



Security Radar

Configuration Guide

Contents

Chapter 1 System Introduction	1
Chapter 2 Configuration	1
2.1 Activate	1
2.1.1 Default Information	1
2.1.2 Activate via SADP	1
2.1.3 Activate via Web Browser	2
2.2 Set System	3
2.2.1 Upgrade Device	3
2.2.2 Synchronize Time	4
2.3 Set Radar	4
2.3.1 Add Map	4
2.3.2 Set Radar Location	9
2.3.3 Set Radar Alarm Area	10
2.3.4 Radar Parameter Settings	15
2.4 Link Camera to Radar	19
2.4.1 Link Camera	19
2.4.2 Set Live View	22
2.5 Calibrate Camera	23
2.5.1 Same Pole Calibration	25
2.5.2 Different Pole Calibration	27

Chapter 1 System Introduction

The radar alarm system consists of two core components: the front-end radar detector and the PTZ (Pan-Tilt-Zoom) linkage module. Together, they enable precise tracking of moving targets across various front-end environments. Detected motion trajectories and real-time video are automatically transmitted to the central management platform, where they trigger alarms and are displayed interactively alongside corresponding video feeds.

Chapter 2 Configuration

2.1 Activate

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation. The device supports multiple activation methods, such as activation via SADP software and web browser.

2.1.1 Default Information

The device default information is shown as below.

- Default IP address: 192.0.0.64
- Default user name: admin

2.1.2 Activate via SADP

SADP is a tool to detect, activate, and modify the IP address of the device over the LAN.

Before You Start

- Get the SADP software from the supplied disk or the official website (<http://www.hikvision.com/>), and install it according to the prompts.
- The device and the computer that runs the SADP tool should belong to the same network segment.

The following steps show how to activate one device and modify its IP address. For batch activation and IP address modification, refer to *User Manual of SADP* for details.

Steps

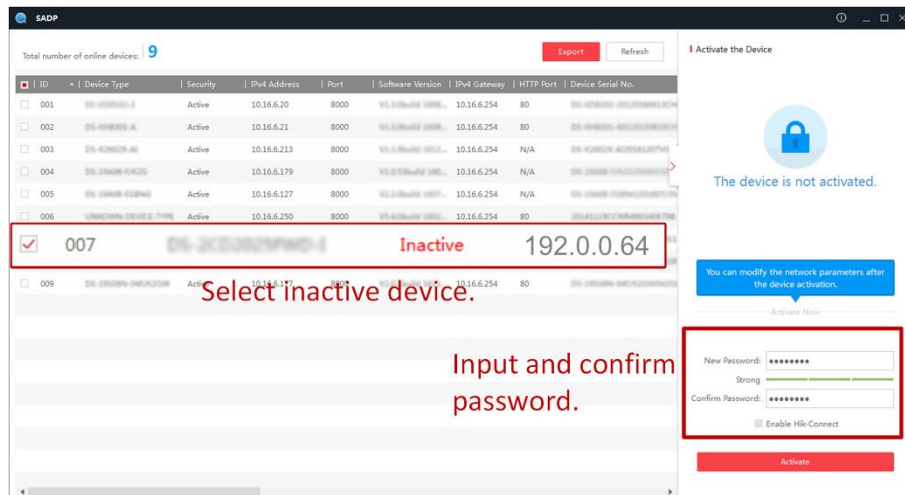
1. Run the SADP software and search the online devices.
2. Find and select your device in online device list.
3. Enter a new password (admin password) and confirm the password.



Caution

STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **Activate** to start activation.



Status of the device becomes **Active** after successful activation.

5. Modify IP address of the device.

- 1) Select the device.
- 2) Change the device IP address to the same network segment as your computer by either modifying the IP address manually or checking **Enable DHCP** (Dynamic Host Configuration Protocol).
- 3) Enter the admin password and click **Modify** to activate your IP address modification.



Note

The modified IP address of the radar device cannot be in the same network segment as the added camera to the radar.

2.1.3 Activate via Web Browser

Use web browser to activate the device.

Before You Start

Ensure the device and the computer are in the LAN with the same network segment.

Steps

1. Run the SADP software and search the online devices.
2. Find and select your device in online device list, and check its IP address.
3. Change the IP address of your computer to the same network segment as the device.
4. Open the web browser, and enter the IP address of the device found via SADP to enter the activation interface.
5. Create and confirm the admin password.



Caution

STRONG PASSWORD RECOMMENDED—We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **OK** to complete activation.
5. Optional: Go to the network settings interface to modify IP address of the device.

2.2 Set System

2.2.1 Upgrade Device

1. Go to **Configuration** → **System** → **System Configuration** → **Basic Information** to view the plugin version.

Basic Information Time Settings

Device Name

Device Model STS-BG32X-L5 / P

Serial No. STS-BG32X-L5 / P20250515CCRRE62184652WU

Firmware Version V2.3.0 build 250705 [Upgrade](#)

Encoding Version V5.0 build 000000

Hardware Version 0x0

Web Version V5.1.1_R0901 build 250701

Plugin Version V3.0.7.41

Intelligent Analysis Algorithm NA
Version

Radar Module Version V1.0.01

Radar Detection Range 10000.00

Local Area Count 16

Alarm Line Quantity 4

Alarm Output Count 1

Saved

Go to **Maintenance and Security** → **System Maintenance** → **Upgrade**, click  to upload local upgrade file, and click **Upgrade** to upgrade the device's firmware.

Firmware Version V2.3.1 build 251014

Local: Upgrade

Upgrade Configuration

Upgrade File  **Upgrade**

Note

The upgrade process requires 3-10 minutes, please do not turn off the power. The device will automatically restart after the upgrade is completed.

2.2.2 Synchronize Time

Synchronize the device time when it is inconsistent with the actual time.

Steps

1. Go to **Configuration** → **System** → **System Configuration** → **Time Settings**.
2. Select **Time Zone**.
3. Select **Synchronization Mode**.

NTP Synchronization

Select it to synchronize the device time with that of the NTP server. Set **Server IP**, **NTP Port**, and **Synchronization Time Interval**.

Manual Synchronization

Select it to synchronize the device time with that of the computer. Set time manually, or check **Sync. with computer time**.

4. Click **Save**.

Basic Information

Time Settings

Device Time

2025-10-17 11:03:02

Time Zone

(GMT+08:00) Beijing, Urumqi, Singapore, Perth

Synchronization Mode

☐ NTP time synchronization
 ☒ Manual Time Synchronization

Set Time

2025-10-17 10:50:53

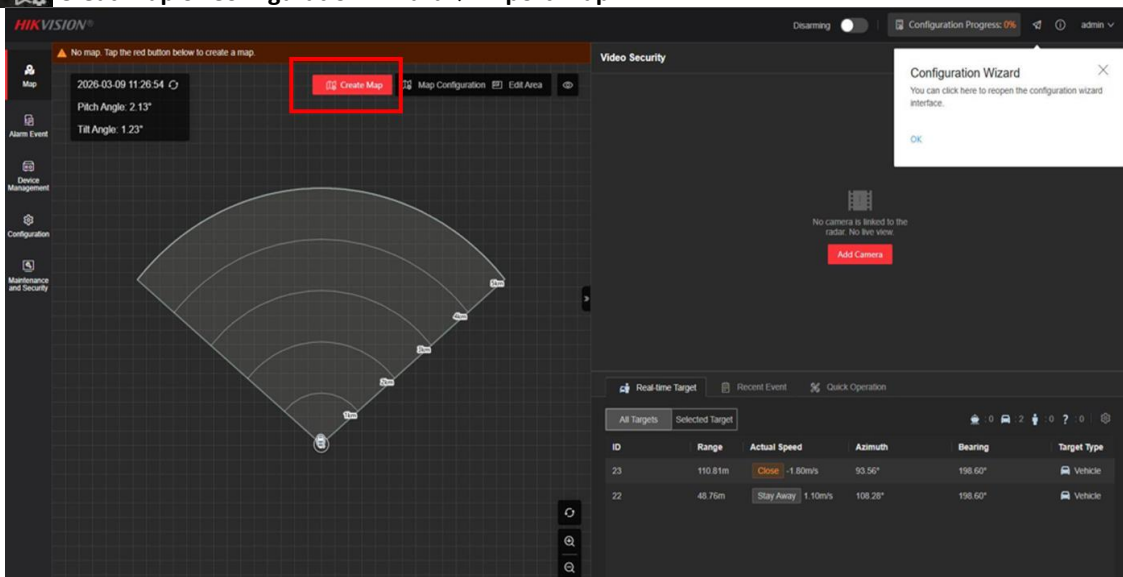
Synchronize with...

2.3 Set Radar

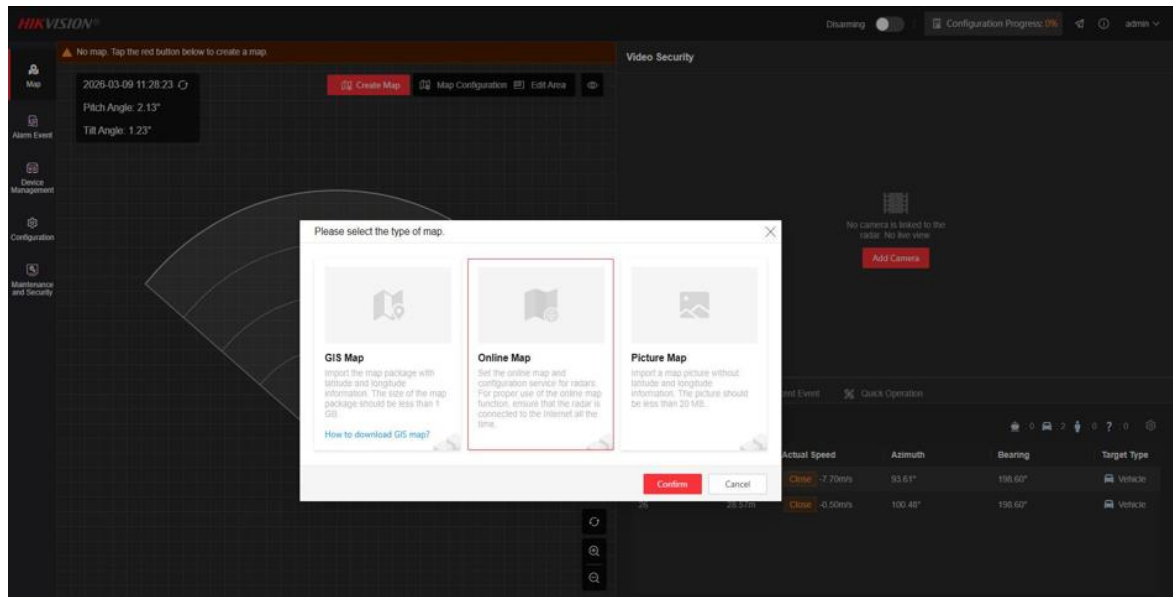
2.3.1 Add Map

Steps

1. Go to  **Crear Map or Configuration Wizard** → **Import Map**.



2. Select the type of map and click **Confirm**.



Hikvision provides three different map importing methods, which can be selected according to on-site conditions in combination with the description in Table 3-1.

Table 3-1 GIS Map and Picture Map

Map Type	Description	How to Import
GIS Map	When GIS maps are available, it is recommended to import GIS maps. Import the map package with latitude and longitude information. The size of the map package should be less than 1 GB.	You can click How to download GIS map to get a manual of <i>How to Download Offline Map Data</i> to guide you how to get GIS map.
Online Map	For proper use of the online map function, ensure that the radar is connected to the Internet all the time.	1. Select Online Map then click Confirm. 2. Copy and paste the address and API Key of the map. 3. Click OK.
Picture Map	Picture maps can only be calibrated by using moving targets. They are recommended when GIS maps are unavailable or when there are no prominent feature objects in the scene location.	1. Select Picture Map then click Confirm. 2. Click  to import a map picture without latitude and longitude information from your computer. (The picture should be less than 20 MB.) 3. Click OK.

4. Create map. Here we take importing online map as an example.
You need to enter the IP address and API key of the online map.

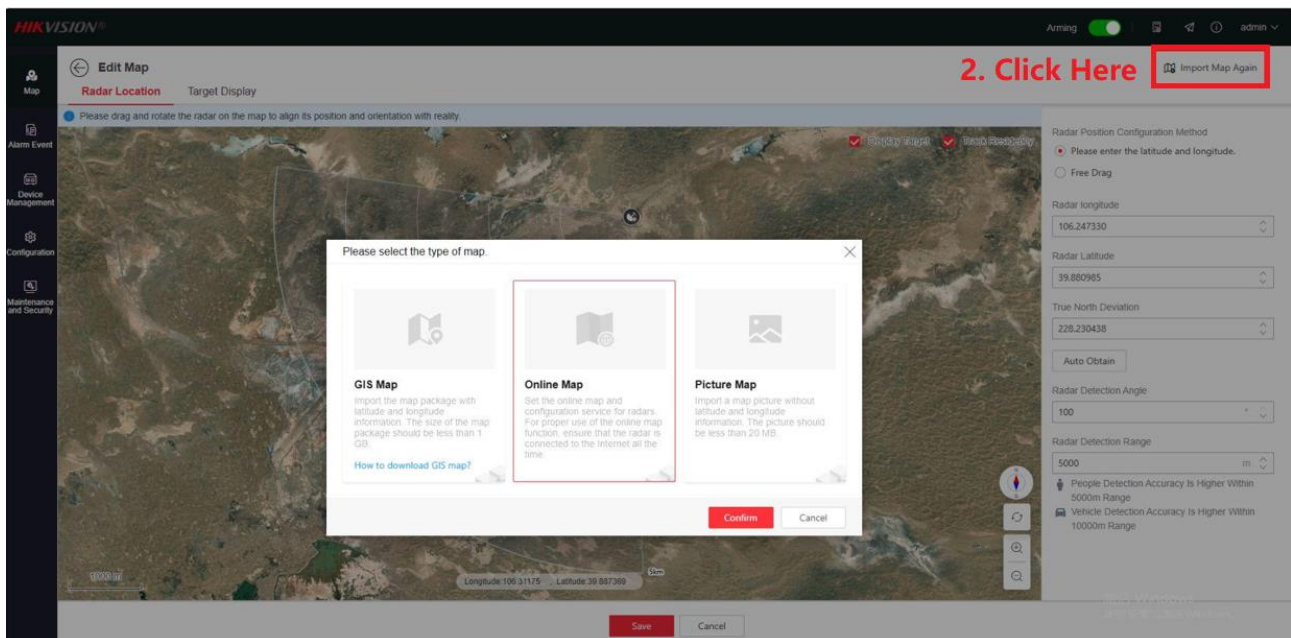
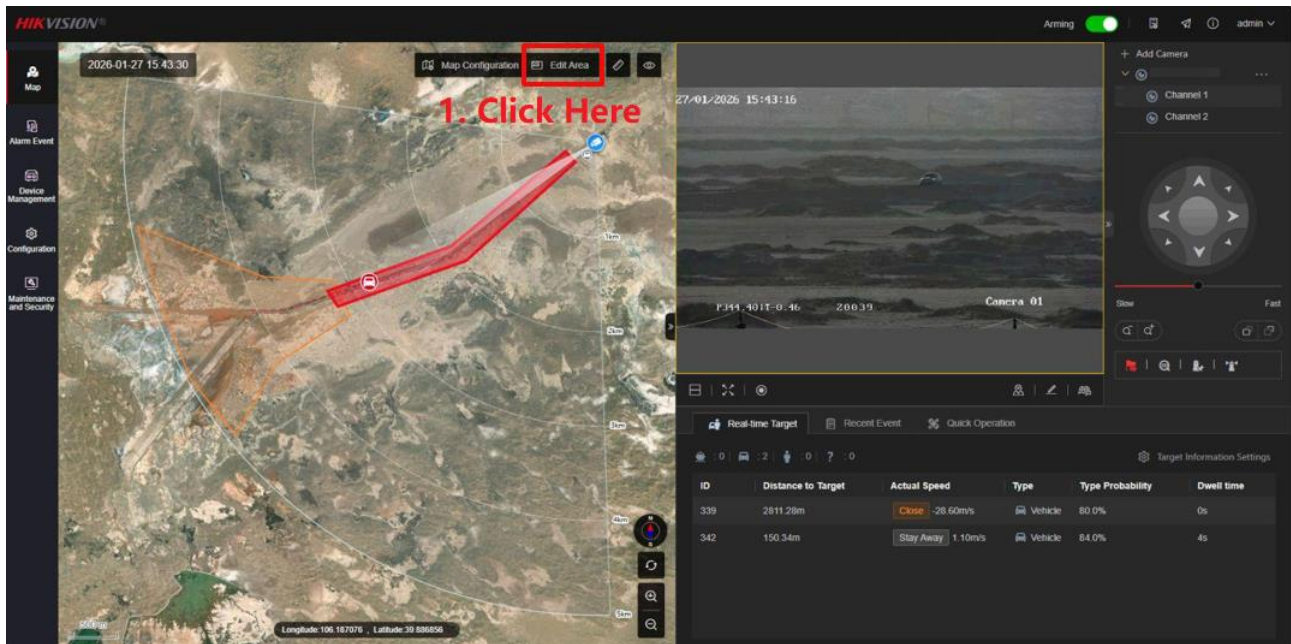
Test if the online map is available.

Click Save to complete online map configuration.

Note

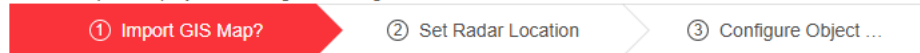
If the map is saved successfully but is not displayed, it may due to the fact that the radar position may deviate too far from the map position. Please adjust the radar position.

5. Optional: If you need to re-import the map, go to **Map** → **Map Configuration** → **Import Map Again**.



← Create Radar Detection Map

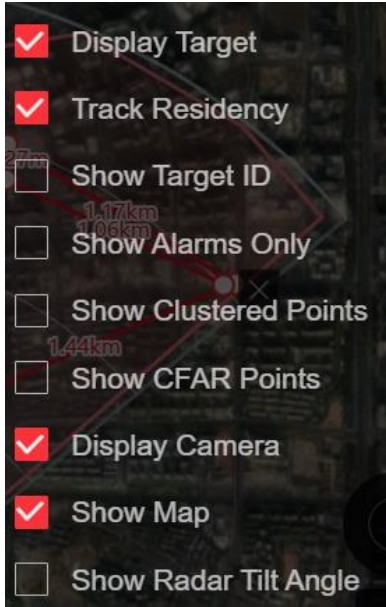
Create Map to Display Radar Target Tracking Effect



Online Map Package Address

Please import files no larger than 1 GB. [How to download GIS map?](#)

Map Button List

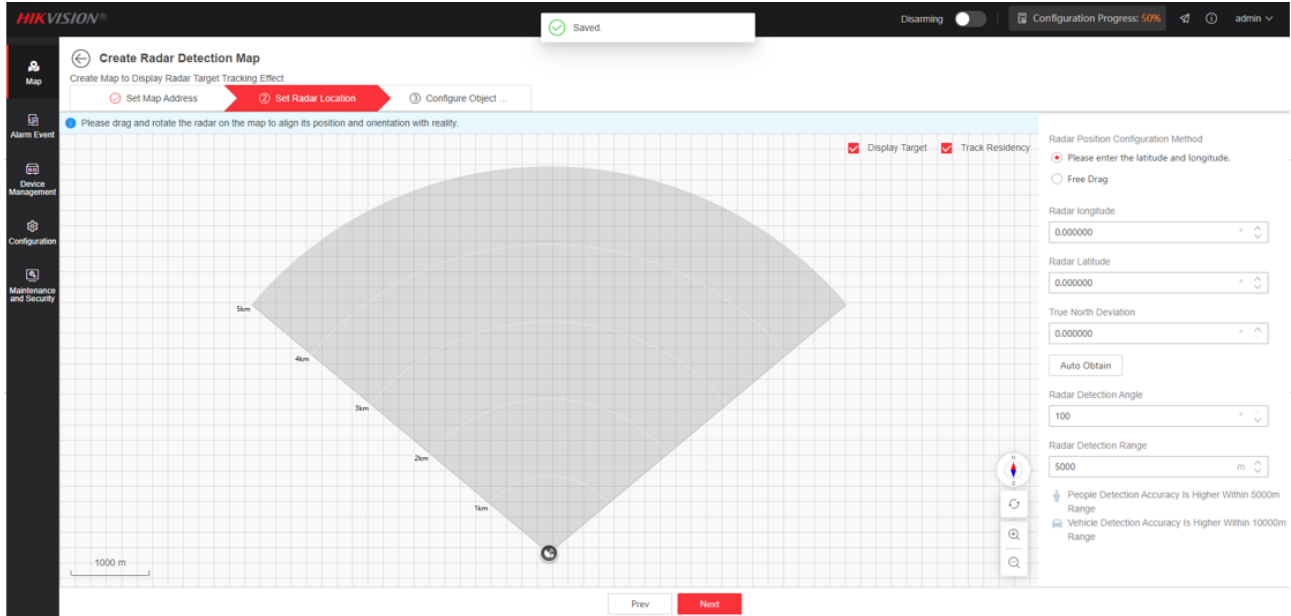
Button	Description
	Zoom in/ out on the map.
	Refresh the map.
	Compass: Hold and drag this button to rotate the map angle.
	Map Configuration
	Edit Area
	Measure: Left click to set the start point and finish point. Right click to finish drawing. Then you can see the measured distance on map.
	Display Parameters: Check the parameters you want to display on your map. Parameters including Display Target, Track Residency, Display Camera and Show Map are selected by default. 

2.3.2 Set Radar Location

The purpose of setting radar location is to place the radar at the corresponding point on the map and adjust its angle, orientation, and detection range as needed according to on-site requirements.

Steps

1. Go to **Map** → **Map Configuration** → **Radar Location**.



2. Select **Radar Position Configuration Method** according to actual demands. **Auto Obtain** is prioritized. If **Auto Obtain** is unavailable, radar longitude and latitude can be manually entered.

If your need to enter the longitude and latitude manually:

- 1) Enter latitude and longitude. Set **Radar Longitude**, **Radar Latitude**, **True North Deviation**, **Radar Detection Angle**, and **Radar Detection Range**.
- 2) Free draw. You can click  to freely locate the radar and  to adjust its direction.



Note

Latitude and longitude affect the calibration accuracy, so you must ensure the correctness of your manual entries.

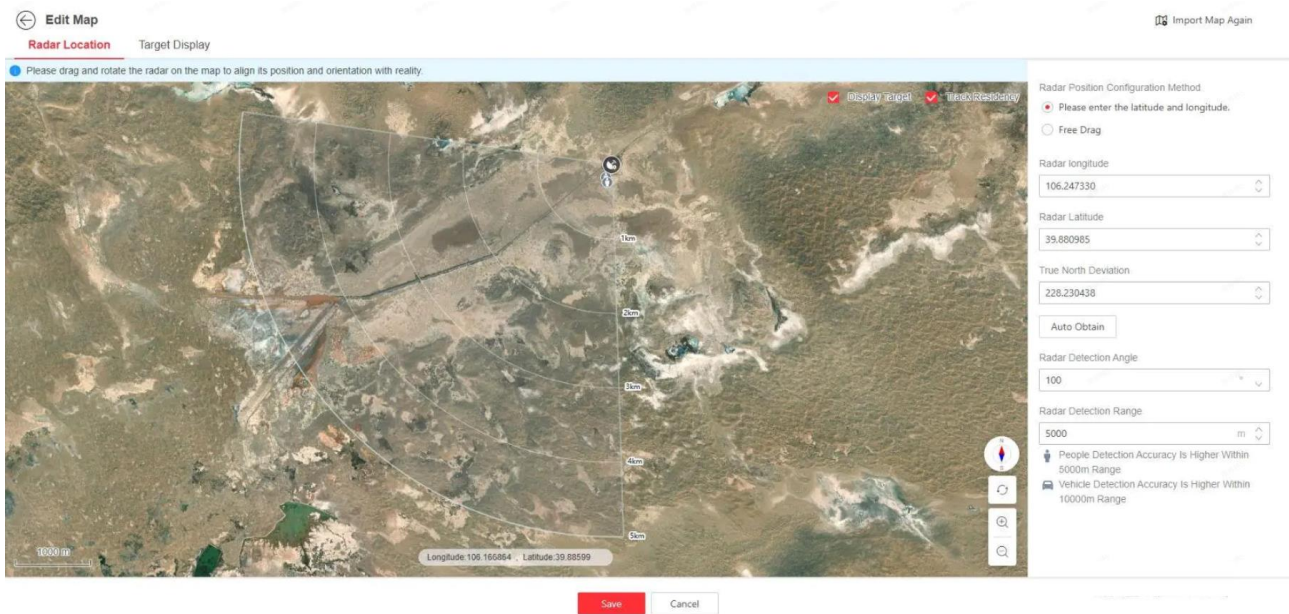
3. Configure the detection angle and range of radar according to operational requirements.



Note

The configured angle and distance must not exceed the radar's maximum values.

4. Click **Save**. The radar detection zone (white sector area) is shown on the map based on the configured parameters.



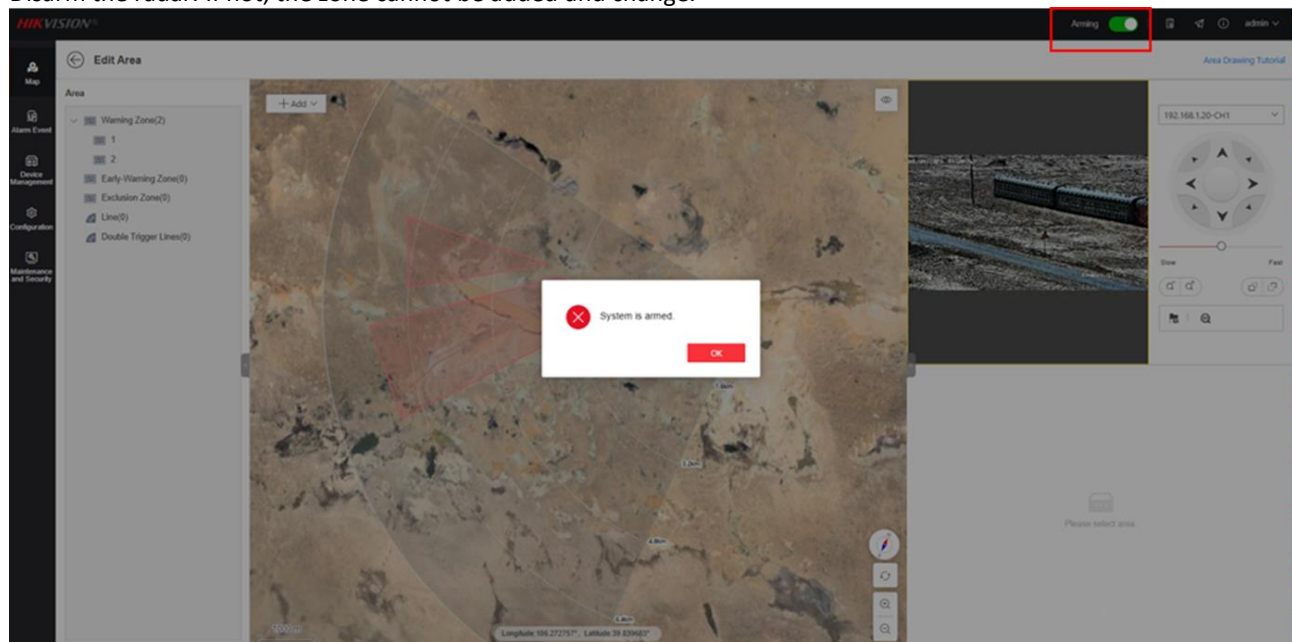
2.3.3 Set Radar Alarm Area

2.3.2.2 Add Zone

Add detection zones of the radar.

Before You Start

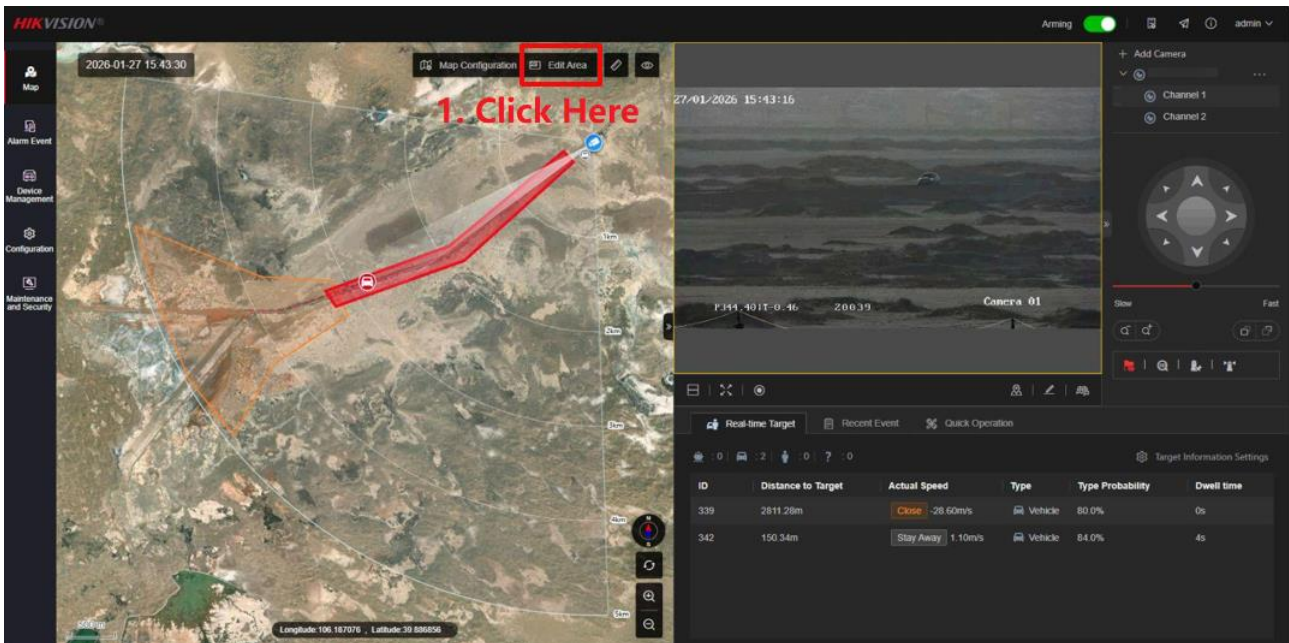
Disarm the radar. If not, the zone cannot be added and change.



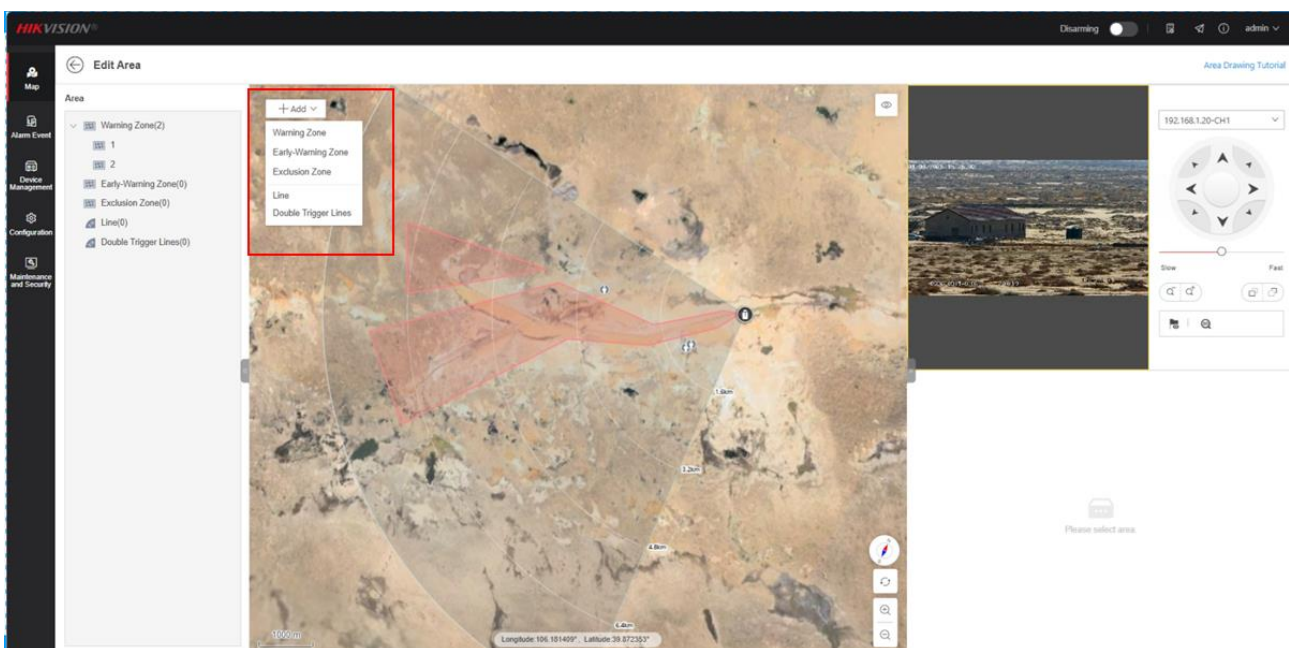
Optional: Click **Area Drawing Tutorial** to view tutorial to help you add zone.

Steps

1. Click **Edit Area** in radar interface.

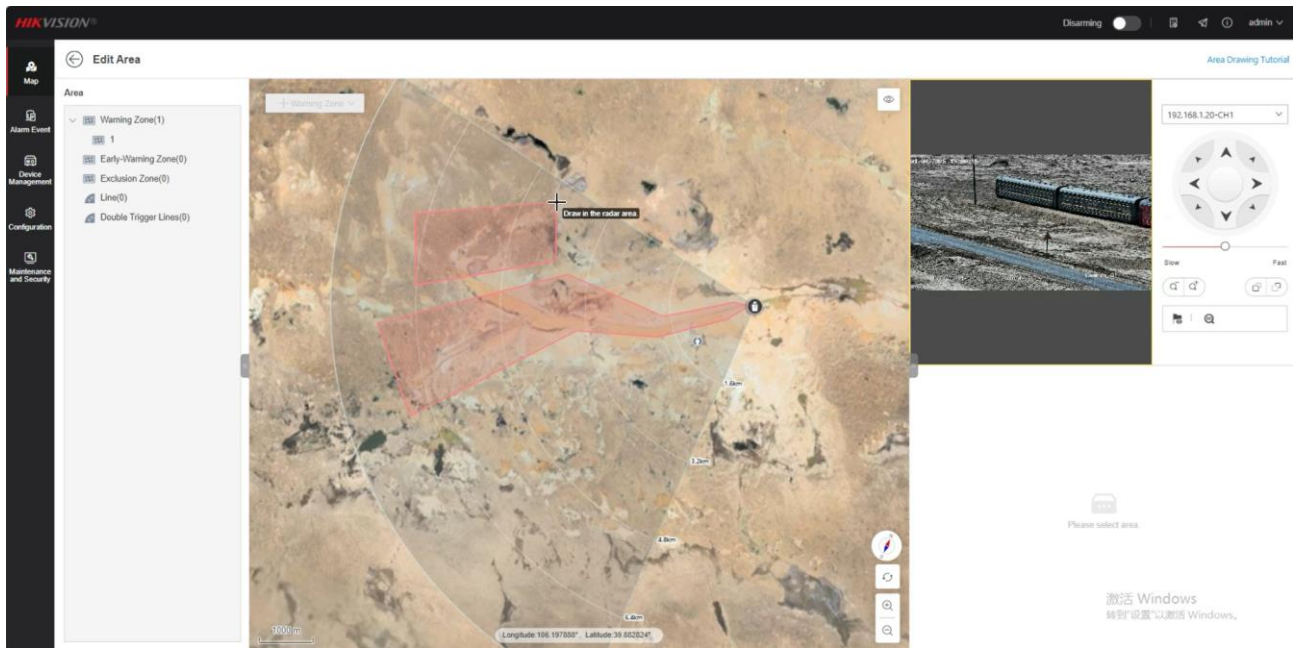


2. Click **+ Add** to select the area type to be added.



Warning Zone	When a target enters the warning zone, an alarm will be triggered and uploaded to the alarm platform. After drawing the zone, you can disable intrusion alarm function, and the radar will not send alarm in this area.
Pre-Warning Zone	The early warning zone will identify targets that have potential risks in advance and trigger alarm, but will not store alarm track.
Disabled Zone	After drawing a disabled zone, if a target enters the shielded area, neither the target nor its trajectory is displayed.

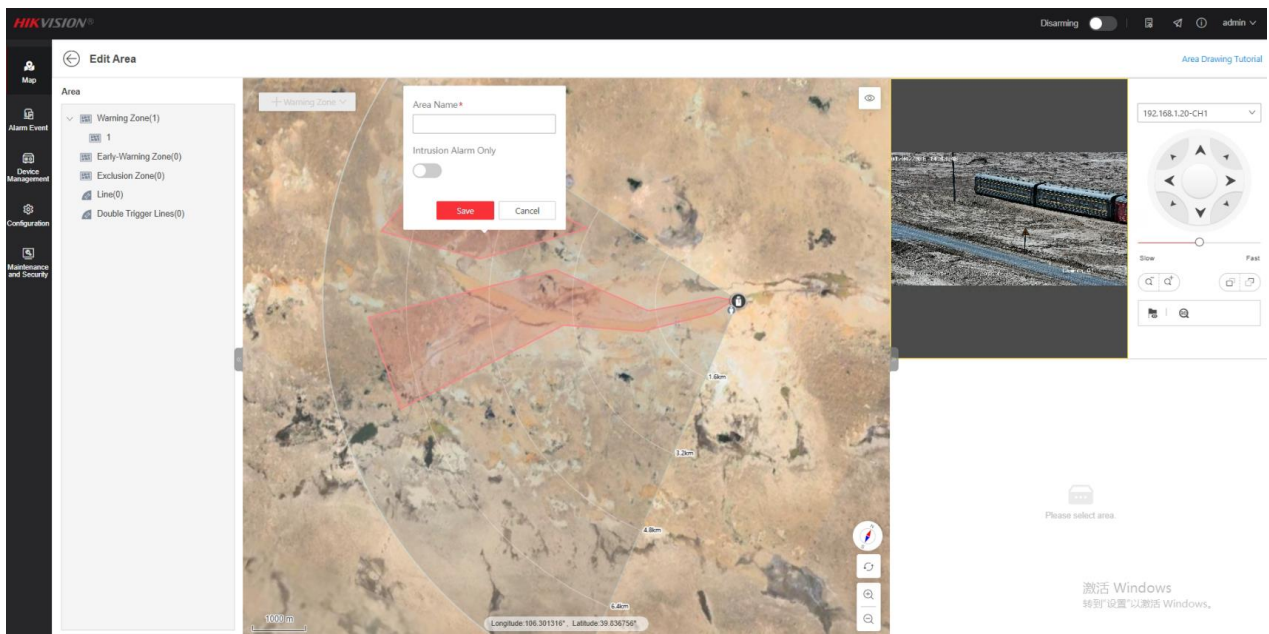
3. Draw the detection zone: After selecting the type of the drawing area, the cursor will change to a cross, indicating that you can draw the area on the map. Left-click on the map to start drawing. Draw the area by connecting multiple points in a polygonal pattern. Right-click on the map to finish the drawing. A closed shape will be formed on the map.



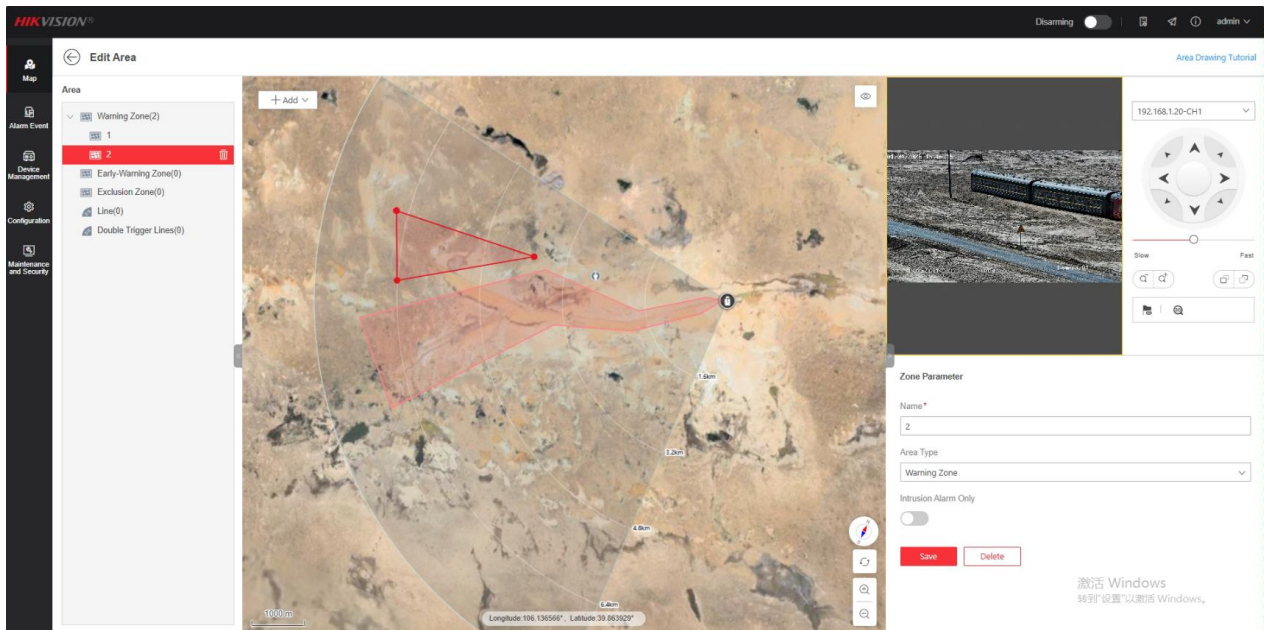
Note

Areas can only be drawn within the radar detection zone (the white sector). Areas outside the detection zone cannot be designated zones.

- Set area name. For the alarm area, it is also necessary to determine whether to enable **Intrusion Alarm Only**. Once enabled, the system will only alarm and track targets that enter the area from outside, while targets moving solely within the alarm area will not trigger an alarm or be tracked.



- Optional: Change the zone parameters. For the already established warning zones, you can left-click to select the warning zone, modify the zone information, delete the zone, and drag to change the position and shape of the zone.



2.3.2.2 Add Tiger Line

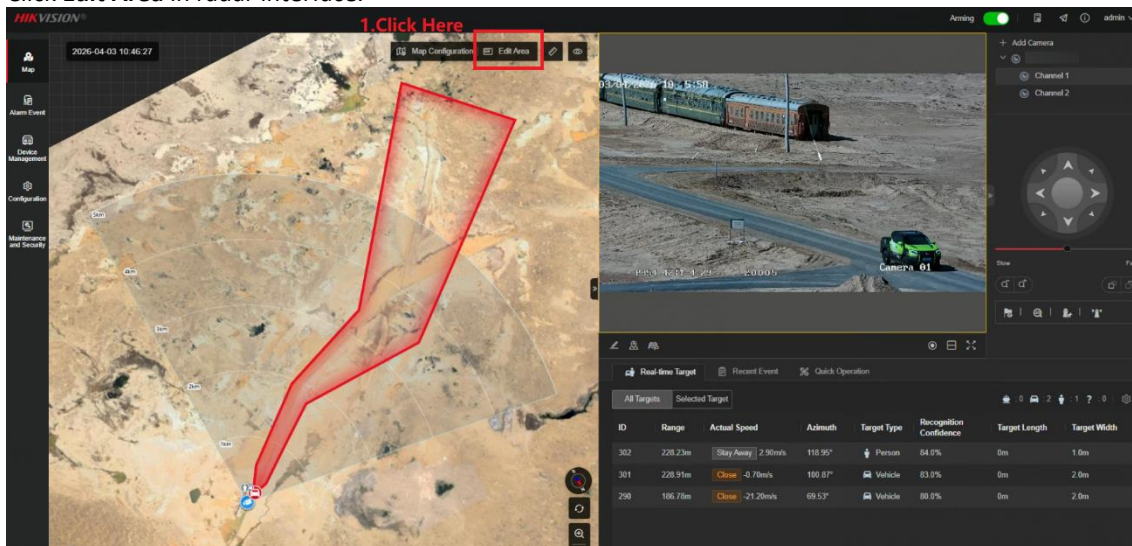
Add trigger lines for the radar zones and set the directions of trigger lines.

Before You Start

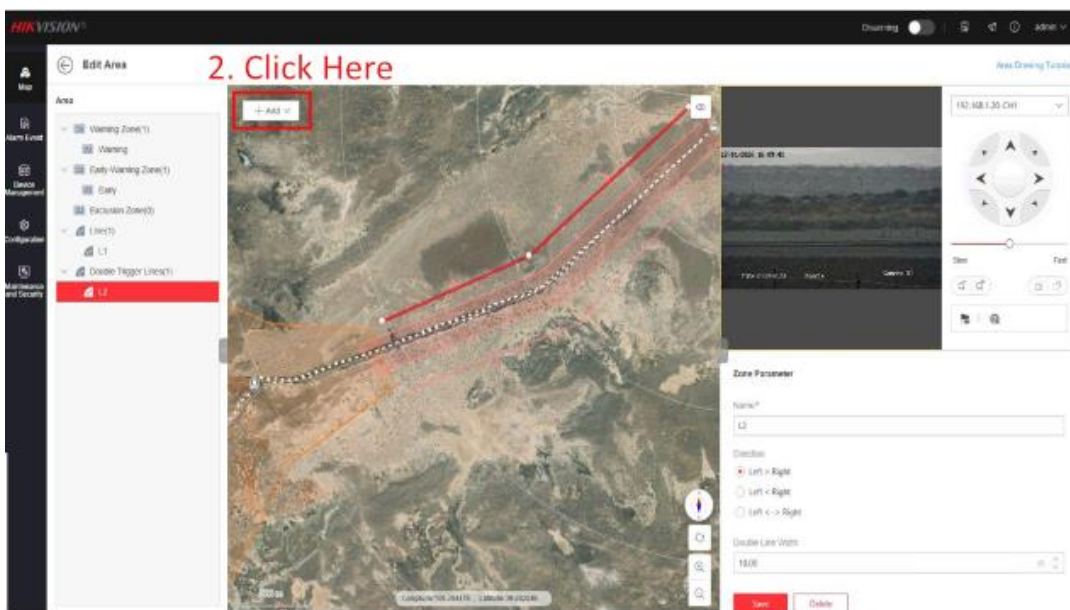
Disarm the radar. If not, the zone cannot be added. (For more details, see 3.2.1)

Steps

1. Click **Edit Area** in radar interface.



2. Click **+ Add** to select the line or double trigger lines.

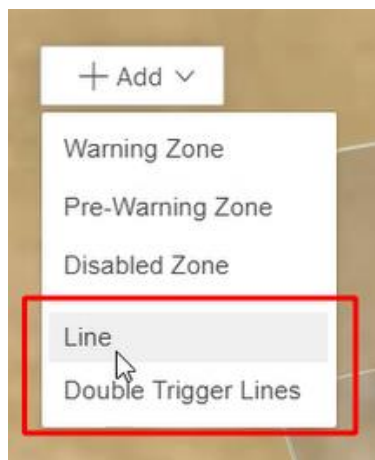


Single Line

To draw a single trigger line.

Double Lines

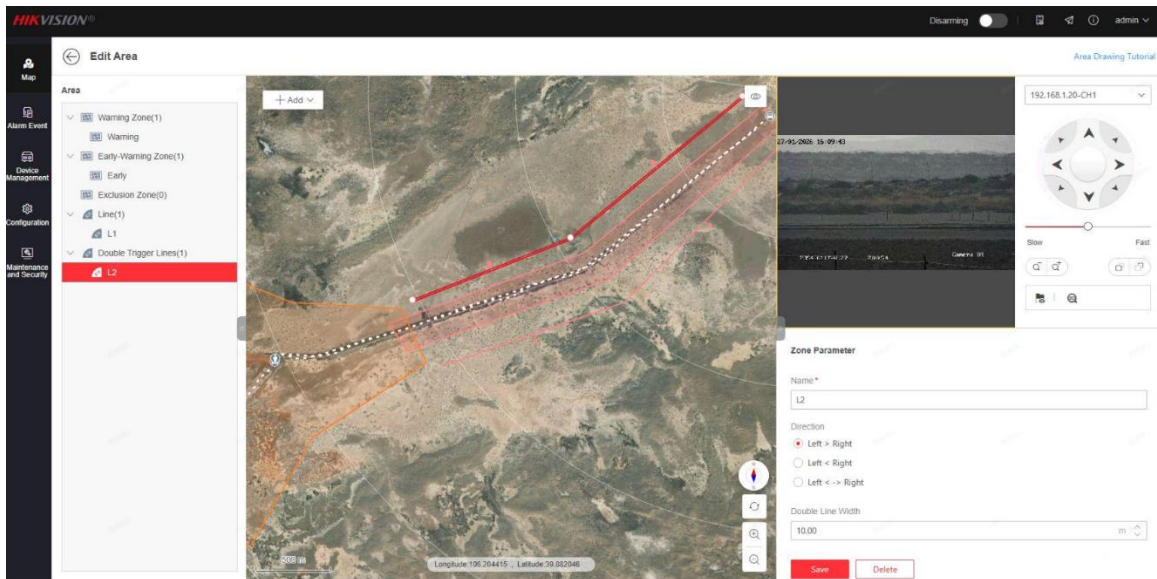
To draw two trigger lines simultaneously.



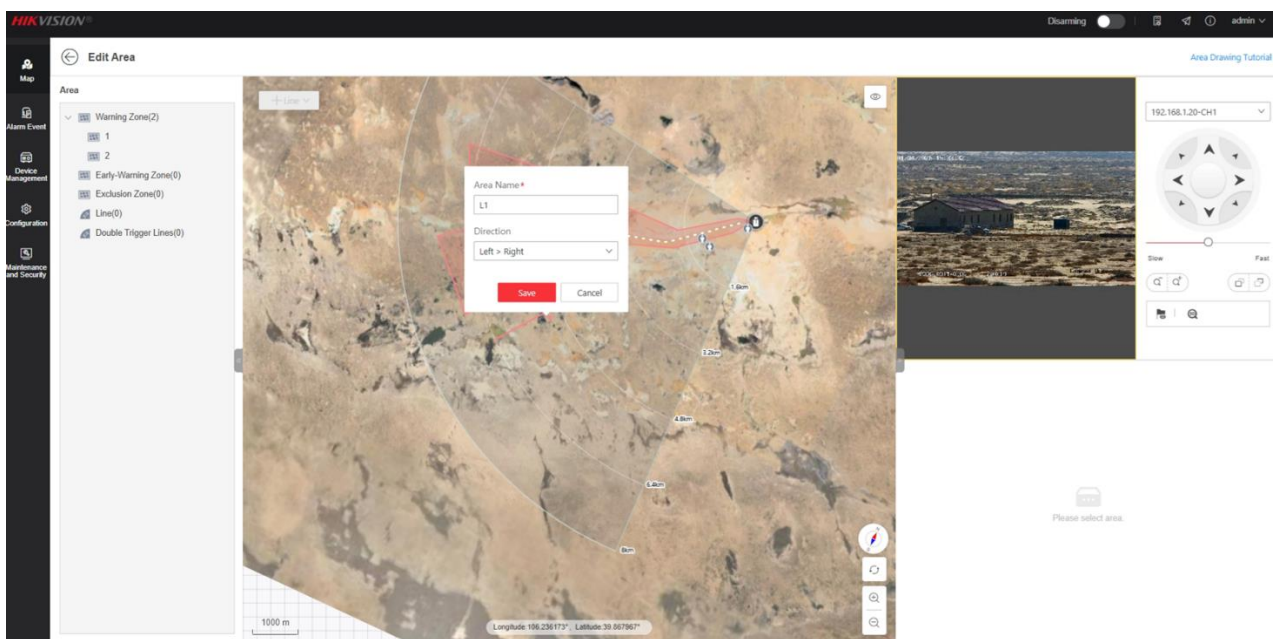
3. Draw the trigger line in the radar area. The method of drawing line is similar to that of drawing area.

**Note**

When you are drawing double trigger lines, you can draw two lines simultaneously after setting **Double Line Width**.



4. Edit parameters after selecting added lines, and click **Save**.



2.3.4 Radar Parameter Settings

Go to **Configuration** → **System** → **Radar Parameter** to set the radar's parameters like signal sensitivity, speed sensitivity, frequency band type, target tracking strategy, mandatory tracking, mandatory tracking time, and view array configuration, etc. You can set the radar's parameters according on-site effect and this is optional.

2.3.4.1 Detection Parameter

Select the Vegetation and Traffic conditions

Based on the on-site conditions, select the environmental vegetation and traffic conditions within the detection area. The equipment will automatically adjust the appropriate radar detection parameters based on the selection.

The screenshot shows the HIKVISION Security Radar configuration interface. The left sidebar contains a menu with options: System, Map, System Configuration, User Management, Network, Storage, Intelligent Analysis, Radar Parameter (selected), and Event. The main content area is titled 'Detection Parameter' and includes tabs for Array Configuration, Frequency Band Configuration, and Target Tracking. Under 'Vegetation in Detection Area', four radio buttons are shown: Extremely Low Vegetation Density, Low Density Vegetation (selected), Medium Density Vegetation, and High Density Vegetation. Under 'Traffic Status in Detection Area', four radio buttons are shown: No Special Road Segment, Only Crossing Section Exist (selected), Only Turning Section Exist, and Cross Section and Turning Section Exist. Below these, there are two sliders for 'Signal Threshold Level' and 'Speed Threshold Level', both set to 3. At the bottom, there is an 'Advanced Debugging' section with a 'Click to Enter' button and a red 'Save' button.

Parameter Name	Meaning
Extremely Low Vegetation Density	Extremely low density or even barren areas, with vegetation coverage less than 10%, such as deserts, gravel plains, alpine tundra, severely degraded land, scattered vegetation distribution, mines, urban built-up areas, exposed rocks, glaciers, and water bodies.
Low Density Vegetation	Low vegetation density means the vegetation coverage is between 10% and 30%, including grassland, savanna, fallow farmland, etc., with sparse trees and shrubs as the main component.
Medium Density Vegetation	Moderate vegetation density means the vegetation coverage is between 30% and 70%. For example, sparse forest, shrubbery, farmland (mid-growth period), etc., where vegetation and bare ground are intermingled.
High Density Vegetation	High vegetation density means the vegetation coverage is over 70%, including dense forests, tropical rainforests, and mature artificial forests where the ground is almost covered by vegetation.
No Special Road Segment	Indicates that there are no special road segments within the radar detection coverage area.
Only Crossing Section Exist	Indicates that only 'Crossing Section' exists within the radar detection coverage area.
Only Turning Section Exist	Indicates that only 'Turning Section' exists within the radar detection coverage area.
Cross Section and Turning Section Exist	Indicates 'Crossing Section' and 'Turning Section' are all within the radar detection coverage area.

Set the sensitivity of radar detection

Parameter Name	Meaning
Signal Sensitivity	It represents for the radar signal detection threshold. The higher the sensitivity is, the easier the targets with weak signal can be detected.
Speed Sensitivity	It is used to filter the mistaken alarms caused by the low-speed targets. The higher the sensitivity is, the easier the low-speed targets can be detected.

Advanced Debugging

If the above parameters do not meet the debugging requirements, advanced debugging can be carried out.

Go to **Configuration** → **Radar Parameter** → **Detection Parameter** → Click to enter the **advanced debugging**, or **Map** → **Quick Operation** → Click to enter the **advanced debugging**



Note

Advanced debugging is recommended for professionals only.

Advanced Debugging

Please adjust the following parameters under the guidance of professionals to avoid radar detection anomalies.

- Signal Threshold Level: 3
- Low Speed Signal Threshold Level: 5
- Speed Threshold Level: 2
- Frame Sensitivity: 5
- Swing Sensitivity: 3
- Dwell time: 5

Signal Threshold Configuration
Click to Configure

Save

ID	Range	Actual Speed	Azimuth	Target Type	Recognition Confidence	Target Length	Target Width
No data							

2.3.4.2 Frequency Configuration

Frequency Band Type

The radar supports multiple frequency band settings, and you can select the frequency band based on your actual needs here.



Note

When multiple radars cover the same area, interference from overlapping frequencies can be reduced by setting different frequency bands. Please try to avoid overlapping radar coverage areas.

2.3.4.3 Target Tracking

Target Tracking Strategy

Time Priority

The target that enters the warning zone and early-warning zone is being tracked until the target disappears, and then the next target that triggers the alarm will be tracked.

Distance Priority

The target that is shortest away from the radar will be tracked.

Multi-Target Auto-Switch

The target will be switched automatically from the smallest to the largest target No. according to the set **Switch Time Interval**.

Target Trigger Priority

The latest target will be automatically tracked and the next new target will be tracked after the set **Minimum Tracking Duration for New Target** ends. If there is no new target, the tracking target will be switched automatically from the smallest to the largest target No. according to the set **Polling Time**.

Start Mandatory Tracking

It is used to enable mandatory tracking. If it is enabled, the camera will start mandatory tracking on the target after double-clicking the target in the radar area. After this parameter is enabled, you need to set mandatory tracking time.



Note

Target tracking parameters take effect on all cameras.

2.4 Link Camera to Radar

Link the camera to radar for automatic tracking.

After linking a camera and completing calibration, when the target enters the added zones in the radar detection area, an alarm is triggered. The radar sends position information to the camera, and the camera adjusts the PTZ for target tracking



Note

It's the radar that reports the incident, not the camera.

2.4.1 Link Camera

Before You Start

Disarm the radar before linking a camera.

Steps

1. Go to **Device Management** → **Network Camera**.
2. Click **Add** in the radar interface to add camera.

Network Camera

+ Add
Refresh

Online
Modify Calibration

Camera Details	
Type	Status
Camera IP	
Camera Name	Network Camera1
Connection Status	Online
Mounting Type	Pole Mounting
Linked Zone	warning warning2
Link to Trigger Line	L1 L2
Link Camera	Channel 1 Channel 2

**Note**

Up to 4 camera channels (2 cameras if they are dual-channel) can be added. Camera channels that do not require interconnected tracking do not need to be added.

3. Enter network parameters, and click **Next**.

The screenshot shows the 'Add Camera' configuration interface. At the top, there is a back arrow and the title 'Add Camera'. Below this is a progress bar with three steps: ① Network Addition (highlighted in red), ② Channel Selection, and ③ Interconnected Tr... (partially visible). The main form contains the following fields:

- * IP Address: 10.64.7.4
- Protocol Type: ☒ HIKVISION
- * Port: 8000
- * User Name: admin
- * Password: (masked with dots)
- * Camera Installation Method: ☐ Hoisting ☒ Pole Mounting

At the bottom, there are two buttons: 'Next' (highlighted in red) and 'Cancel'.

4. Link the radar to the camera channel.

The screenshot shows the 'Add Camera' configuration interface at Step 2: Channel Selection. The progress bar now shows ① Network Addition (with a checkmark) and ② Channel Selection (highlighted in red). The main form contains the following elements:

- * link Radar to Camera Channel: Two buttons labeled 'Channel 1' and 'Channel 2'. 'Channel 1' has a checkmark icon, indicating it is selected.

At the bottom, there are two buttons: 'Prev' and 'Next' (highlighted in red).

5. Set interconnected tracking.

**Note**

For more information about interconnected tracking, please refer to the section of **4.1.3 Set Camera Parameters** in User Manual.

192.168.1.20

Basic Parameters
Interconnected Tracking
Zooming Ratio
Tracking Schedule
Terrain Learning

Zone Link

Linked Zone

Warning Zone(1)

1

Target Tracking

General parameters apply to all cameras, while personalized parameters only apply to the current camera.

General Parameters

*Target Tracking Strategy
Time Priority

Start Mandatory Tracking
☒

Save
Cancel

6. Optional: After adding camera, you can click **Edit**, **Delete** or **Refresh** the added cameras.

+ Add
Refresh

10.64.7.4

Uncalibrated

Calibrate Camera

Edit
Delete

7. Optional: You can view camera details and select camera channel after adding cameras.

10.64.7.4

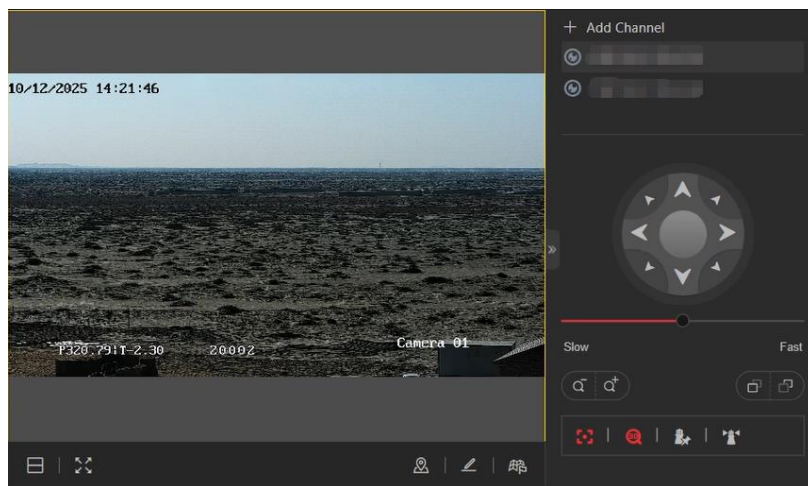
▲ This camera has not been calibrated, so its position cannot be displayed on the map. [Calibrate Camera](#)

Camera Details

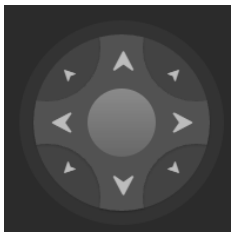
Type	Device Status
Camera IP	10.64.7.4
Camera Name	Network Camera1
Connection Status	Online
Mounting Type	Pole Mounting
Linked Zone	2 3 4 6 7
Link to Trigger Line	L1 L2 L5
Link Camera	Channel 1

2.4.2 Set Live View

After adding the camera, you can view and set the live view of the added camera in the radar interface.



Button	Description
	Switch channel mode between single channel and dual channel.
	Full screen function. Press Esc to exit.
	Camera calibration function. Click it to calibrate the camera.
	Click it to edit the camera's parameters.
	Terrain learning function. Click it to learn terrain.

Button	Description
	Camera control panel. Click different arrows to adjust the camera's direction.
	Adjust the camera's speed.
	Zoom + and Zoom - • Hold  to zoom in the scene.1 • Hold  to zoom out the scene.
	Manual live view function. Click it to enter manual live view. Click the icon again to exit.
	3D positioning function. Click it to enable 3D positioning. Click the icon again to exit.
	Camera preset function. Click it to set preset. Click the icon again to exit.
	Quick park function. Click it to enable quick park. Click the icon again to exit. Note: If quick park function is enabled here, then the same function in the camera calibration and terrain learning interface is also enabled.

**Note**

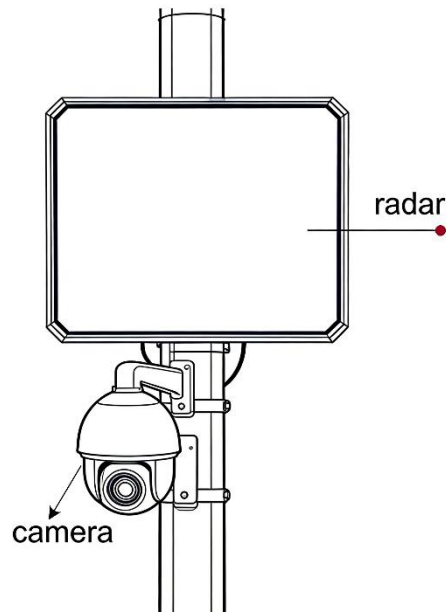
For the linked camera, the supported functions vary with the models. The actual device prevails.

2.5 Calibrate Camera

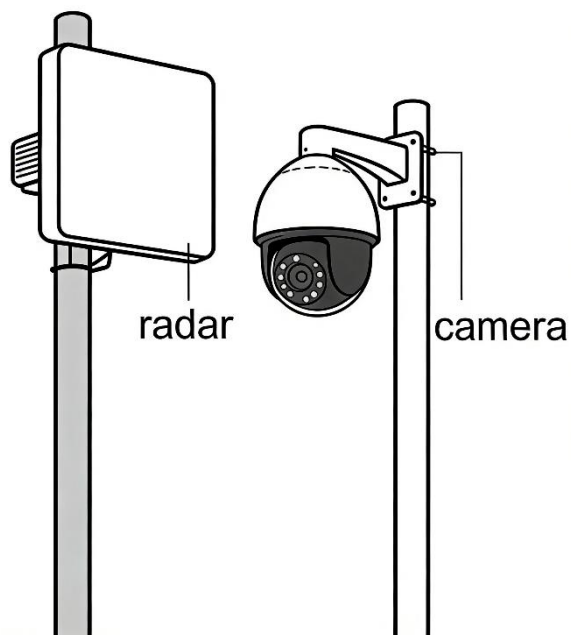
Please select the camera calibration method according to the following table and the actual situation.

Calibration Type	Target Status	Map Requirement	Environmental Conditions
Target-less Calibration	No moving target required	Requires import of GIS map	Prominent landmarks in the actual environment must be clearly visible on the map
Moving Target Calibration	Requires moving targets (e.g., people, vehicles)	Can use GIS map or picture map	Moving objects must be present in the scene

Besides, calibration is also divided into different-pole calibration and same-pole calibration depending on the installation distance between the camera and the target.



Same Pole Calibration



Different pole Calibration

Steps

Before You Start

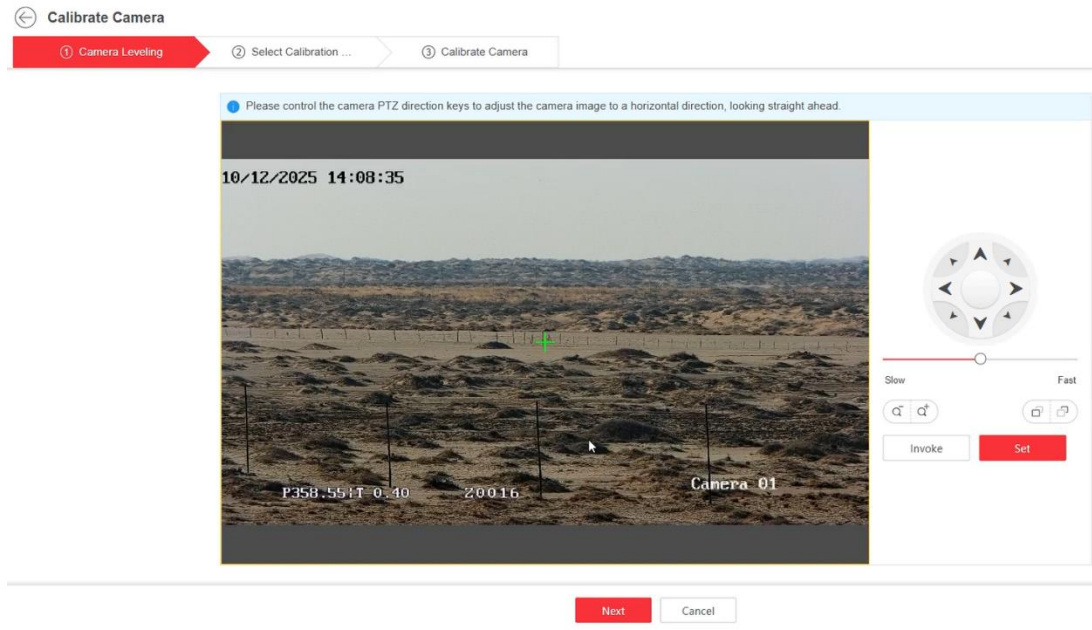
Before you start the calibration steps, disarm first.

Note

Targets can be detected without calibrating cameras, but visual tracking of targets is possible when cameras are integrated. Please check if the radar's azimuth information is correct. Note: If you edit the radar's latitude and longitude information, the map will change the radar sector's position.

Go to **Calibrate Camera** → **Calibration Training** and follow the steps to help you calibrate.

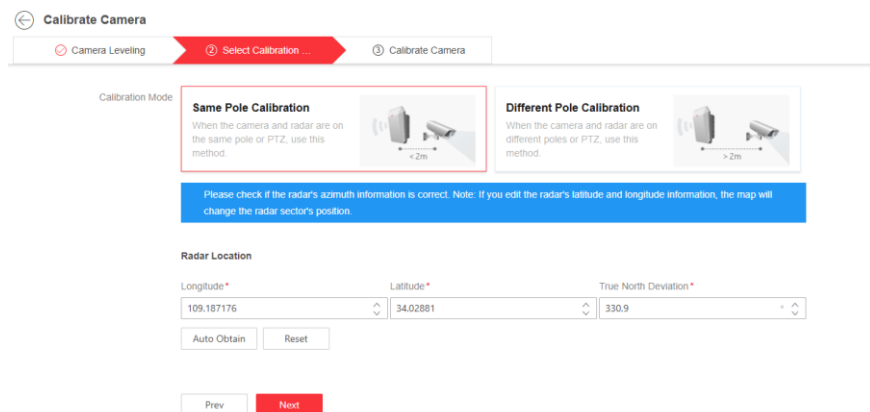
1. Click  **Calibrate Camera** in the radar interface or click **Uncalibrated** or **Modify Calibration** in adding camera interface to calibrate added camera.
2. Adjust camera level: Control the camera PTZ direction keys to adjust the camera image to a horizontal direction, looking straight ahead.



3. Click **Next**.
4. Select calibration method according to actual demands.

Note

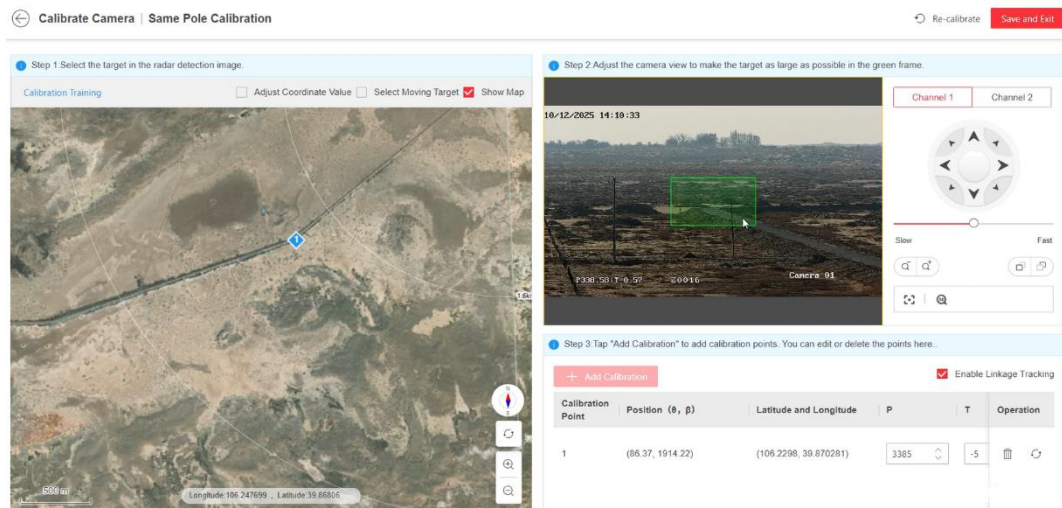
Please check if the radar's azimuth information is correct. Note: If you edit the radar's latitude and longitude information, the map will change the radar sector's position.



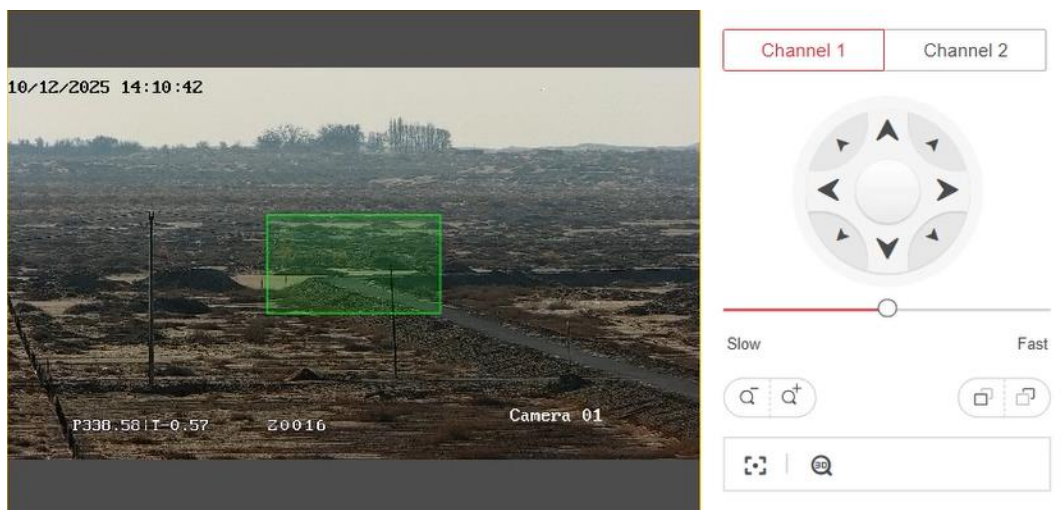
2.5.1 Same Pole Calibration

Steps

1. Select the target in the radar-detected video image.



2. Move the camera to focus on the target, keep person in the center. Adjust the camera view to make the target as large as possible in the green frame.



3. Add calibration points. Add the calibration point, for a better performance the calibration point should be the center of radar.



4. The blue rhombus with number is the added calibration point. If the deviation between the actual location and the location of the calibration point is large, you can delete the calibration point and add a new one.



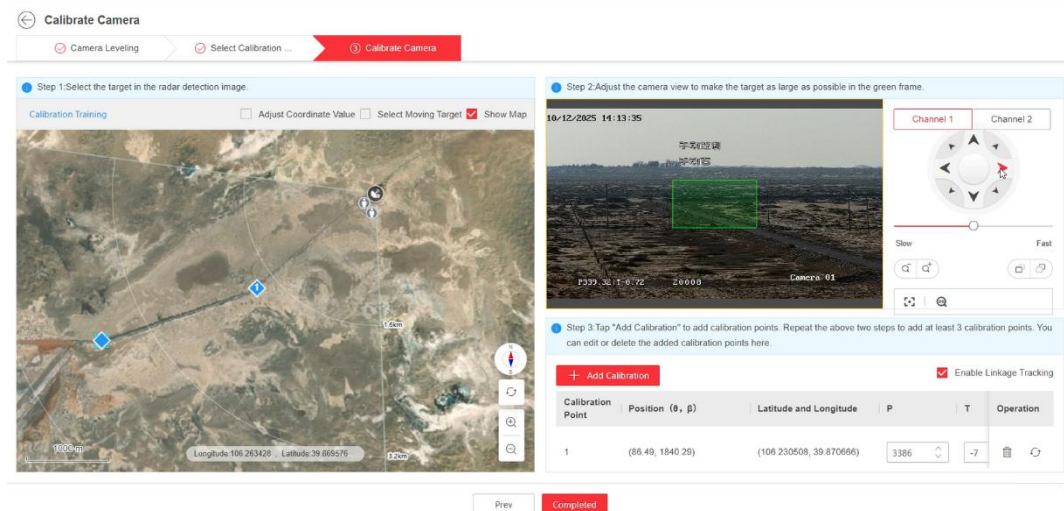
5. Click **Save and Exit** to save calibration.

Optional: Click **Calibrate Again** to calibrate the camera again if the requirements are not met.

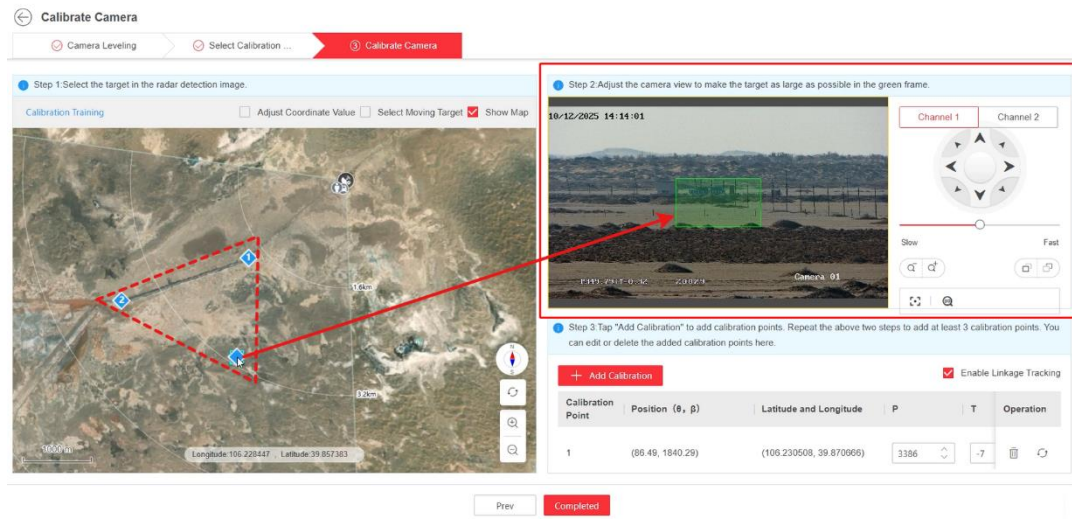
2.5.2 Different Pole Calibration

Steps

1. Select the target in the radar-detected video image.



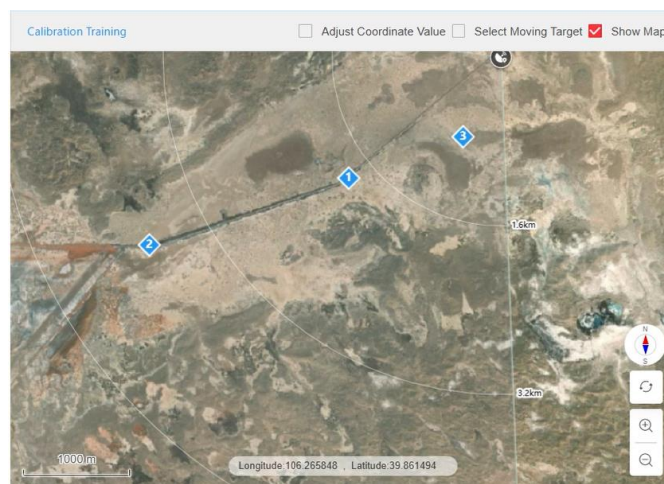
2. Make 3 different calibration points at least on radar. The 3 points should be in 3 different angle and need be avoided being at the same line. Adjust the camera view to make the target as large as possible in the green frame.



3. Add calibration points. Add the calibration point, for a better performance the calibration point should be the center of radar.



4. The blue rhombus with number is the added calibration point. If the deviation between the actual location and the location of the calibration point is large, you can delete the calibration point and add a new one.



5. Click **Save and Exit** to save calibration.

Optional: Click **Calibrate Again** to calibrate the camera again if the requirements are not met.

