to.

8. Once all parameters are set, click **Apply** to save your configuration.

Chapter 8

Recording and Storage

This chapter guides you on how to view and configure recording and storage settings on your camera. VIGI camera allows you to set your own recording schedules and parameters. This chapter includes the following sections:

8. 1 Set the Recording Schedule

Recording schedule section provides convenience and flexibility for the daily monitoring of your camera. You can customize the recording schedules. You can set different schedules for each day. In Advanced Settings page, you can set the delay time for recording.

1. Go to **Settings** > **Storage** > **Recording Schedule** and enable it.

2. Select Continuous, Event, or Motion.

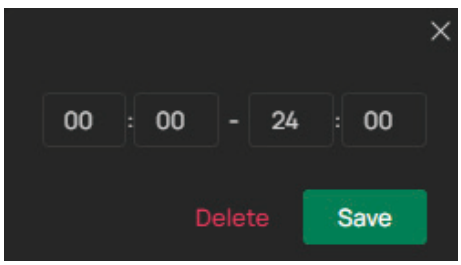
Continuous	The camera will record continuously.
Event	The camera will record when an event is detected.
Motion	The camera records when it detects human or vehicle motion. Click the vertical ellipsis next to Motion to select detection type: human motion, vehicle motion, or both.

3. Drag the time bar to draw desired valid time.

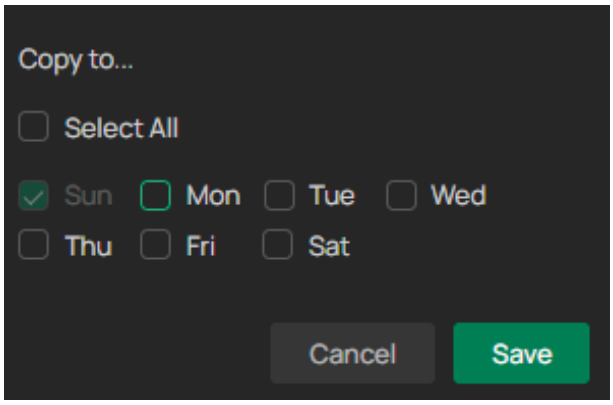
Note:

- Each cell represents one hour.
- The default setting is 24/7.

4. Click a time block and an edit button will appear. Enter the pop-up window to finetune the Start Time and End Time (down to the minute) and check **Save**.



5. To copy a schedule from one day to others, click . In the pop-up window, select the days you want to copy the schedule to.



6. Configure the following:

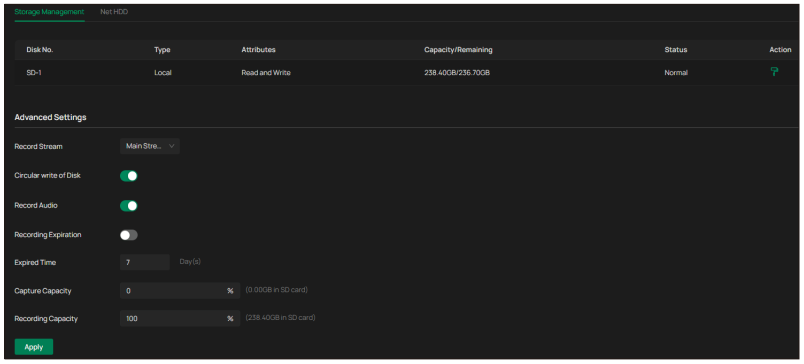
Pre-recording Time	The time is set for cameras to record before the scheduled time or event. For example, if the schedule for continuous recording starts at 10:00 and the pre-recording time as 4 seconds, the camera will start to record at 9:59:56.
Delay Time	The time is set for cameras to record after the scheduled time or event. For example, if you set the post-record time as 5 seconds, it records till 11:00:05 as motion detection ends at 11:00.

7. Click **Apply**.

8. 2 Manage Local Storage

In Storage Management, you can view the parameters and configure the properties and disk group of SD card. You can also enable the camera to overwrite the earlier recording files when the SD card is full.

1. Go to **Settings** > **Storage** > **Storage Management**.



2. Click **Format** to initialize the memory card.

   When the Status of memory card turns from Uninitialized to Normal, the memory card is ready for use.

3. Specify advanced settings.

Record Streams	Select the stream type for recording. **Main Stream** stands for the best stream performance the device supports. It usually offers the best resolution and frame rate the device can do. But high resolution and frame rate usually means larger storage space and higher bandwidth requirements in transmission. **Substream** usually offers comparatively low resolution options, which consumes less bandwidth
Circular Write of Disk	Enable **Circular Write of Disk** to overwrite the video records when the storage space is full. Otherwise the camera cannot record new videos.
Record Audio	Enable to record audio and video simultaneously.
Recording Expiration	Enable **Recording Expiration** to delete recordings when they exceed the expired time. Note that once the recordings are deleted, they cannot be recovered.
Expired Time	Set the time when recordings will be automatically deleted.

5. Click **Apply**.

Chapter 9

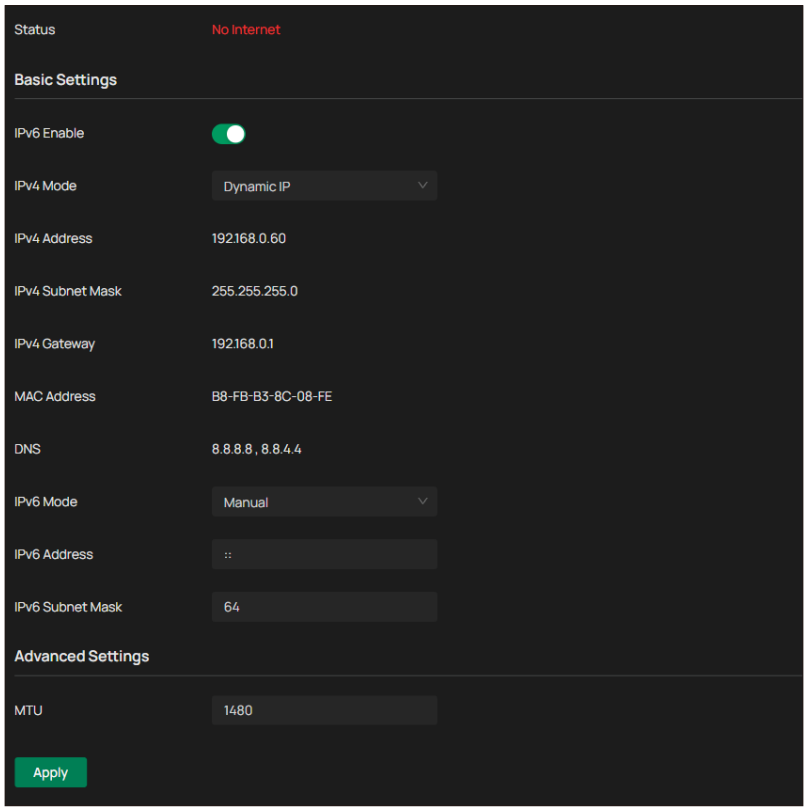
Network and Integration

With proper network configurations, you can connect your camera to the internet, build up mapping between internal and external ports. This chapter contains the following sections:

9. 1 Configure Internet Access

In Internet Connection, you can view the connection status and configure the camera to obtain a dynamic or static IP address.

1. Go to **Settings** > **Network Settings** > **Connect**.



Status	Displays the current internet status.
IPv6 Enable	Enable to configure IPv6 settings. IPv4 and IPv6 are both supported. Both versions can be configured simultaneously without conflicting to each other. Three IPv6 modes are available. **Router Advertisement:** The IPv6 address is generated by combining the route advertisement and the device Mac address. Note that this mode requires the support from the router that the device is connected to. **DHCP:** The IPv6 address is assigned by the server, router, or gateway. **Manual:** Input IPv6 Address, IPv6 Subnet Mask, and IPv6 Gateway. Consult the network administrator for required information.
IPv4 Mode	Configure the camera to obtain a dynamic or static IP address.

IPv4 Address	Specify an IP address for the camera. The IP address should be in the same segment as the gateway; otherwise, the camera cannot connect to the internet.
IPv4 Subnet Mask	Enter the subnet mask.
IPv4 Gateway	Enter the IP address of the gateway device to which the data packets will be sent. This IP address should be in the same segment as the camera's IP address.
MAC Address	A unique identifier permanently assigned to the camera's network interface card (NIC). It is used to identify the camera on a local network, enabling it to communicate with other devices on the same network segment.
DNS	Enter the IP address of the DNS server.
MTU	Specify MTU (Maximum Transmission Unit) to decide the largest size of data unit that can be transmitted in the network. A larger unit can improve the efficiency with more data in each packet, but it may increase the network delay because it needs more time to transmit. Therefore, if you have no special needs, it is recommended to keep the default value.

Note: The cameras should be in the same segment with the NVR, so that the NVR can discover and manage them.

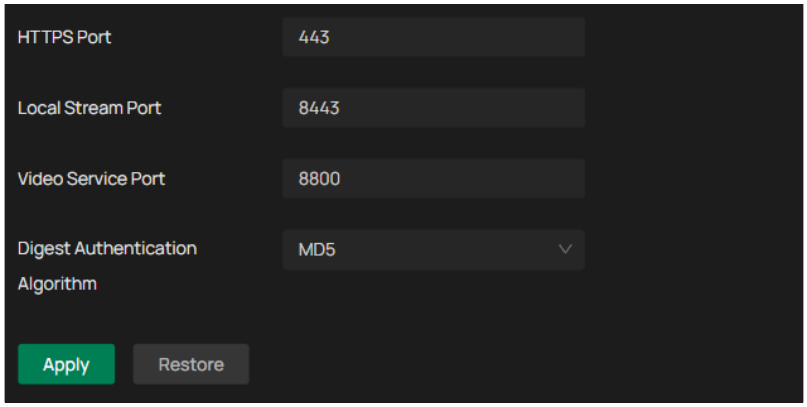
2. Click Apply.

9. 2 Manage Secure Network Services

In Network Service, you can configure the HTTPS port and service port of devices that can be used to access the camera through the network. When managing and monitoring the devices, the ports configured here are used for communications of corresponding protocols.

9. 2. 1 HTTPS Service

1. Go to **Settings** > **Network Settings** > **Network Service** > **HTTP(S)**.



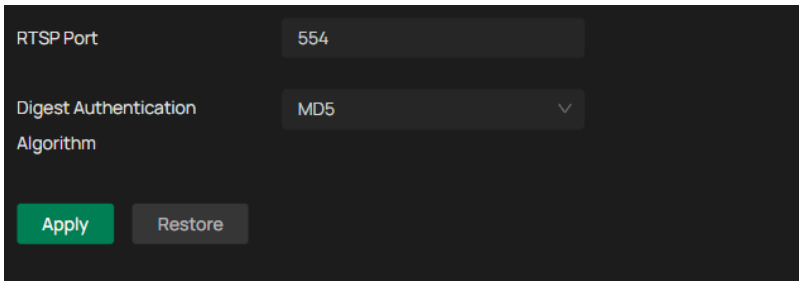
2. Specify HTTPS port and service ports.

HTTPS Port	Specify a port for HTTPS protocol.
Web Stream Port	Specify a port for protocols of video services.
Video Service Port	Specify a port to access the camera's live streaming web interface.
Digest Authentication Algorithm	Choose between MD5, SHA256, and MD5/SHA256. **MD5:** Offers the highest compatibility with older systems but provides the lowest level of security. Use only if required by legacy hardware. **SHA256:** Uses a modern, 256-bit hashing algorithm to prevent unauthorized access. Best for most modern network environments. **MD5/SHA256:** Automatically negotiates the best available algorithm. It uses SHA-256 by default but remains compatible with devices that only support MD5.

3. Click **Apply**.

9. 2. 2 RTSP Service

1. Go to **Settings** > **Network Settings** > **Network Service** > **RTSP**.



2. Configure the following ports:

RTSP	Specify a port for RTSP (Real Time Streaming Protocol) protocol. RTSP is an application layer protocol for connecting, transferring, and streaming media data in real time from IP cameras connected to the network. rtsp://username:password@ip:port/streamNo ip – IP of the Camera. port – Default port is 554. This can be skipped. streamNo – Stream number. Stream1 refers to the main stream; stream2 refers to the substream. Example URL: rtsp://admin:123456@192.168.1.60:554/stream1 This will display the main stream of the camera, where admin is the user name and 12345 is the password.
Digest Authentication Algorithm	Choose between MD5, SHA256, and MD5/SHA256. **MD5:** Offers the highest compatibility with older systems but provides the lowest level of security. Use only if required by legacy hardware. **SHA256:** Uses a modern, 256-bit hashing algorithm to prevent unauthorized access. Best for most modern network environments. **MD5/SHA256:** Automatically negotiates the best available algorithm. It uses SHA-256 by default but remains compatible with devices that only support MD5.

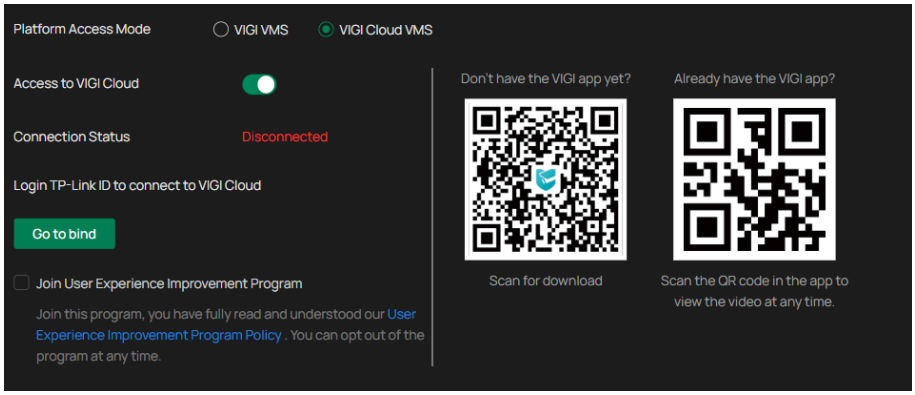
9. 3 Connect to VIGI Platforms

After configuring license plate recognition, you can link the camera to a management platform for live view, playback, and alarm handling. The camera supports two platform options: VIGI VMS for on-premise management and VIGI Cloud VMS for remote, cloud-based access. All configuration is performed in the camera's web interface.

Choose an Access Mode

Before connecting to a platform, select how you want to manage the camera.

1. Go to **Settings** > **Network Settings** > **Platform Access.**



2. Under Platform Access Mode, select one option:

   VIGI VMS — Connects the camera to VIGI VMS software running on a PC or server in the same network.

   VIGI Cloud VMS — Connects the camera to TP-Link's cloud service using your TP-Link ID.

Note: Only one access mode can be enabled at a time.

■ Connect to VIGI VMS (On-Premise)

Use this mode for a local, server-based video management setup.

1. Select VIGI VMS as the access mode.
2. In Access to VIGI VMS, check the Connection Status (initially Disconnected).
3. Enter the IP/Domain Name of the computer running VIGI VMS.
4. Enter the Port used for communication (default: 10123). Ensure this port is accessible on the network.
5. Click **Apply**. The camera will attempt to connect and the Connection Status should update to Connected.

■ Connect to VIGI Cloud VMS

Use this mode for simple remote access through the cloud, without a local server.

1. Select VIGI Cloud VMS as the access mode.
2. In Access to VIGI Cloud, confirm the Connection Status is Connected.
3. Click **Go to bind** to open the TP-Link ID login page.
4. Sign in with your TP-Link ID or create a new one. After binding, the Connection Status changes to Connected.

■ Start Using the VIGI App

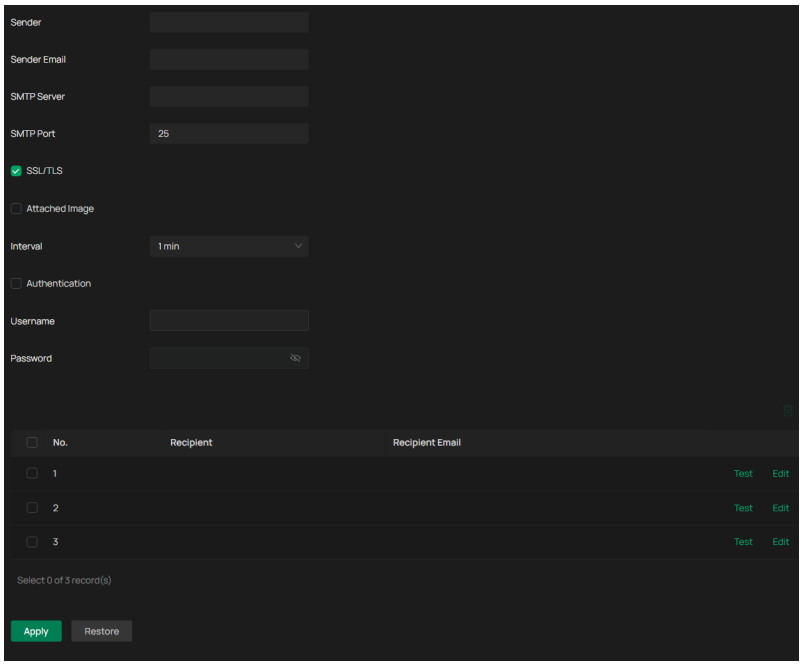
To view live video and receive plate-recognition alerts on your mobile device:

1. Scan the QR code shown on the web interface to download the VIGI app if needed.
2. Open the app and log in with the same TP-Link ID used for cloud binding.

You can now access live view, playback, and notifications.

9. 4 Set Up Email Notifications

When the email is configured and enabled as a linkage method, the device sends an email notification to all designated recipients if an alarm event is detected.



1. Input the sender's email information, including the Sender's name, Sender Email, SMTP Server, and SMTP Port.
2. Enable SSL/TLS if needed and emails will be sent after encrypted.
3. Check Attached Image to receive notification with alarm pictures. The notification email has a certain number of attached alarm pictures about the event with configurable image capturing interval.
4. If your email server requires authentication, check Authentication and input your username and password to log in to the server.
5. Input the recipient's information, including the recipient's name and address.
6. Click Test to see if the function is well configured.
7. Click Apply.

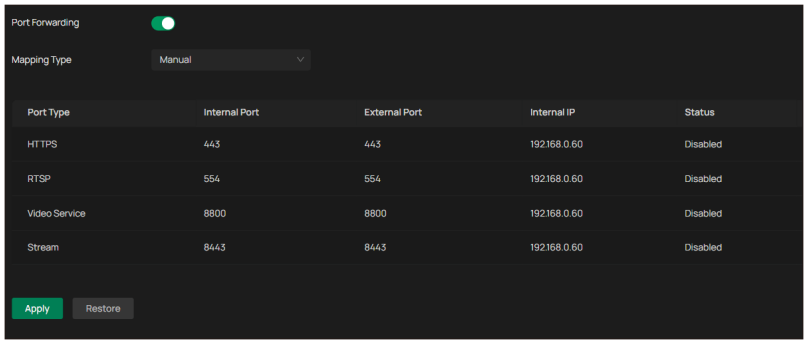
9. 5 Enable Remote Access via Port Forwarding

Port Forwarding is used to establish the mapping between the internal port and external port. When Port Forwarding is enabled, you can access the device and watch the videos when accessing the external port remotely.

Note: Ensure your cameras are connected to the internet. You must enable UPnP (Universal Plug and Play) on your router or gateway to allow the system to automatically configure the necessary port

mapping. If your router does not support UPnP, you must manually configure Port Forwarding for the specific service ports used by the camera.

1. Go to **Settings** > **Network Settings** > **Port Forwarding**.
2. Enable Port Forwarding and specify a mapping type. If you select **Auto** as the mapping type, the mappings are established automatically. If you select **Manual** as the mapping type, click to specify the external port.



Port Type	Displays the protocol type.
Internal Port	Displays the port of the camera to be converted.
External Port	Displays the external port opened by the gateway.
Internal IP	Displays the IP address of the camera that needs to be converted.
Status	Displays the status of mapping.

3. Click **Apply**.

With Port Forwarding or UPnP enabled on your router, you can remotely access live video streams using a standard RTSP Unicast URL:

URL Format: rtsp://A.B.C.D:Port/streamN

Example: rtsp://username:pwd@IP:rtspPort/multicastStream1.

A.B.C.D is the WAN IP address of the gateway, and Port is the number of RTSP external port.

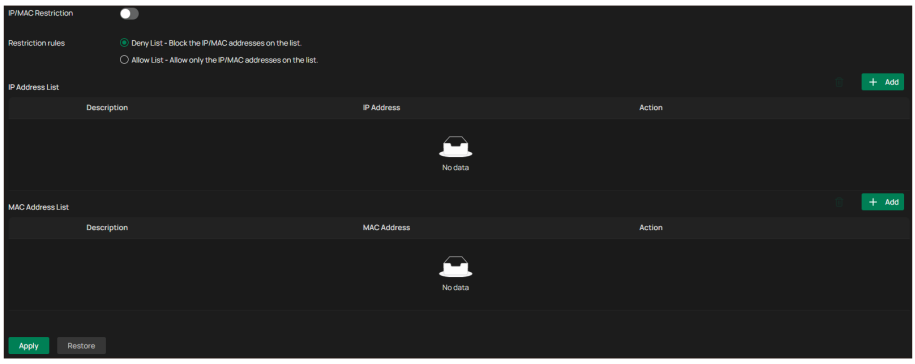
N can be number 1 or 2 that indicates the stream, 1 for main stream and 2 for substream.

9. 6 Restrict Access by IP and MAC Address

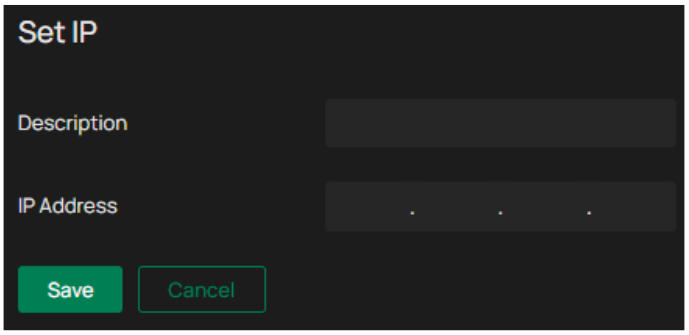
When Access Restriction is enabled, you can manage a Deny List or an Allow List to control which devices are permitted to access the camera. This function supports filtering by both IP Address and MAC Address.

1. Go to **Settings** > **Network Settings** > **IP Restriction**.

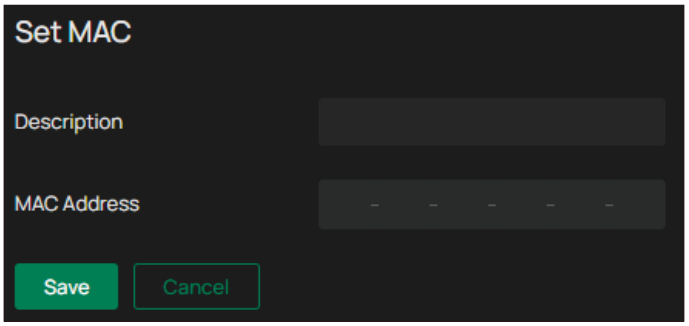
2. Enable IP Restriction and specify the restriction rule. If you select **Deny List**, the devices with the IP addresses specified in the table will not be able to access the camera. If you select **Allow List**, only the devices with the IP addresses specified in the table can access the camera.



3. Click **Add** to add the desired IP address, give a description to identify this IP address, and click **Save**.



4. Click **Add** to add the desired MAC address, give a description to identify this MAC address, and click **Save**.



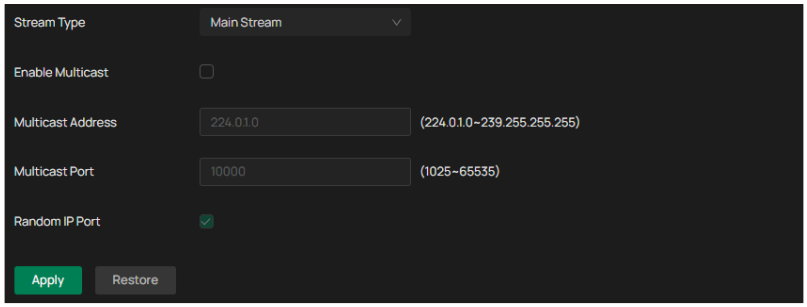
5. Click **Apply**.

9. 7 Optimize Bandwidth with Multicast

When Multicast is enabled, multiple users within the same local network can view the live video stream simultaneously without increasing the camera's CPU load or consuming additional upload bandwidth for each connection.

1. Go to **Settings** > **Network Settings** > **Multicast**.

2. Select the stream type, then enable **Multicast**.



3. Disable Random IP Port and specify a static address and port, or enable Random IP Port.
4. Click **Apply**.

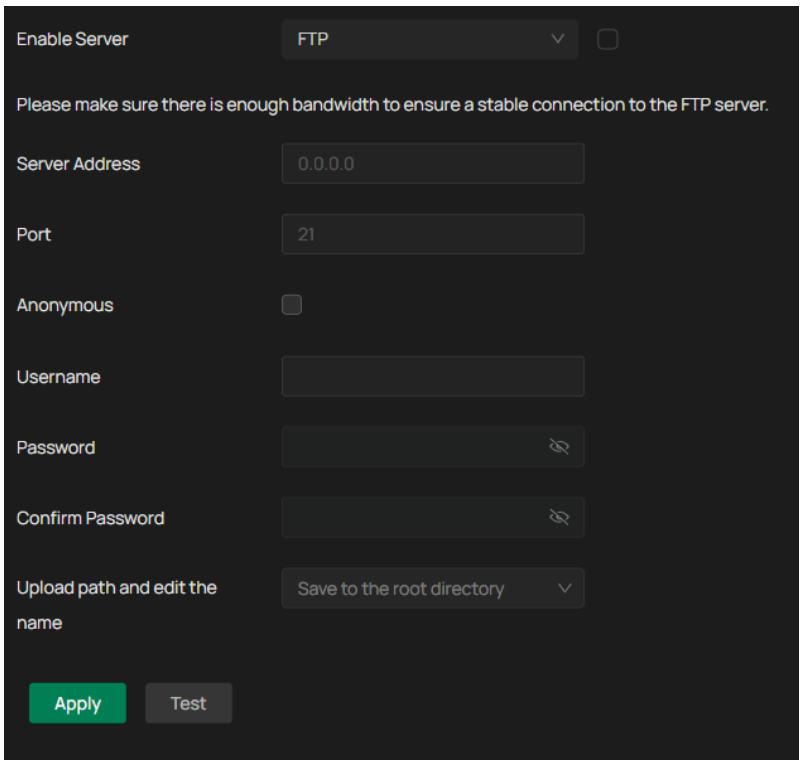
After Multicast enabled, you can watch the video with the URL rtsp://A:B:C:D/multicastStreamN, for example, rtsp://username:pwd@IP:rtspPort/multicastStream1. A.B.C.D is the IP address of the camera, and N can be number 1 or 2 that indicates the stream, 1 for main stream and 2 for substream.

9. 8 Upload Data to an FTP Server

9. 8. 1 FTP Sever

You can configure an external FTP Server to serve as a remote storage destination for the camera's data. This feature supports multiple recording and capturing methods to ensure comprehensive data redundancy.

1. Go to **Settings** > **Network Settings** > **FTP Settings** > **Server**.



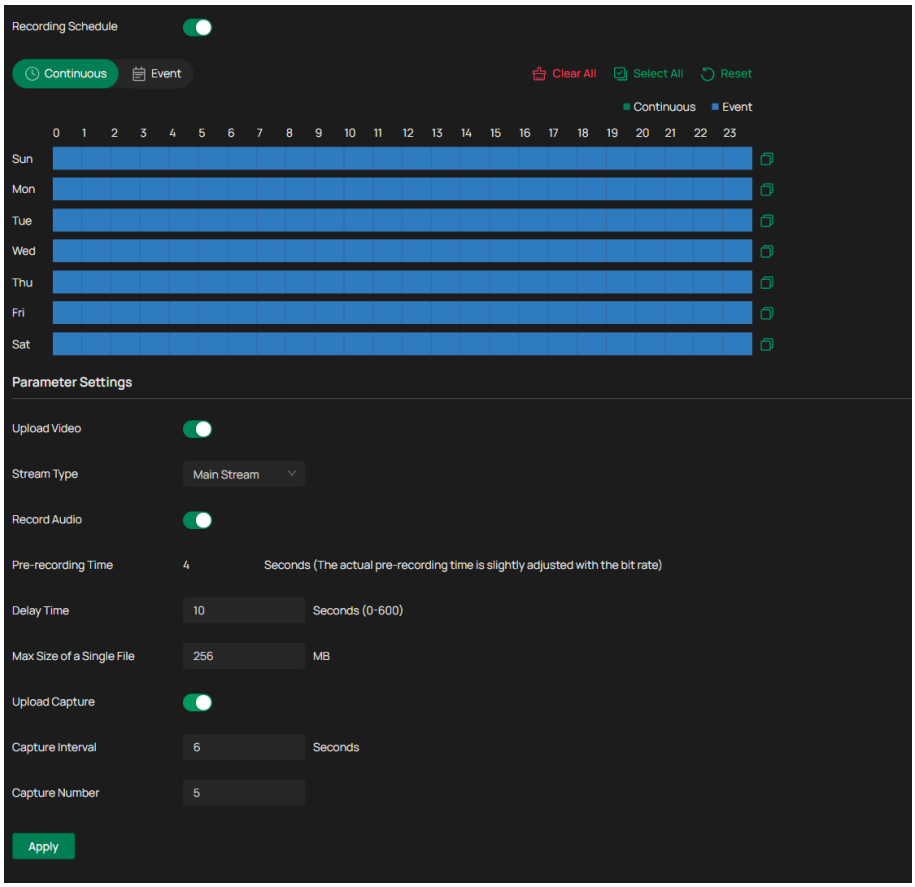
2. Check Enable Server. FTP and SFTP are selectable. The files uploading is encrypted by using SFTP protocol.
3. Enter Server Address and Port. They stand for the FTP server address and corresponding port.
4. Set Username and Password and confirm the password. The FTP user should have the permission to upload pictures.
5. If the FTP server supports picture uploading by anonymous users, you can check Anonymous to hide your device information during uploading.

   Note: Anonymous login is not supported when SFTP protocol is selected.
6. Select the saving path of images uploaded in the dropdown box of Upload Path and Edit the Name.
7. Click **Test** to verify the FTP server.
8. Click **Apply**.

9. 8. 2 FTP Upload

You can configure the parameters of videos and images to be uploaded to the FTP server.

1. Go to **Settings** > **Network Settings** > **FTP Settings** > **Upload**.



2. Enable Recording Schedule and follow the steps in Set the Recording Schedule.

3. Enable Upload Video and Upload Capture as needed. Upload Video allows the system to automatically send recorded video clips to the configured FTP server. Upload Capture allows the system to upload snapshot images captured during events.
4. Configure the following parameters:

Stream Type	Select the stream type for recording. Main Stream stands for the best stream performance the device supports. It usually offers the best resolution and frame rate the device can do. But high resolution and frame rate usually means larger storage space and higher bandwidth requirements in transmission. Substream usually offers comparatively low resolution options, which consumes less bandwidth
Record Audio	Enable to record audio and video simultaneously.
Delay Time	The time is set for cameras to record after the scheduled time or event. For example, if you set the post-record time as 5 seconds, it records till 11:00:05 as motion detection ends at 11:00.
Max Size of a Single File	Set the size limit of a single file.
Capture Interval	The camera takes the capture when it reaches the capture interval.
Capture Number	The number of captures taken during one interval.

5. Click Apply.

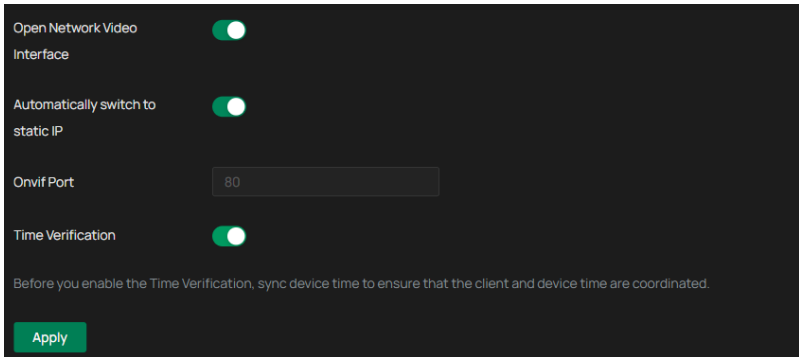
9. 9 Configure Advanced Protocols

9. 9. 1 ONVIF

ONVIF (Open Network Video Interface Forum) is an open industry standard that enables IP cameras to work seamlessly with third-party video management systems, recorders, and software platforms. By enabling ONVIF, the camera can be discovered, configured, and controlled by other ONVIF-compliant devices, regardless of brand.

Enable ONVIF if you need to use third-party management devices.

1. Go to **Settings** > **Network Settings** > **Advanced** > **ONVIF**.



2. Configure the following:

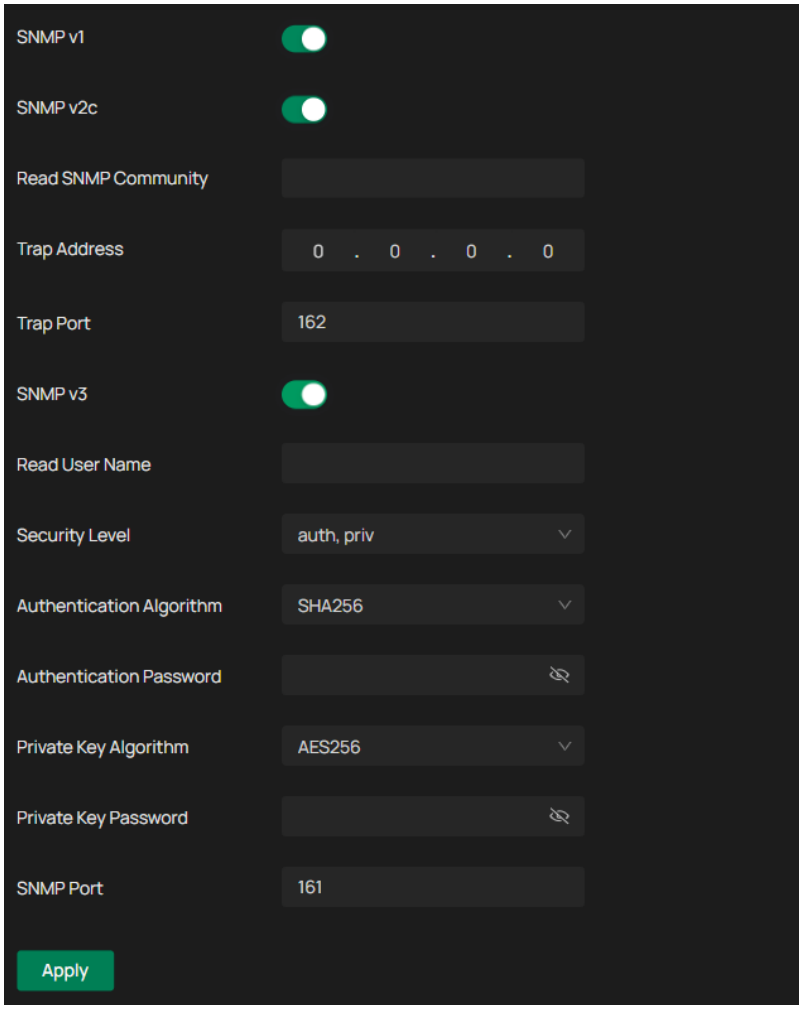
Open Network Video Interface	Enables ONVIF support, allowing the camera to connect with third-party video management systems that support the ONVIF protocol.
Automatically switch to static IP	When enabled, the device will automatically switch to a static IP address during ONVIF communication to ensure stable connectivity.
Onvif Port	ONVIF uses port 80 and 2020 by default for communication. For earlier versions, the default port for ONVIF is 2020.
Time Verification	Ensures secure ONVIF access by verifying time consistency between the device and the client. **Note:** Before enabling Time Verification, make sure the device time is synchronized with the client to avoid authentication issues.

3. Click **Apply**.

9. 9. 2 SNMP

SNMP (Simple Network Management Protocol) enables your network management system (NMS) to monitor camera status, including uptime, network performance, and basic device health. Once configured, the camera can be integrated into a centralized monitoring platform for proactive management.

1. Go to **Settings** > **Network Settings** > **Advanced** > **SNMP**.



The camera supports SNMP v1, SNMP v2c, and SNMP v3. Select the version required by your NMS and configure its parameters.

SNMP v2c uses a community string for authentication.

1. In the SNMP v2c section, enter a Read SNMP Community string.

The default is often public, but you should replace this with a strong, unique string.

2. In Trap Address, enter the IP address of the NMS that will receive SNMP trap messages.
3. Confirm the Trap Port. The standard trap port is 162.

SNMP v3 offers user-based authentication and encryption.

1. In the SNMP v3 section, enter a Read User Name to identify the SNMP user.
2. Select a Security Level. The Security Level determines how SNMP v3 protects communication between the camera and the NMS:

no auth, no priv	This level provides neither authentication nor encryption. It is the least secure option and should only be used on fully trusted, isolated networks.

auth, no priv	This level provides authentication but no encryption. It ensures that messages come from a verified source, although the contents of the messages can still be read on the network.
auth, priv	This level provides both authentication and encryption. It offers the highest level of protection and is recommended for most environments.

3. Choose an Authentication Algorithm. The Authentication Algorithm verifies the identity of the sender. You can choose from the following options:

MD5	Offers basic security and is considered an older standard. It should be used only if required by your existing NMS.
SHA	Provides stronger protection and is widely supported.
SHA-256	Offers enhanced security and is recommended when supported by your NMS.

A stronger authentication algorithm provides better protection against tampering.

4. Set a strong Authentication Password.
5. If using the priv level, choose a Private Key Algorithm.

DES	Provides basic, legacy encryption and offers the lowest level of security.
AES	Provides modern and secure encryption suitable for most environments.
AES256	Provides the highest level of encryption and is recommended when supported by your NMS.

Using AES or AES256 will provide stronger protection in secure deployments.

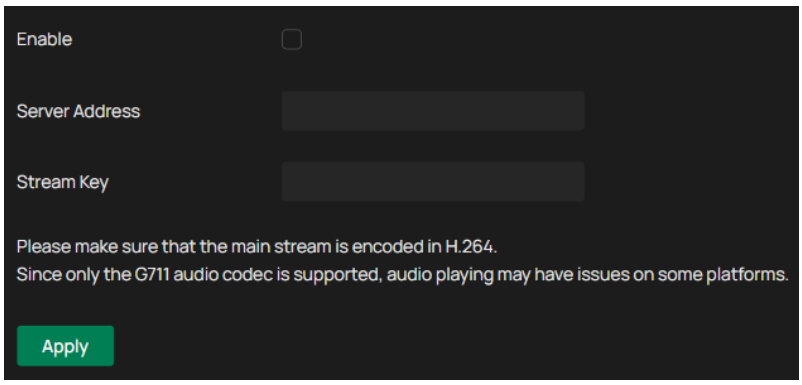
6. Set a Private Key Password.
7. Confirm the SNMP Port for queries. The standard port is 161.

After completing the settings for your chosen SNMP version, click Apply to activate SNMP on the camera.

9. 9. 3 RTMP

RTMP (Real-Time Messaging Protocol) is a widely used streaming protocol that allows your IP camera to broadcast live video to platforms such as YouTube, Facebook Live, or custom media servers. This enables real-time video sharing over the internet with low latency and broad compatibility.

1. Go to **Settings** > **Network Settings** > **Advanced** > **RTMP**, and enable it.



2. Configure the following parameters.

Note:

- Ensure the main stream is encoded using H.264, as this is the only supported video codec for RTMP streaming.
- Additionally, the G711 audio codec is used; some platforms may experience audio playback issues due to limited support for this format.

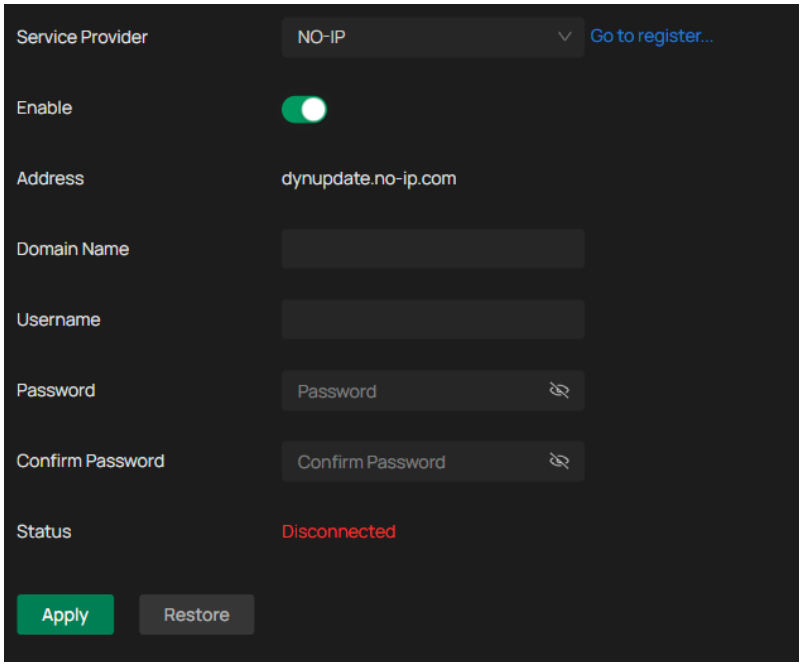
Server Address	Enter the RTMP server URL provided by your streaming platform. This defines the destination where your camera's video stream will be sent.
Stream Key	Enter the unique stream key assigned by your platform. This authenticates and links your camera's feed to your specific live stream.

3. Click **Apply**.

9. 9. 4 DDNS

You can use the Dynamic DNS (DDNS) for network access. The dynamic IP address of the device can be mapped to a domain name resolution server to realize the network access via domain name. Registration on the DDNS server is required before configuring the DDNS settings of the device.

1. Go to **Settings** > **Network Settings** > **Advanced** > **DDNS**.



2. Select the type of Service Provider for domain name resolution.

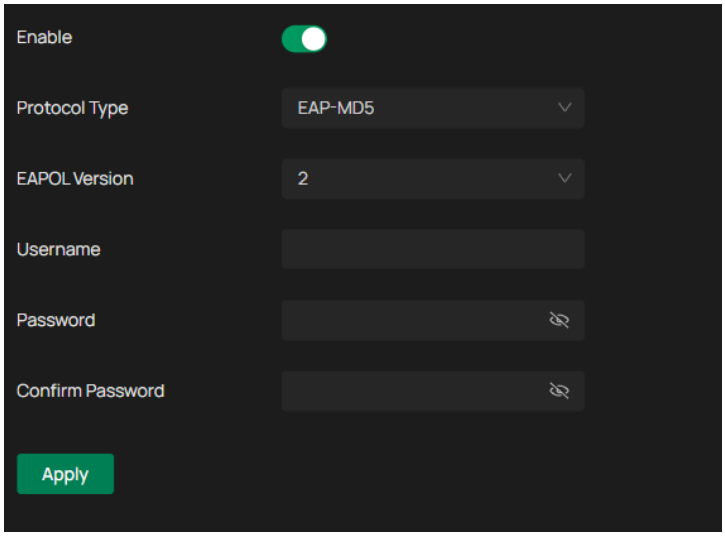
NO-IP	A common third-party DDNS provider. Requires an existing NO-IP account and hostname.
DynDNS	A professional-grade third-party DDNS provider. Requires an existing DynDNS account and hostname.
TP-Link	Use the built-in TP-Link cloud service. This is the most seamless option and requires a TP-Link ID login. You must log in with your TP-Link ID first. Click **Register**, enter your desired domain name, and click **Save**.

4. Enter the domain name information, and click **Apply**.

9. 9. 5 802.1x

802.1x is a network access control protocol that enhances security by requiring authentication before a device (like your IP camera) can connect to the network. When enabled, the camera must verify its identity through a configured authentication method before accessing the network, helping prevent unauthorized devices from joining.

1. Go to **Settings** > **Network Settings** > **Advanced** > **802.1x**.



2. Configure the following:

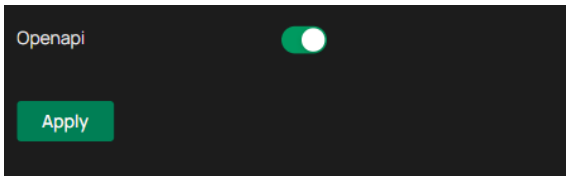
Protocol Type	Select the authentication method used by your network: **EAP-MD5:** Basic authentication using a username and password. **EAP-LEAP:** Cisco proprietary protocol that supports mutual authentication. **EAP-PEAP:** Encapsulates authentication within a secure TLS tunnel for improved security. Choose the protocol type that matches your network's configuration.
EAPOL Version	Choose the version of EAP over LAN (EAPOL) protocol used for communication: 1: Compatible with older network infrastructures. 2: Used in most modern networks for enhanced performance and compatibility.

3. Specify username, password, and click **Apply**.

9. 10 Integrate via OpenAPI

For integration with custom software or third-party systems, you can use the OpenAPI. The OpenAPI allows you to retrieve license plate recognition data, manage Allow/Block Lists, and trigger outputs programmatically, providing flexibility for large-scale or customized workflows.

To enable this function, go to Settings > Network Settings > Openapi.

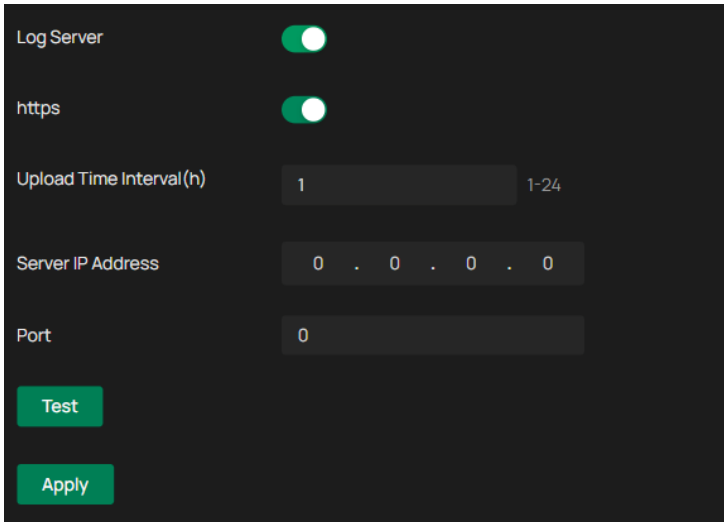


9. 11 Sync to a Remote Log Server

In Network Service, you can configure the HTTPS port and service port of devices that can be used to access the camera through the network. When managing and monitoring the devices, the ports configured here are used for communications of corresponding protocols.

The Log Server feature allows your IP camera to automatically send system logs to a designated remote server for centralized monitoring, auditing, or troubleshooting. This is especially useful in multi-device environments where you want to track performance, errors, or security events from a central location.

1. Go to Settings > Network Settings > Log Server and enable it.



2. Configure the following:

https	Enable it for encrypted transmission for added security. Tip: Use HTTPS when uploading logs over public or unsecured networks.
Upload Time Interval(h)	Defines how often the camera sends log data to the server. Enter a value between 1 and 24 hours. For example, entering 6 means the camera will upload logs every 6 hours.
Server IP Address	Enter the IP address or hostname of the log server where the logs will be sent.

Port	Specify the port number used by the server to receive log data. Common default ports: 80 for HTTP, and 443 for HTTPS. Always verify with your server administrator.

3. Click Test and Apply.

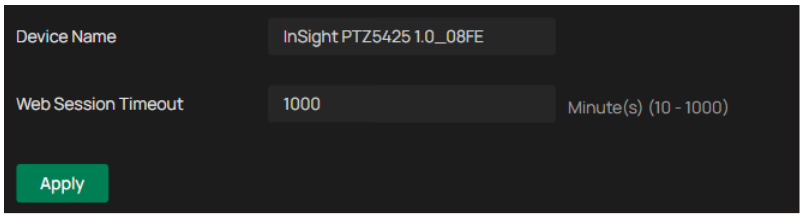
Chapter 10

System Maintenance

This chapter guides you to configure the basic and advanced settings of your camera, export and import settings. You can create and modify administrator accounts based on your needs. This chapter includes the following sections:

10. 1 Customize Basic Device Info

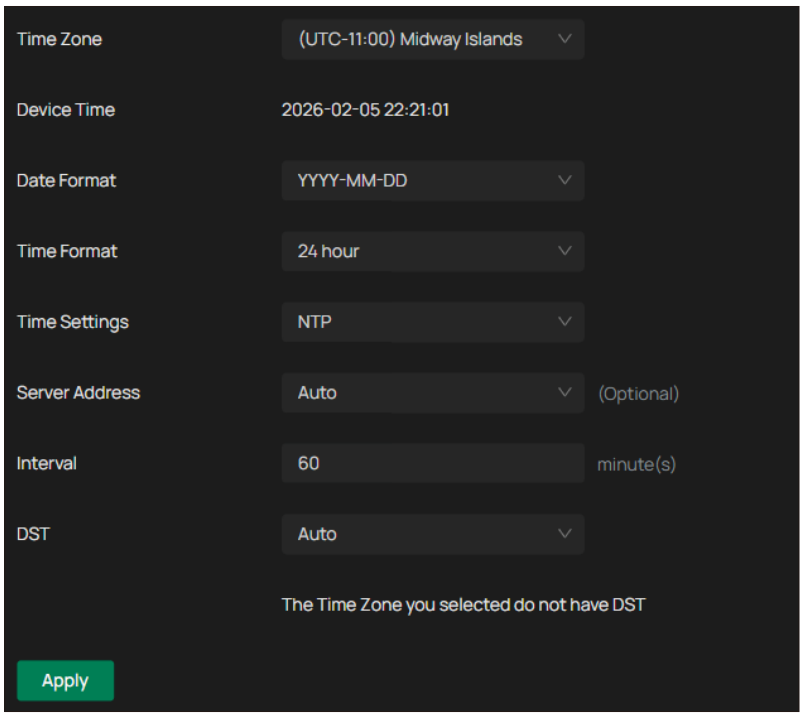
1. Go to **Settings** > **System Settings** > **Basic Settings.**
2. View and change the name of your camera.
3. Specify the Web Session Timeout. You will be logged out when you make no operation (not including viewing live image) to the device via web browser within the set timeout period.



10. 2 Set System Time

You can select the time zone and set the time synchronization mode to Manual or NTP mode for the camera.

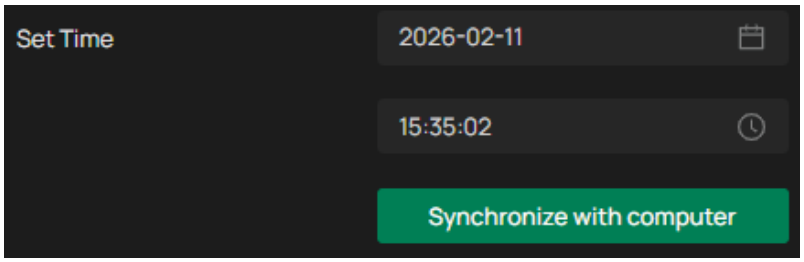
1. Go to **Settings** > **System Settings** > **Basic Settings** > **Date.**



2. Select your time zone.
3. Configure your time settings.

   Network Time Protocol (NTP) is a protocol designed to time-synchronize a network of machines. NTP runs on User Datagram Protocol (UDP), which in turn runs on IP, or you can manually set the system time. If you do not want to expose your camera to the network, you can choose **Manual**. You

may also click **Synchronize with computer** to synchronize the time settings of your camera with that of your PC.



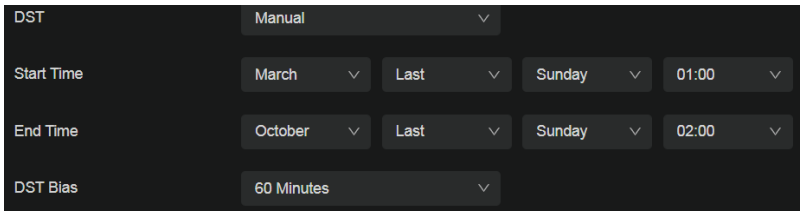
Server address	Enter the IP address of the NTP server.
Interval	Time interval between the two synchronizing actions with NTP server. **Note:** The interval can be set from1 to 10080 minutes, and the default value is 60 minutes.

4. (Optional) Set DST (daylight saving time) parameters.

   DST is the practice of setting the clocks forward one hour from standard time during the summer months, and back again in the fall. DST Bias is the difference in minutes between standard time and daylight-saving time for a specific time zone.

   You can select **Auto** at the dropdown list. Note that to update the time automatically with the DST, internet connection is required.

   Or you can select **Manual** and specify the date/time of the DST period.



   Note:

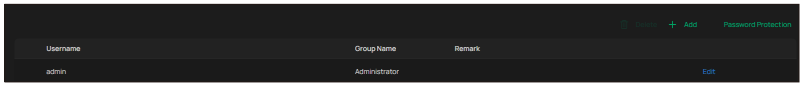
   - In some time zones, DST is not observed.
   - If the camera is connected to an NVR, you only need to configure NTP and DST settings on the NVR, which will be synchronized with the camera.

5. Click **Apply**.

10. 3 Manage User Permissions and Passwords

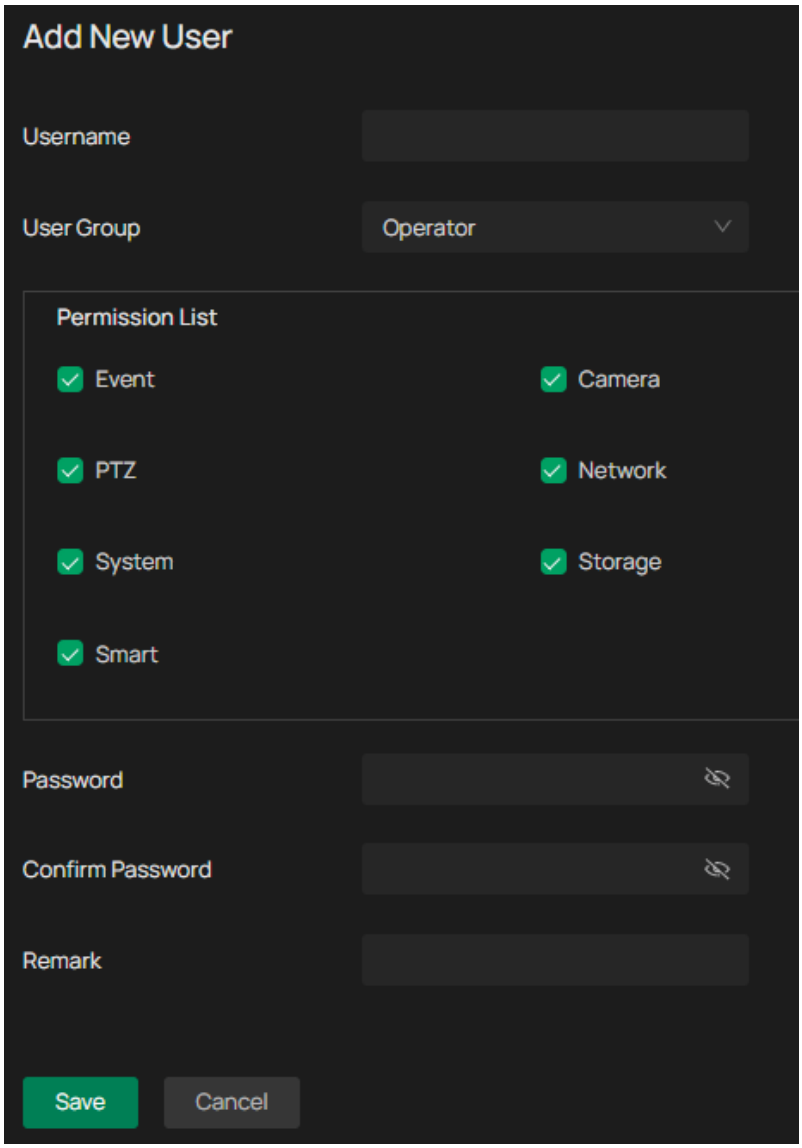
You can modify the default user account (admin) based on your needs. The Administrator user name is admin and the password is set when you set up your camera for the first time.

1. Go to **Settings** > **System Settings** > **User Management.**



2. Click Add. Enter Username, select User Group, and enter Password. Assign remote permission to users based on needs.

Note: The system pre-defines a default user group: administrator, which has all the permission of the system. You can click Edit to view the details and operations. The permission list of the administrator cannot be edited.

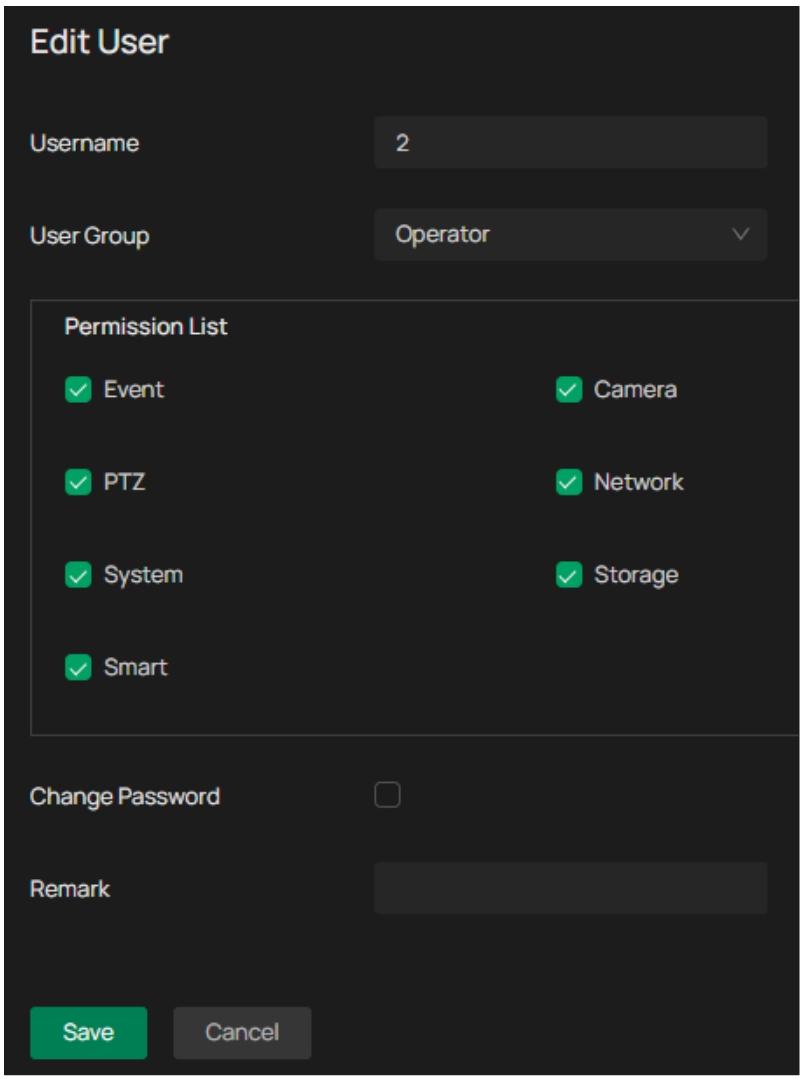


Administrator	The administrator has the authority to all operations and can add users and operators and assign permission.
Operator	Operators can be assigned all permission except for operations on the administrator and creating accounts.
User	Users can be assigned permission of viewing live video, setting zoom and event parameters, and changing their own passwords, but no permission for other operations.

3. (Optional) After adding the role, you can do one or more of the following:

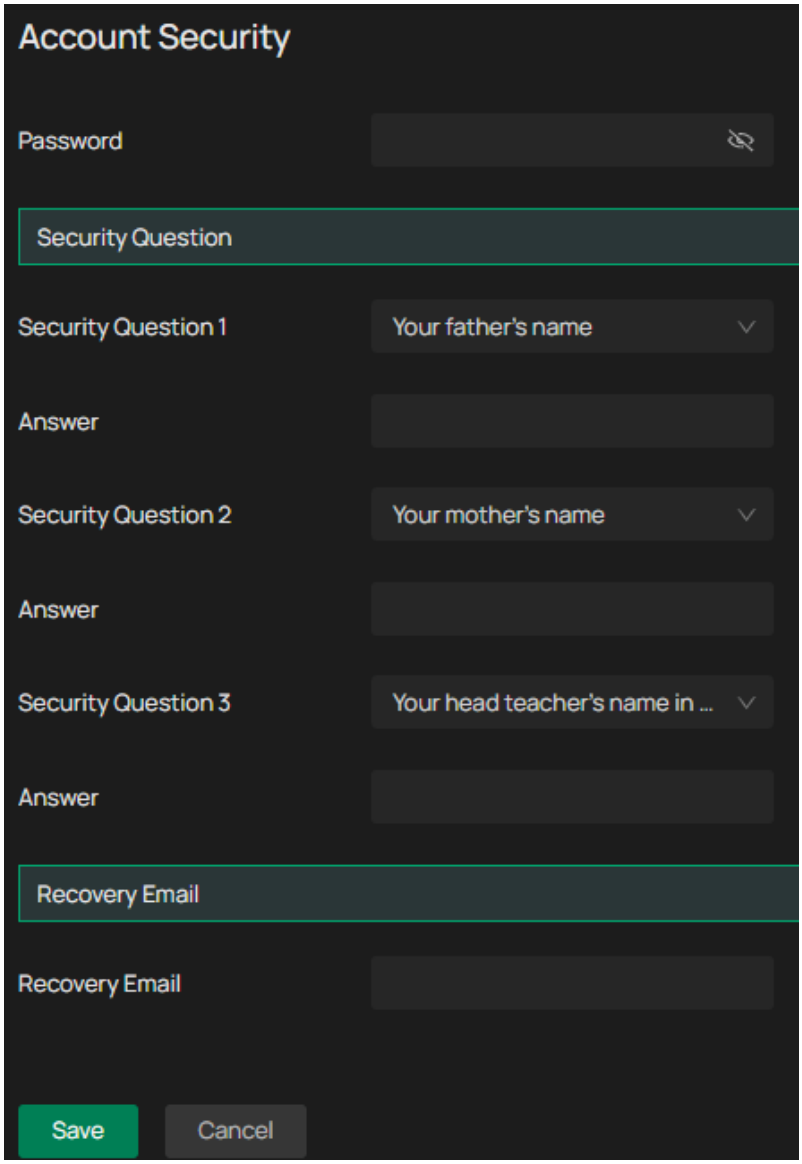
Set the permission for the user. Under the Permission List, check the accesses you grant to the user.

4. Add a remark for the user. Enter your personalized notes in the Remark field.



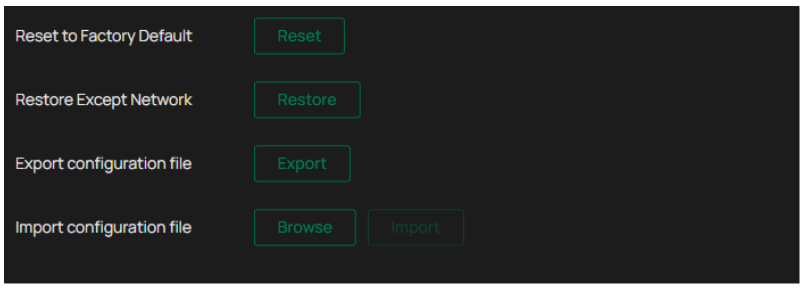
5. Click **Password Protection** for account security settings. You can reset the password by setting the security question or email. You can click **Forget Password** and answer the security question

to reset the admin password when access the device via browser. After setting the email, you can receive the verification code during the recovering operation process.



10. 4 Perform System Maintenance and Backups

You can reset the camera to factory default settings, import and export the configuration file of your camera. To configure these settings, go to **Settings** > **System Settings** > **System Management.**



To revert all the parameters to the factory default, click **Reset**.

To revert device parameters, excluding network settings, to the factory default, click **Restore**.

Note: After you click Restore, the port number you set in Network Settings will change.

To export the configuration file, click **Export**.

To import the configuration file, click **Browse** to select your file, then click **Import**.

10. 5 Update the Camera Firmware

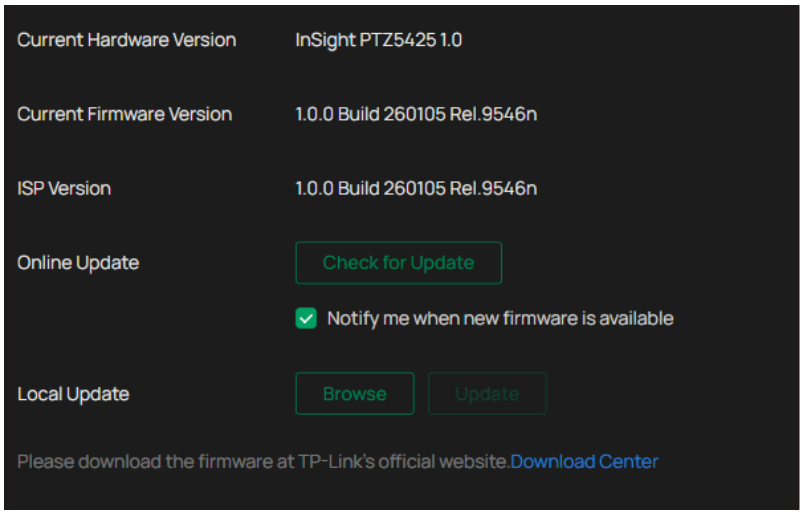
TP-Link aims at providing better network experience for users. We will inform you through the web management page if there's any update firmware available for your camera. Also, the latest firmware will be released at the TP-Link official website www.tp-link.com, and you can download it for free.

Note:

- Backup your camera configuration before firmware upgrade.
- Do NOT power off the camera during the firmware upgrade.

10. 5. 1 Online Upgrade

1. Go to **Settings** > **System Settings** > **System Management** > **Upgrade Firmware.**
2. Click **Check for Update** to see whether the latest firmware is released.



3. Navigate to the **Online Upgrade** section, and click **Upgrade** if there is new firmware.
4. Wait a few minutes for the upgrade and reboot to complete.

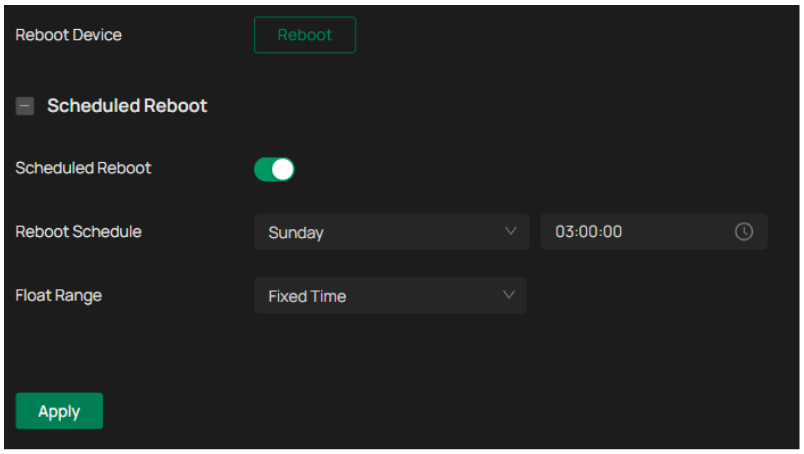
10. 5. 2 Local Upgrade

1. Download the latest firmware file for the camera from www.tp-link.com.
2. Go to **Settings** > **System Settings** >**System Management** > **Upgrade Firmware.**
3. Click **Browse** to locate the downloaded new firmware file, and click **Update**. Wait a few minutes for the upgrade and reboot to complete.

10. 6 Schedule Regular Device Reboots

The Scheduled Reboot feature cleans the cache to enhance the running performance of the camera.

1. Go to **Settings** > **System Settings** > **System Management** > **Reboot Device.**
2. Enable **Scheduled Reboot**.
3. Select the day and time and specify the Float Range. When Fixed Time is selected, the camera will reboot at exactly the time you set in the Reboot Schedule. You may select 1 to 60 minutes. Then your camera will reboot some time before or after the time you set in the Reboot Schedule.
4. Click **Apply**.



Note: You can click Reboot Now to reboot the camera immediately.