HIKVISION

Thermal Network Turret Camera

Quick Start Guide

About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website (http://www.hikvision.com/en/).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

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IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS.

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Symbol Convention

The symbols that may be found in this document are defined as follows.

Symbol	Description
ⓘ NOTE	Provides additional information to emphasize or supplement important points of the main text.
⚠ WARNING	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
⚠ DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

Laws and Regulations

- The lightning protection and grounding design of outdoor installation and wiring should be in compliance with the lightning protection requirements of the buildings and local laws and regulations.
- Use of the product must be in strict compliance with the local electrical safety regulations.

Storage

- Store the device in dry, well-ventilated, corrosive-gas-free, no direct sunlight, and no heating source environment. Neglect may cause fire hazard.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- DO NOT touch the heat dissipation component to avoid burns.

Transportation

- Keep the device in original or similar packaging while transporting it.
- Keep all wrappers after unpacking them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and the company shall not take any responsibilities.
- DO NOT drop the product or subject it to physical shock. Keep the device away from magnetic interference.

Installation

- When the device is mounted on wall or ceiling, the device shall be firmly fixed.
- Avoid equipment installation on vibratory surface or places subject to shock (neglect may cause equipment damage).

Power Supply

- Make sure that the power has been disconnected before you wire, install, or disassemble the device.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Use the power adapter provided by qualified manufacturer. Refer to the product specification for detailed power requirements. It is recommended to provide independent power adapter for each device as adapter overload may cause over-heating or a fire hazard.

Battery

- DO NOT place the battery near heating or fire source. Avoid direct sunlight.
- Improper use or replacement of the battery may result in explosion hazard. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.
- For long-term storage of the battery, make sure it is fully charged every half year to ensure the battery quality. Otherwise, damage may occur.

System Security

- You acknowledge that the nature of Internet provides for inherent security risks, and our company shall not take any responsibilities for abnormal operation, privacy leakage or other damages resulting from cyber attack, hacker attack, however, our company will provide timely technical support if required.
- Please enforce the protection for the personal information and the data security as the device may be confronted with the network security problems when it is connected to the Internet. Please contact us when the device might exist network security risks.
- Please understand that you have the responsibility to configure all the passwords and other security settings about the device, and keep your user name and password.

Maintenance

- Clean the lens with soft and dry cloth or wiping paper to avoid scratching it.
- If the product does not work properly, please contact your dealer or the nearest service center. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- A few device components (e.g., electrolytic capacitor) require regular replacement. The average lifespan varies, so periodic checking is recommended. Contact your dealer for details.

Using Environment

- DO NOT expose the device to extremely hot, cold, dusty, corrosive, saline-alkali, or damp environments. Make sure the running environment meets the requirement of the device. The operating temperature shall be -40 °C to 65 °C (-40 °F to 149 °F),
- DO NOT aim the lens at the sun or any other bright light.

- Keep the camera away from liquid while in use.

Emergency

- If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.

User Manual of Device

Scan the QR code to view the latest user manual of device on your mobile phone. Note that mobile data charges may apply if Wi-Fi is unavailable.

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Table of Contents

1 Preparation

Basic Requirement

- All the electronic operation should be strictly compliance with the electrical safety regulations, fire prevention regulations and other related regulations in your local region.
- Check the package contents and make sure that the device in the package is in good condition and all the assembly parts are included.
- Use the system according to the working environment requirement.

Check Installing Environment

- Be sure that there is enough space to install the Turret Camera and accessories.
- Make sure that the wall is strong enough to withstand at least 8 times the weight of the system and the mount.

Prepare Cables

- According to the actual network bandwidth, the Cat5 (in 100M) or Cat6 (100M above) is needed.
- When the Turret Camera uses standard 12V DC power supply, the power cable should be American wire gauge 18 or above. The formula of the cross-section S (mm²) and the maximum transmission distance L (m) of the bare wire is L=50*S.
- Choose the video cable according to the transmission length. The video should meet the least demands as: 75Ω resistance; 100% copper core conducting wire; 95% weaving copper shield.

Prepare Tools

Before installation, please prepare the tools needed, such as the expansion screws, electric hammer, electric drill, wrench, screwdriver, electroprobe and network cable.

Original Packaging

When you unpack the Turret Camera, please keep the original package properly, in case of returning or repairing the Turret Camera, you can pack the Turret Camera with the package.

[i] NOTE

The user should be responsible for any damage caused when transporting with unoriginal package.

2 Appearance Description

2.1 Turret Camera Appearance

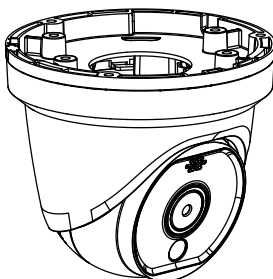Refer to the following figure for Thermal Turret Camera overview.

Figure 2-1 Thermal Turret Camera Overview

2.2 Cable Descriptions

The cable interfaces of turret camera are shown in figure below. The cables of RS-485, power supply, alarm inputs, alarm outputs, etc. are distinguished by different colors. Please refer to the labels attached on the cables for identification.
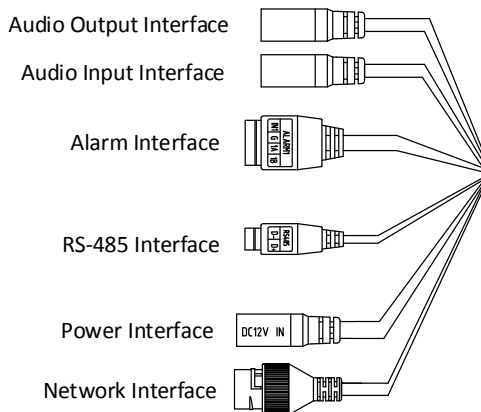

Figure 2-2 Cables of Thermal Turret Camera

2.3 Alarm In/Out Connections

This section is only for the Turret Camera with alarm in/out functions.

The Turret Camera can be connected with alarm inputs (0~5VDC) and alarm outputs. Refer to the following diagrams for alarm output:
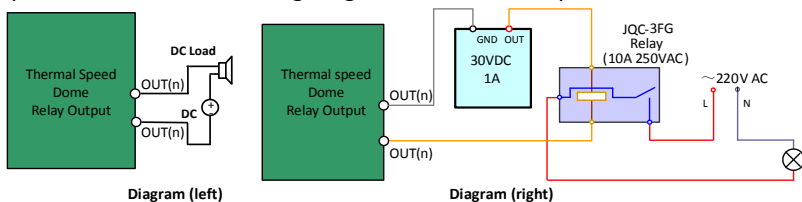

Figure 2-3 Alarm Out Connections

The alarm provides the relay output (no voltage), and the external power supply is required when it connects to the alarm device.

- For DC power supply (left diagram), the input voltage must be no more than 30VDC, 1A.
- For AC power supply, the external relay must be used (right diagram) to prevent damages to the Turret Camera and avoid risk of electric shock.

3 Install the Turret Camera

Before you start:

1. Check the package contents and make sure that the device in the package is in good condition and all the assembly parts are included.

2. Please turn off the power of the Turret Camera before connecting the cables.

☐ NOTE

- Do not drag the Turret Camera with its waterproof cables, or the waterproof performance is affected.
- Please remove the protective film on the turret after the installation.
- Do not touch the bubble of the lower turret directly. The image blurs otherwise.

3.1 Monitor Distance Range

Electric lens is adopted for the thermal channel of Turret Camera. It supports auto-focus function and remote focus function. For different lens focal length, the monitoring range is shown in the table below:

Table 3-1 Monitor Range (Pixel Interval: 17um)

Lens Focal Length/mm	1.8	3.1	6.2
MRAD	9.44	5.48	2.83
Detection Range (Vehicle)/m	162	280	559
Detection Range (Human)/m	53	91	182
Recognition Range (Vehicle)/m	41	70	140
Recognition Range (Human)/m	13	23	46
Identification Range (Vehicle)/m	20	35	70
Identification Range (Human)/m	7	11	23

☐ NOTE

- This table is for reference only, and the actual detection range may vary according to different camera settings, mounting condition, monitor and so on.

- When the weather is fine and the atmospheric visibility is normal, the probability of detecting/recognizing/identifying target is 50%.
- The human width is presumed as 0.5m (human width cannot exceed 0.75m), the human height is presumed as 1.8m, and the vehicle width cannot exceed 2.3m.

3.2 Install Memory Card
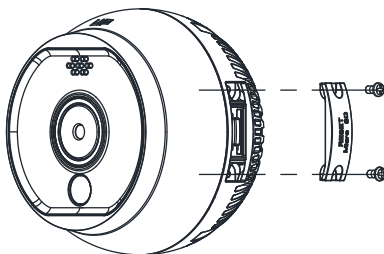
Steps:

1. Remove the cover on the back of the Turret Camera.

Figure 3-1 Remove the Cover

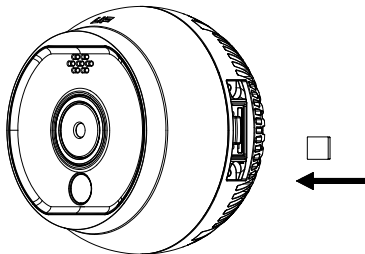2. Insert the SD card to the SD card slot and install the cover back.

Figure 3-2 SD Card Slot

3.3 Install Turret Camera

Steps:

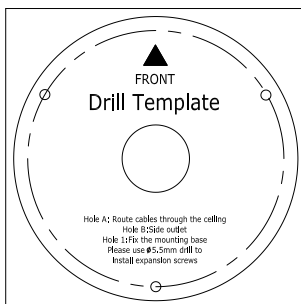1. Drill the hole on the wall or the celling according to the supplied drill template.

Figure 3-3 Drill Template

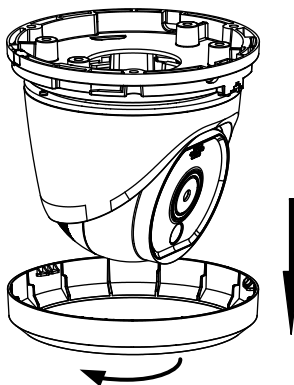2. Turn the ring anticlockwise and remove it.

Figure 3-4 Remove the Ring

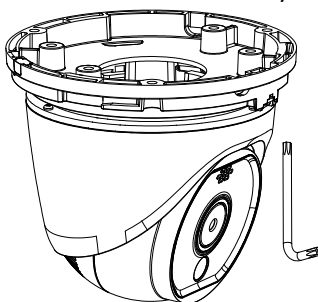3. Loosen the screw and dismount the camera body from the base.

Figure 3-5 Dismount the Camera from Base

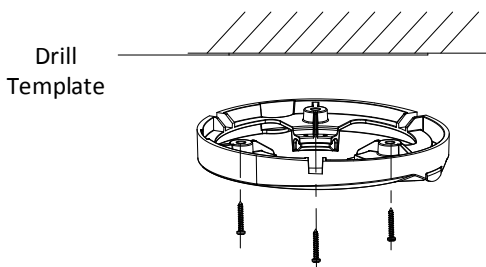4. Mount the camera base according to the position of drill template.

Drill
Template

Figure 3-6 Mount the Camera Base

5. Mount the turret body to the base. Rotate the camera body in the pan direction (0°~360°) or rotate the lens in the tilt direction (0°~80°) to get the desired view angle.
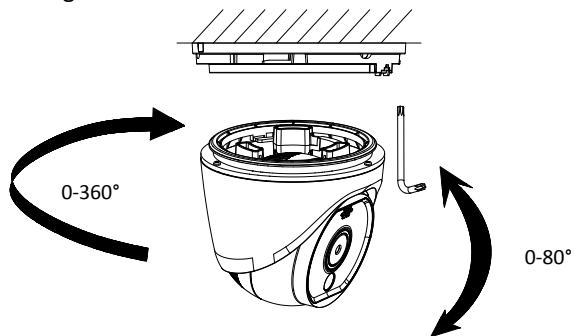

0-360°

0-80°

Figure 3-7 Mount the Camera Body

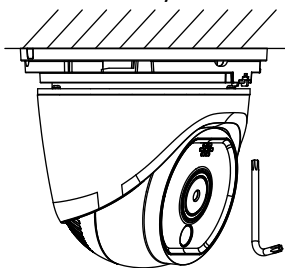6. Screw the screw to fix the camera body on the camera base.

Figure 3-8 Screw the Camera

7. Mount the ring on the camera body, and turn it clockwise to fix the ring.
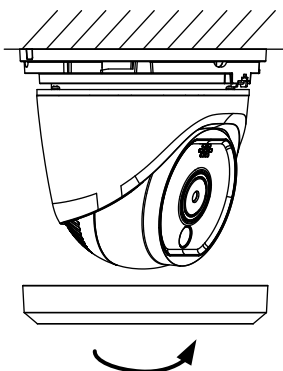
Figure 3-9 Mount the Ring

3.4 Install Network Cable Water-proof Jacket

Purpose:

If the camera is installed outdoor, you should use the waterproof accessory or tapes to waterproof the cables. Otherwise the cables might get wet or a short circuit occurs.

3.4.1 Install Network Cable Waterproof Jacket
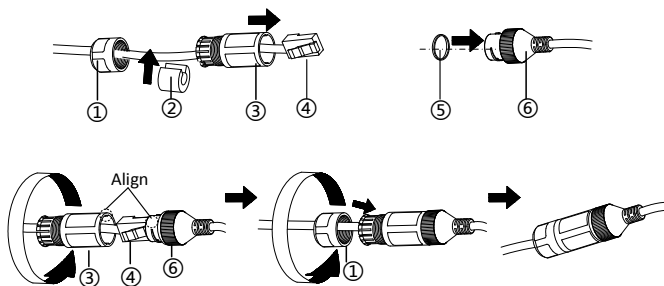
Figure 3-10 Install Waterproof Jacket

Steps:

1. Feed the network cable through ① and ③ in order.
2. Fix ② on the network cable between ① and ③.
3. Place ⑤ onto the end of ⑥, and plug the RJ45 male connector into RJ45 female connector.
4. Screw ③ to ⑥ clockwise.
5. Push ② into ③.

9

6. Secure ① with the ③ in clockwise direction.

3.4.2 Waterproof Other Cables

After routing and connecting the cables, use the waterproof tapes to wrap up the cables. Connected cables and spare cables both should be wrapped up as the figures below.

Figure 3-11 Waterproof Cables

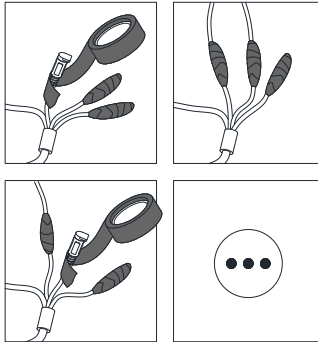# 4 Set the System over the LAN

📋 NOTE

● You shall acknowledge that the use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, please strengthen your own protection. If the product does not work properly, please contact with your dealer or the nearest service center.

● To ensure the network security of the Turret Camera, we recommend you to have the system assessed and maintained termly. You can contact us if you need such service.

4.1 Wiring

Please connect to the camera to the network according to the following figures.
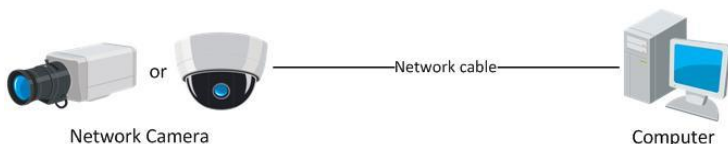
Figure 4-1 Connect Directly
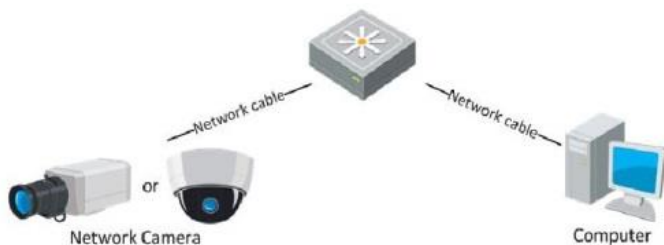
Figure 4-2 Connect via a Switch or a Router

4.2 Activate the System

Purpose:

You are required to activate the system first by setting a strong password for it before you can use the system.

Activation via Web Browser, Activation via SADP, and Activation via client software are supported. In the following sections, activation via web browser and SADP will be taken as examples. You may refer to the user manual of the system for the details of activation via client software.

4.2.1 Activation via Web Browser

Steps:

1. Power on the system, and connect the system to the network.
2. Input the IP address into the address bar of the web browser, and click Enter to enter the activation interface.

    [i] NOTE The default IP address of the system is 192.168.1.64.

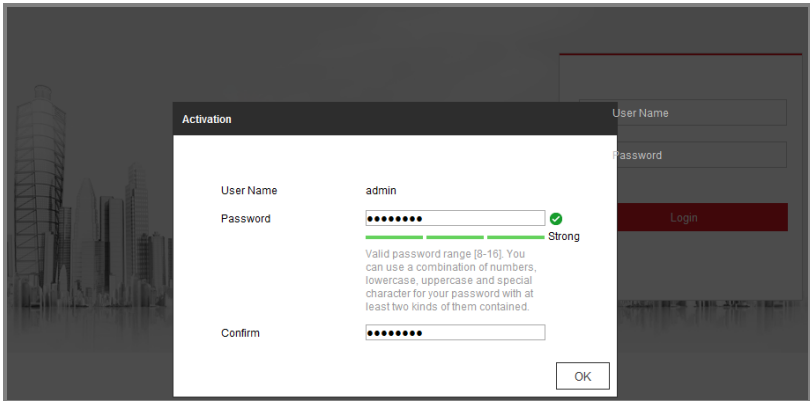Figure 4-3 Activation Interface(Web)

3. Create a password and input the password into the password field.

    ⚠ WARNING

    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. Confirm the password.
5. Click **OK** to activate the system and enter the live view interface.

4.2.2 Activation via SADP Software

SADP software is used for detecting the online device, activating the device, and resetting the password.

Get the SADP software from the supplied disk or the official website, and install the SADP according to the prompts. Follow the steps to activate the system**.**

Steps:

1. Run the SADP software to search the online devices.
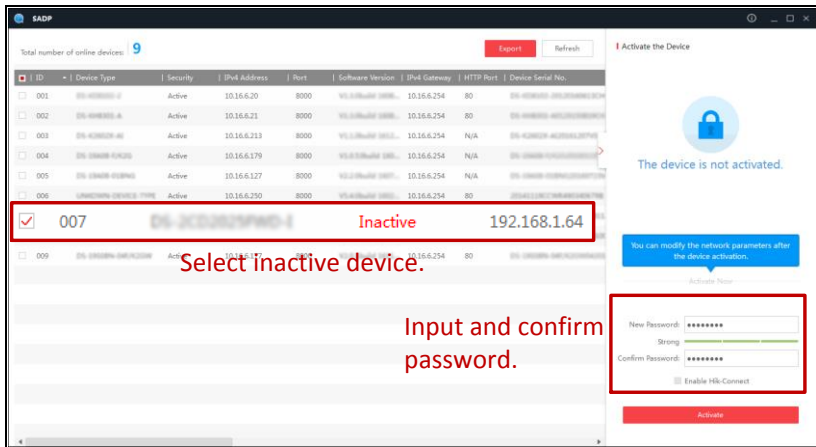2. Check the device status from the device list, and select an inactive device.

Figure 4-4 SADP Interface

3. Create a password and input the password in the password field, and confirm the password.

⚠ **WARNING**

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**.

You can check whether the activation is completed on the popup window. If activation failed, please make sure that the password meets the requirement and then try again.

4.3 Modify the IP Address

Purpose:

To view and configure the system via LAN (Local Area Network), you need to connect the network system in the same subnet with your PC. Then, install the SADP software or client software to search and change the IP of network system. We will take modifying the IP Address via SADP software as an example to introduce the IP address modification.

Steps:

1. Run the SADP software.

2. Click to select an active device.

ⓘ **NOTE** Please refer to section 3.2 to activate the system if it is inactive.

3. Change the device IP address to the same subnet with your computer by either modifying the IP address manually or checking the checkbox of Enable DHCP.

❚ Modify Network Parameters

☐ Enable DHCP
☑ Enable Hik-Connect

Device Serial No.:	XX-XXXXXXXX-XXXXXXXXXXXXXXXX
IP Address:	192.168.1.64
Port:	8000
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.1
IPv6 Address:	::
IPv6 Gateway:	::
IPv6 Prefix Length:	0
HTTP Port:	80

————————— Security Verification —————————

Admin Password:

Modify

Forgot Password

Figure 4-5 Modify the IP Address

4. Input the password and click **Save** to activate your IP address modification.

5 Operate via Web browser

5.1 Access the System

System Requirement:

Operating System: Microsoft Windows XP SP1 and above version / Vista / Win7 / Server 2003 / Server 2008 32bits

CPU: Intel Pentium IV 3.0 GHz or higher

RAM: 1G or higher

Display: 1024×768 resolution or higher

Web Browser: Internet Explorer 7.0 and above version, Apple Safari 5.02 and above version, Mozilla Firefox 5 and above version and Google Chrome8 and above version

Steps:

1. Open the web browser.

2. In the browser address bar, input the IP address of the network Turret Camera, e.g., 192.168.1.64 and press the Enter key to enter the login interface.

3. Activate the Turret Camera for the first time using, refer to the section ***4.2***

    Activate the System.

4. Input the user name and password and click [Login].

    The admin user should configure the device accounts and user/operator permissions properly. Delete the unnecessary accounts and user/operator permissions.

    [i] NOTE

    The device IP address gets locked if the admin user performs 7 failed password attempts (5 attempts for the user/operator).
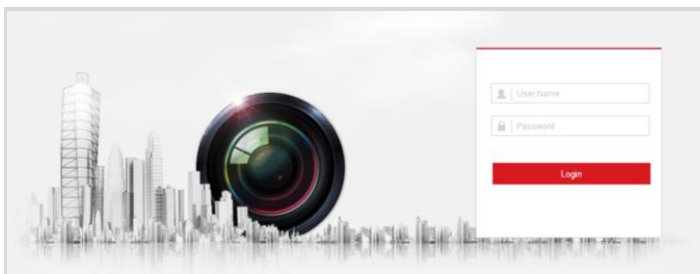
Figure 5-1 Login Interface

5. Install the plug-in before viewing the live video and managing the network Turret Camera. Please follow the installation prompts to install the plug-in.

ⓘ NOTE

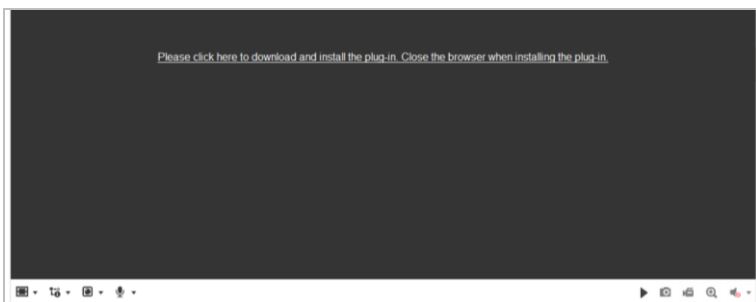You may have to close the web browser to finish the installation of the plug-in.

Figure 5-2 Download Plug-in

6. Reopen the web browser after the installation of the plug-in and repeat the above steps 2-4 to login.

ⓘ NOTE

For detailed instructions of further configuration, please refer to the user manual of network Turret Camera.

6 Appendix

6.1 Common Material Emissivity Reference

Material	Emissivity
Human Skin	0.98
PCB	0.91
Cement Concrete	0.95
Ceramics	0.92
Rubber	0.95
Paint	0.93
Wood	0.85
Asphalt	0.96
Brick	0.95
Sand	0.90
Soil	0.92
Cotton	0.98
Cardboard	0.90
White Paper	0.90
Water	0.96

6.2 Frequently Asked Questions (FAQ)

6.2.1 Device Running Error

Question:

- The device fails to start up or reboots repeatedly.
- The device constantly powers off unexpectedly when you pan/tilt the device or call preset.
- The device fails to zoom in/out or pan/tilt.

Answer:

- Examine the power supply of the Turret Camera and see whether it meets the requirements.
- Select the power supply as close as possible.
- Examine the power cord and see whether it meets the requirements.

6.2.2 Device Upgrading

Question:

Device fails to upgrade.

Answer:

- Examine if the device upgrading fails because of the poor network.
- Examine if the upgrading program matches with the device type.

6.2.3 Others

Question:

The device live view is vague.

Answer:

- Examine if you removed the protective film.
- Examine if the lens is dirty or not.
- Examine if any obstruction is nearby, e.g. spider web.

Question:

Live view fails with good network connection.

Answer:

- Examine if the IE plug-in is well installed. Change the Website Blocker settings if necessary.
- For cross-domain routing, enable the UPnP of device, or set manual mapping to port No. 80, 8000, or 554.
- Examine if the live view channel amount exceeds the upper limit.
- Examine the network bandwidth.

Question:

Focus fails when you test outdoor device in indoor situation.

Answer:

- Restore the device to default settings.
- Adjust the **Min. Focusing Distance** in **Configuration > Image> Display Settings > Focus**

See Far, Go Further