

Thermal Network PTZ Camera

V5.5.49 build 220822

Release Note

(2022-09-28)

1. Basic Information

Firmware Version	V5.5.49 build 220822
SDK Version	V6.1.9.30_build20220610
Play Lib	V7.4.0.57
iVMS-4200	V3.7.4.3 build20220630
Web Component/Plugin Version	V4.0.1.0 build 220727/3.0.7.42
Temperature Measurement Algorithm Version	V2.1.4build20220512
Behavior Analysis Algorithm Version	V1.9.3build20220424
Ship Detection Algorithm Version	V2.0.1build20210729
Smoke/Exhaust Fume Detection Algorithm Version	V2.3.0build20220325
Fire Source Detection Algorithm Version	V4.1.1build20220520
Vehicle Detection Algorithm Version	V2.0.3build20210121

2. Updated Functions

A. New Features

1. Add Filter Level in Forklift Filter

Filter Level is added in Forklift Filter, which support high, middle and low levels to meet the filtering requirements in different situations.

Note: The default value in China is high, and the default value is low overseas.

The screenshot displays the HIKVISION Configuration interface. The left sidebar contains navigation options: Local, System, Network, Video/Audio, Image, PTZ, Event, Storage, VCA, Temperature Measurement (highlighted), and Ship Detection. The main configuration area is divided into sections: 'Reflect Light Filter' and 'Forklift Filter'. The 'Forklift Filter' section is highlighted with a red box and includes a 'Filter Level' slider set to 'High'. Other visible settings include 'Data Refresh Interval' (3s), 'Unit' (Degree Celsius), and 'Temperature Range' (-20.0~150.0). A 'Save' button is located at the bottom.

2. RS-485 supports MODBUS-RTU in PTZ Control Protocol

MODBUS-RTU is supported and used for transmission of temperature measurement results.

Note: The default value for PTZ cameras is still PELCO-D, the user should configure related parameters manually.

The screenshot displays the HIKVISION configuration interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', and 'Configuration'. The 'Configuration' tab is active, and the 'RS-485' sub-tab is selected. The left sidebar shows various system settings categories, with 'System Settings' highlighted. The main content area shows the following configuration options:

Basic Information	Time Settings	DST	RS-232	RS-485	About	U
Channel No.	Camera 01					
Baud Rate	9600					
Data Bit	8					
Stop Bit	1					
Parity	None					
Flow Ctrl	None					
PTZ Protocol	modbus-RTU					
PTZ Address	0					

A red box highlights the 'PTZ Protocol' dropdown menu, which is currently set to 'modbus-RTU'. Below the configuration options is a red 'Save' button.

3. SFTP Protocol is supported

SFTP Protocol is supported, enhance data transmission security.

The screenshot shows the Hikvision Configuration interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', and 'Configuration'. The 'Configuration' tab is active, and the 'FTP' sub-tab is selected. The left sidebar lists various settings categories, with 'Advanced Settings' highlighted. The main content area displays the FTP configuration form with the following fields:

- FTP Protocol: SFTP (dropdown menu)
- Server Address: 0.0.0.0 (text input)
- Port: 21 (text input)
- User Name: (text input)
- Password: (text input)
- Confirm: (text input)
- Directory Structure: Save in the root directory (dropdown menu)
- Upload Picture
- Test (button)
- Save (button)

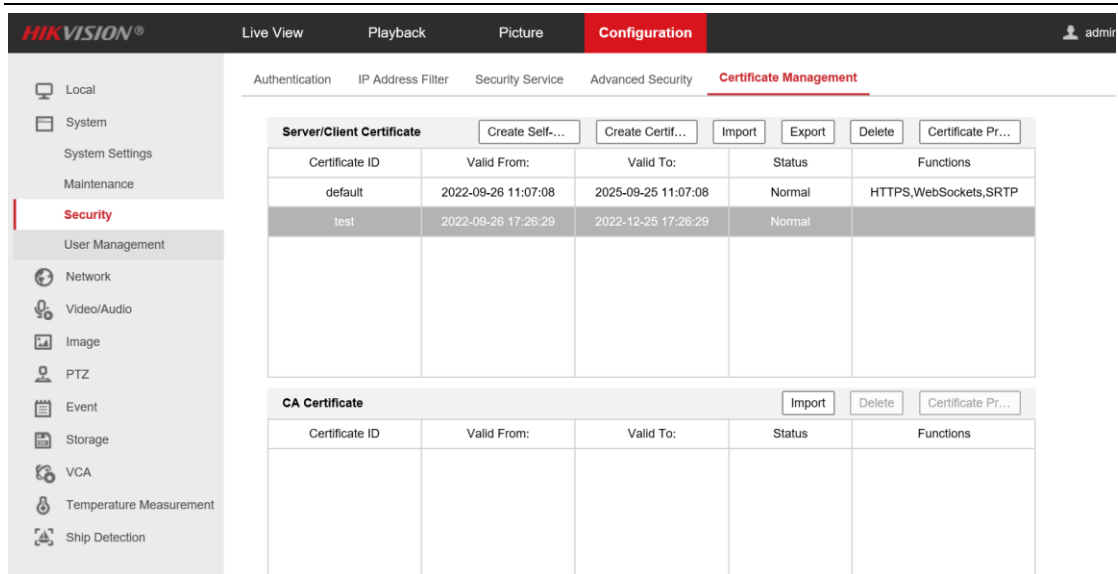
4. Preview SRTP is supported

Note: UDP and multicast transport protocols are supported only.

5. Add Certificate Management

Certificates can be chosen in HTTPS and SRTP after setting or importing certificates.

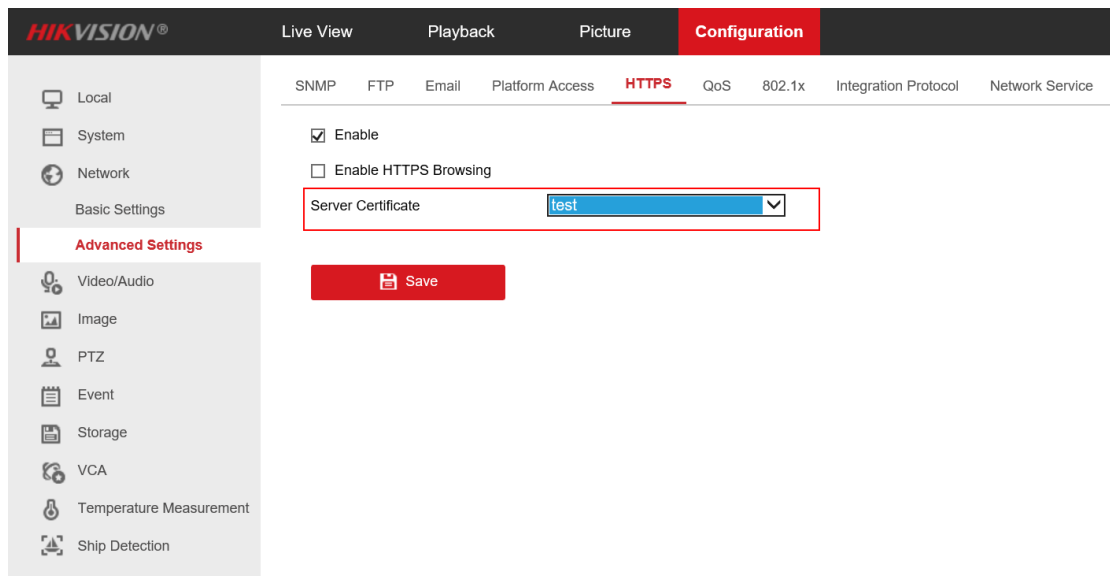
Note: There is no separate configuration for choosing certificates in WebSockets, the certificates are same as those in HTTPS.



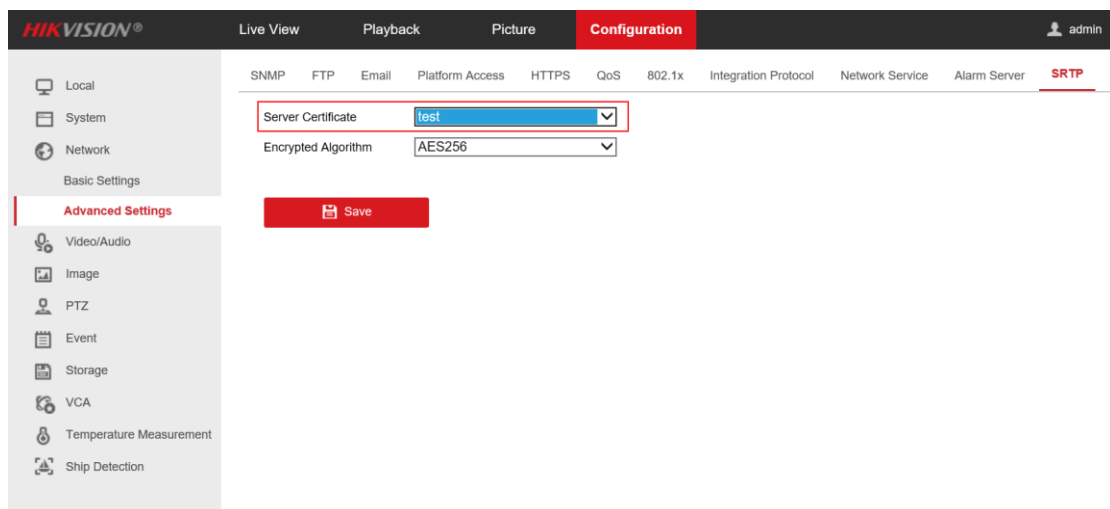
The screenshot shows the 'Configuration' page with the 'Certificate Management' sub-tab selected. The left sidebar contains navigation options: Local, System, System Settings, Maintenance, Security (highlighted), User Management, Network, Video/Audio, Image, PTZ, Event, Storage, VCA, Temperature Measurement, and Ship Detection. The main content area has tabs for Authentication, IP Address Filter, Security Service, Advanced Security, and Certificate Management. Under 'Certificate Management', there are two sections: 'Server/Client Certificate' and 'CA Certificate'. The 'Server/Client Certificate' section has buttons for 'Create Self...', 'Create Certif...', 'Import', 'Export', 'Delete', and 'Certificate Pr...'. It contains a table with the following data:

Certificate ID	Valid From:	Valid To:	Status	Functions
default	2022-09-26 11:07:08	2025-09-25 11:07:08	Normal	HTTPS,WebSockets,SRTP
test	2022-09-26 17:28:29	2022-12-25 17:28:29	Normal	

The 'CA Certificate' section has buttons for 'Import', 'Delete', and 'Certificate Pr...'. It contains an empty table with the same headers as the 'Server/Client Certificate' table.



The screenshot shows the 'Configuration' page with the 'HTTPS' sub-tab selected. The left sidebar is the same as in the previous screenshot. The main content area has tabs for SNMP, FTP, Email, Platform Access, HTTPS (highlighted), QoS, 802.1x, Integration Protocol, and Network Service. Under 'HTTPS', there are checkboxes for 'Enable' (checked) and 'Enable HTTPS Browsing' (unchecked). Below these is a dropdown menu for 'Server Certificate' with 'test' selected. A red 'Save' button is at the bottom.



The screenshot shows the 'Configuration' page with the 'SRTP' sub-tab selected. The left sidebar is the same as in the previous screenshots. The main content area has tabs for SNMP, FTP, Email, Platform Access, HTTPS, QoS, 802.1x, Integration Protocol, Network Service, Alarm Server, and SRTP (highlighted). Under 'SRTP', there is a dropdown menu for 'Server Certificate' with 'test' selected, and another dropdown menu for 'Encrypted Algorithm' with 'AES256' selected. A red 'Save' button is at the bottom.

6. Add Certificate Expiration Alarm

Note: Email notification is supported only.

The screenshot shows the Hikvision web interface with the 'Configuration' tab selected. The left sidebar contains a navigation menu with categories like Local, System, Security, and Network. The main content area is titled 'CA Certificate' and features a table with columns for Certificate ID, Valid From, Valid To, Status, and Functions. Below the table, there is a 'Certificate Expiration Al...' configuration panel with the following settings:

- Enable Certificate Expiration Alarm
- Remind Me Before Expira...: 7
- Alarm Frequency(day): 1
- Detection Time (hour): 10
- Normal Linkage
- Send Email

7. PTZ Block Alarm is supported

Support Range: Speed dome series 41, PTZ positioning series 62

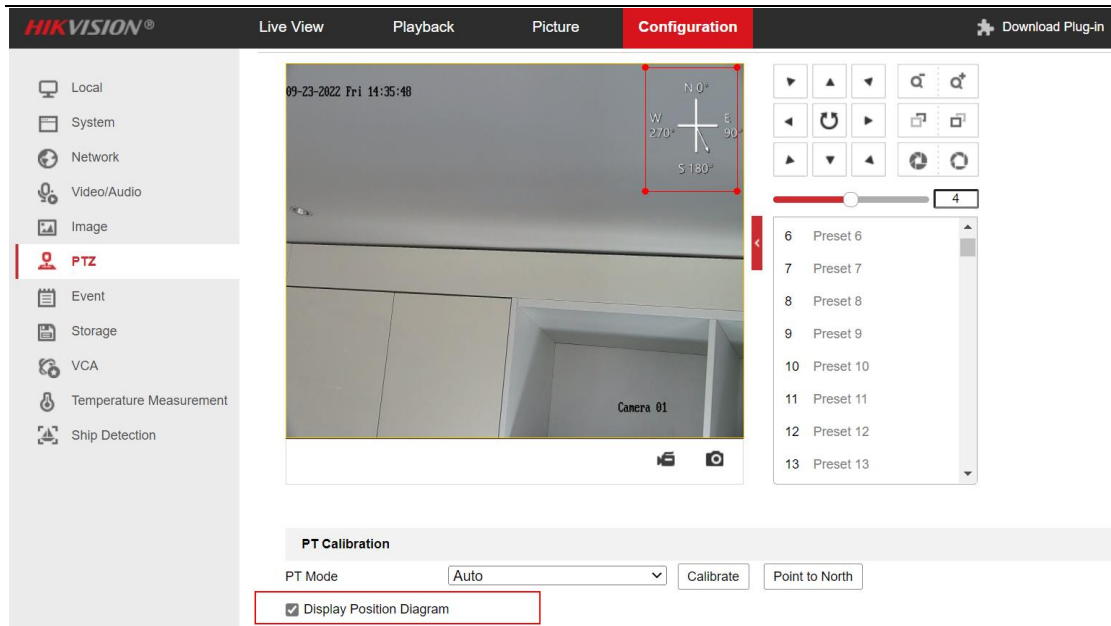
Note: The hardware needs to support PTZ encoder (new hardware).

8. The mode controlling angular velocity is supported

Angular velocity controlling is supported by calling ISAPI. The control protocol is required that the P and T fields are not delivered. Instead, the panning speed and tilting speed are used for controlling the rotational angular velocity in motion.

9. Add Display Position Diagram

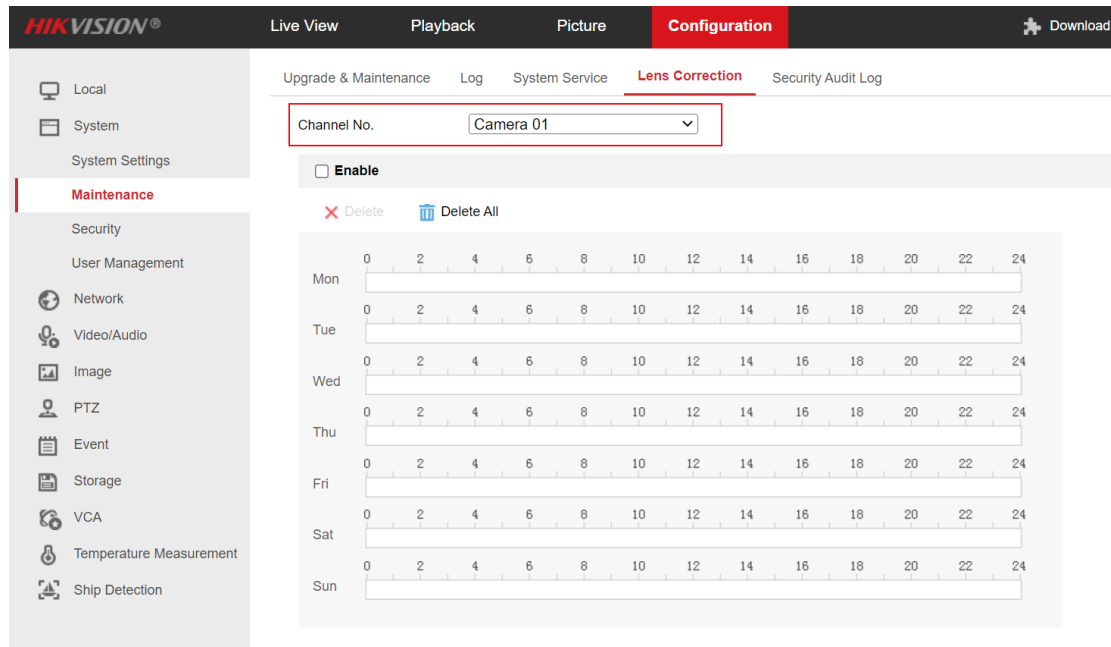
Direction can be overlaid in the visible channel. The overlaid position can be changed, while the size cannot.



10. Visible lens supports periodic correction

Support Range: All the models in the supported products list at the end of the note are supported except those with D2, E2, G2 in suffixes (2MP visible lens).

In order to reduce the risk of loss for the motor through long time lens operation, choose Camera 01 as channel number, that is visible lens correction.



11. T-model supports automatically changing temperature measurement ranges

Support Range: T-model

The screenshot shows the Hikvision Configuration interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', and 'Configuration'. The 'Configuration' tab is active, and the 'Basic Settings' sub-tab is selected. On the left, a sidebar menu lists various settings categories, with 'Temperature Measurement' highlighted. The main content area displays the following settings:

- Enable Temperature Measurement
- Enable Color-Temperature
- Display Temperature Info. on Stream
- Display Max. Temperature
- Display Min. Temperature
- Display Average Temperature
- Position of Thermometry I...: Top Left
- Add Original Data on Capture
- Add Original Data on Stream
- Data Refresh Interval: 3 s
- Unit: Degree Celsius(°C)
- Temperature Range: Auto
- Atmospheric Temperature: -20.0~150.0 °C
- Atmospheric Humidity: Auto %
- Atmospheric Transmissivity: 1
- Version: V2.1.4build20220512

12. Add atmospheric parameters configuration in temperature measurement

Support Range: T-model, supported overseas only.

13. Add Burning Protection Delay

The avoidance action will be triggered after the burning prevention alarm lasts for X seconds.

Note: The default value is 5s.

The screenshot shows the HIKVISION Configuration interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', and 'Configuration'. The 'Configuration' tab is active, and the 'Burning-Prevention' sub-tab is selected. On the left, a sidebar lists various configuration categories: Local, System, Network, Video/Audio, Image, PTZ, Event, Basic Event (highlighted), Smart Event, Storage, VCA, Temperature Measurement, and Ship Detection. The main configuration area for 'Burning-Prevention' includes: 'Channel No.' set to 'Camera 02', an 'Enable' checkbox checked, a 'Linkage Method' section with 'Protection Mode' set to 'Lens Movement', 'Protection Duration' set to 5 minutes, and 'Protection Delay' set to 0 seconds. A red 'Save' button is located at the bottom of the configuration area.

14. OSD Outline is supported

Note: The OSD Outline effect is fixed to black edge with white background.

The screenshot shows the HIKVISION Configuration interface for OSD settings. The top navigation bar includes 'Live View', 'Playback', 'Picture', and 'Configuration'. The 'Configuration' tab is active, and the 'Image' sub-tab is selected. On the left, a sidebar lists various configuration categories: Local, System, Network, Video/Audio, Image (highlighted), PTZ, Event, Storage, VCA, Temperature Measurement, and Ship Detection. The main configuration area for 'Image' includes: 'Character Set' set to 'GBK', a video preview window showing a building with a red box around the date and time '09:26:20.54' and '13:45:13.54', and a 'Camera 01' label. Below the preview, 'Display Mode' is set to 'Not transparent & Not flashing', 'OSD Size' is set to 'Auto', and 'Font Color' is set to 'Outline'. To the right of the preview is a control panel with navigation buttons and a list of 8 presets. Below the control panel, 'Display Name', 'Display Date', and 'Display Week' are all checked. The 'Camera Name' is set to 'Camera 01'.



15. PTZF in place report is supported

Note: Absolute position will be reported when it is in place, like calling absolute position, preset point in place and scene in place.

16. Add "None" VCA Type in action task

Park Action, Scheduled Tasks, Combined Path support None VCA Type, which can be used in where users do not want to operate VCA.

Note: when None is selected, no VCA or other smart detection is working. Please be cautious on using this option.

The screenshot shows the Hikvision web interface with the 'Configuration' tab selected. The 'Park Action' sub-tab is active. The 'VCA Type' dropdown menu is highlighted with a red box and set to 'None'. Other settings include 'Enable Park Action' checked, 'Park Time' set to 5 seconds, and 'Action Type' set to 'Auto Scan'. A 'Save' button is visible at the bottom.

No.	Action Type	Action No.	VCA Type	Enable
1	Linear Scan	1	None	Yes

17. Add Self-Adaption in Temperature Measurement

Reduce the influence of distance parameter on temperature measurement result.

Note: Distance mode is displayed only when a camera is using a supported temperature measurement template.

The screenshot shows the Hikvision Configuration interface. The left sidebar contains menu items: Local, System, Network, Video/Audio, Image, PTZ, Event, Storage, VCA, Temperature Measurement (highlighted), and Ship Detection. The main content area is under the 'Configuration' tab. It includes several settings: 'Display Average Temperature' (checkbox), 'Position of Thermometry I...' (dropdown: Near Target), 'Add Original Data on Capture' (checkbox), 'Add Original Data on Stream' (checkbox), 'Data Refresh Interval' (input: 3, unit: s), 'Unit' (dropdown: Degree Celsius(°C)), 'Temperature Range' (dropdown: -20.0~150.0), 'Atmospheric Temperature' (input: 25, unit: °C), 'Atmospheric Humidity' (input: 50, unit: %), 'Atmospheric Transmissivity' (input: 1), 'Distance Mode' (dropdown: Self-Adaption, highlighted with a red box), and 'Version' (input: V2.1.4build20220512). Below these is a 'Reflect Light Filter' section with an 'Enable Reflect Light Filter' checkbox.

B. Optimized Function

1. Optimize the display of visible light axis adjustment

Support Range: FC Bi-spectrum Thermal Sphere PTZ models

Select different channels and display the cross cursor in the center of the channel for easy calibration.

The screenshot shows the Hikvision Configuration interface for 'Laser Optical Axis Adjustment'. The left sidebar is the same as in the previous image. The main content area is under the 'Configuration' tab, with sub-tabs for 'Upgrade & Maintenance', 'Log', 'System Service' (selected), 'Lens Correction', and 'Security Audit Log'. Under 'System Service', there is a 'Hardware' section with 'Enable Supplement Light' checked. The 'Laser Optical Axis Adjustment' section has a title: 'Adjust the optical zoom ratio to the maximum to ensure the best effect of laser supplement.' It includes a 'Type' dropdown menu (highlighted with a red box) set to 'Visible Light Optical Axis Adjust', a note 'Adjust the optical zoom ratio to the maximum to ensure the best adjustment effect.', an 'Enable Visible Light Optical Axis Adjustment' checkbox, and a 'Sensitivity' slider set to 50. Below the settings is a video preview window showing a camera view of a fire source with a red crosshair. To the right of the video is a control panel with directional arrows and a list of four presets.

2. Optimize the fire source detection effect

Optimize the fire source double check strategy to improve the detection rate and

reduce false positives.

3. Optimize the smoke detection effect

Optimize the smoke detection model and filtering strategy to reduce typical false positives such as water vapor, night lights, sky PTZ and lens raindrops.

4. Optimize the vehicle detection effect

Optimize the detection model and filtering strategy to improve the vehicle detection rate and reduce false positives.

5. Optimize the behavior analysis effect

Update the behavior analysis detection algorithm.

6. Adjust the residence time of Intelligent Scene

Adjust the lower limit of the residence time of the behavior analysis and ship detection scenarios to 15s, in order to meet the user's requirement of switching scenarios rapidly.

Note: If the time is too short, the scene may be switched before the alarm condition is reached, and there is a certain risk of missing reports, which needs to be evaluated in combination with the on-site situation.

7. Optimize the virtual focal problem of visible light pictures when capturing after center the ship

Wait for the end of autofocus and capture after center the ship.

8. Add the temperature information of the temperature measurement rule in the capture interface

9. 802.1x supports TLS1.2

Improve security and support SHA512 encryption algorithm.

2 Supported Product List

A. 41XX series

DS-2TD4137-25/W	DS-2TD4137-50/W	DS-2TD4137-25/WY
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DS-2TD4137-50/WY	DS-2TD4167-25/W	DS-2TD4167-50/W
DS-2TD4167-25/WY	DS-2TD4167-50/WY	DS-2TD4137T-9/W
DS-2TD4137T-25/W	DS-2TD4137T-50/W	DS-2TD4167T-9/W
DS-2TD4167T-25/W	DS-2TD4167T-50/W	DS-2TD4137-25/W/GPS
DS-2TD4137-50/W/GPS	DS-2TD4137-25/WFC	DS-2TD4137-50/WFC

B. 42XX series

DS-2TD4228-10/W	DS-2TD4228T-10/W
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C. 55XX series

DS-2TD5537T-7/W	DS-2TD5537T-15/W	DS-2TD5537T-25/W
DS-2TD5567T-7/W	DS-2TD5567T-15/W	DS-2TD5567T-25/W

D. 65XX series

DS-2TD6537T-25H4LX/W	DS-2TD6537T-50H4LX/W	DS-2TD6567T-25H4LX/W
DS-2TD6567T-50H4LX/W		

E. 62XX series

DS-2TD6237-25H4L/W	DS-2TD6237-50H4L/W	DS-2TD6237-50H4L/W/GLT
DS-2TD6237-50H4L/W/5G	DS-2TD6267-25H4L/W	DS-2TD6267-50H4L/W
DS-2TD6237T-25H4L/W	DS-2TD6237T-50H4L/W	DS-2TD6267T-25H4L/W
DS-2TD6267T-50H4L/W	DS-2TD6237-75C4L/W	DS-2TD6237-100C4L/W
DS-2TD6267-75C4L/W	DS-2TD6267-100C4L/W	DS-2TD6267-75C4L/WY
DS-2TD6267-100C4L/WY		

F. 81XX series

DS-2TD8137-75C4F/W	DS-2TD8137-75C4FL/W	DS-2TD8137-100C4F/W
DS-2TD8137-100C4FL/W	DS-2TD8137-100ZC4F/W	DS-2TD8137-100ZC4FL/W
DS-2TD8137-150C4F/W	DS-2TD8137-150C4FL/W	DS-2TD8137-100D2F/W
DS-2TD8137-100D2FL/W	DS-2TD8137-100ZD2F/W	DS-2TD8137-100ZD2FL/W
DS-2TD8137-150ZD2F/W	DS-2TD8137-100E2F/W	DS-2TD8137-100ZE2F/W
DS-2TD8137-100E2FL/W	DS-2TD8137-100ZE2FL/W	DS-2TD8137-150E2F/W
DS-2TD8137-150ZE2F/W	DS-2TD8137-150E2FL/W	DS-2TD8137-150ZE2FL/W
DS-2TD8137-190ZE2F/W	DS-2TD8137-190ZG2F/W	DS-2TD8137-100D4F/W
DS-2TD8137-100D4FL/W	DS-2TD8137-100ZD4F/W	DS-2TD8137-100ZD4FL/W
DS-2TD8137-150ZD4F/W	DS-2TD8137-150E4F/W	DS-2TD8137-150E4FL/W
DS-2TD8137-150ZE4FL/W	DS-2TD8137-190ZE4F/W	DS-2TD8137-190ZK2F/W
DS-2TD8167-75C4F/W	DS-2TD8167-100C4F/W	DS-2TD8167-100C4FL/W
DS-2TD8167-100ZC4F/W	DS-2TD8167-150C4F/W	DS-2TD8167-150ZC4F/W
DS-2TD8167-100D2F/W	DS-2TD8167-100ZD2F/W	DS-2TD8167-100ZD2FL/W
DS-2TD8167-150D2F/W	DS-2TD8167-150ZD2F/W	DS-2TD8167-100E2F/W
DS-2TD8167-100ZE2F/W	DS-2TD8167-100E2FL/W	DS-2TD8167-150E2F/W

DS-2TD8167-150ZE2F/W	DS-2TD8167-150E2FL/W	DS-2TD8167-150E2FL/W/AR
DS-2TD8167-150ZE2FL/W	DS-2TD8167-190ZE2F/W	DS-2TD8167-190ZE2F/WY
DS-2TD8167-190ZE2FL/W	DS-2TD8167-190ZG2F/W	DS-2TD8167-190ZG2FL/W
DS-2TD8167-230ZG2F/WY	DS-2TD8167-230ZG2F/W	DS-2TD8167-230ZG2FL/W
	DS-2TD8167-100D4F/W	DS-2TD8167-100D4FL/W
DS-2TD8167-100ZD4F/W	DS-2TD8167-100ZD4FL/W	DS-2TD8167-150D4F/W
DS-2TD8167-150E4FL/W	DS-2TD8167-150E4FL/W/AR	DS-2TD8167-150ZE4F/W
DS-2TD8167-150ZE4FL/W	DS-2TD8167-190ZE4F/W	DS-2TD8167-190ZE4FL/W
DS-2TD8167-190ZK2F/W	DS-2TD8167-190ZK2FL/W	DS-2TD8167-230ZK2FL/W

G. 91XX series

DS-2TD9167-100ZC4F/W	DS-2TD9167-100ZD4F/W	DS-2TD9167-100ZD4FL/W
DS-2TD9167-100ZD2F/W	DS-2TD9167-100ZD2FL/W	DS-2TD9167-100ZE2F/W
DS-2TD9167-150ZE2F/W	DS-2TD9167-150ZE2FL/W	DS-2TD9167-190ZE2F/W
DS-2TD9167-190ZE2FL/W	DS-2TD9167-190ZG2F/W	DS-2TD9167-230ZG2F/W
DS-2TD9167-190ZG2FL/W	DS-2TD9167-230ZG2FL/W	
DS-2TD9167-150ZE4F/W	DS-2TD9167-150ZE4FL/W	DS-2TD9167-190ZE4F/W
DS-2TD9167-190ZE4FL/W	DS-2TD9167-190ZK2F/W	DS-2TD9167-190ZK2FL/W
DS-2TD9167-230ZK2F/W	DS-2TD9167-230ZK2FL/W	

H. 95C8 series

DS-2TD95C8-150ZE4F/W	DS-2TD95C8-150ZE4FL/W	DS-2TD95C8-190ZK2FL/W
DS-2TD95C8-300ZK2FL/W		

3 Third-party Integration

Test equipment	Milestone	Avigilon	Exacqvision	Digifort
Version	Milestone Xprotect Management Client 2020R3 20.3a	Avigilon 7.2.2.0	(20.06.2.0) Jun 11 2020	7.3.0.1
Live view(display VCA info)	√	×	×	×
Live view(display Fire point info)	×	×	×	×
Live view(display Temperature info)	×	×	×	×
Receive VCA Alarm info	√	√	√	√
Receive Dynamic Fire Detection info	√	√	√	√
Receive Temperature info	√	√	√	√

4 Client and Platform Compatibility



First Choice for Security Professionals

Thermal cameral Version		V5.5.49 build 220822	
Test equipment	iVMS-4200	I series NVR	IE explorer
Version	V3.7.4.3 build20220630	iDS-9664NX-I8/X V4.61.000 build 220622	IE10+
Live view(display VCA info)	√	√(Web,4200)	√
Live view(display Fire point info)	√	√(Web,4200)	√
Live view(display Temperature info)	√	√(Web,4200)	√
Remote setup VCA rules (Line Crossing,Intrusion,Region Entrance,Region Exiting)	√	√(Web)	√
Setup Dynamic Fire Detection	√	√(4200, only support linkage)	√
Setup Temperature Measurement	√	√(4200, only support linkage)	√
Receive VCA Alarm info	√	√(4200)	×
Receive Dynamic Fire Detection info	√	√(4200)	×
Receive Temperature info	√	√(4200)	×
Playback(display VCA info)	√	√(Web,4200)	√
Playback(display Fire point info)	√	√(Web,4200)	√
Playback(display Temperature info)	√	√(Web,4200)	√

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