• Welcome •

Thank you for purchasing our network cameras.
This user's manual is designed to be a reference tool for using your product.
Please read the following safeguards and warnings carefully before you use this series product.
Please keep this user's manual well for future reference.

• Important Safeguards and Warnings •

Electrical safety

- All installation and operation should conform to your local electrical safety codes.
- The power source shall conform to the requirement of the Safety Extra Low Voltage (SELV) standard, and supply power according to the Limited Power Source requirement of IEC60950-1. Please note that the power supply requirement is subject to the device label.
- Make sure the power supply is correct before operating the device.
- A readily accessible disconnect device shall be incorporated in the building installation wiring
- Prevent the power cable from being trampled or pressed, especially the plug, power socket and the junction extruded from the device.
- We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

Environment

- Do not aim the device at strong light to focus, such as lamp light and sun light, otherwise it might cause over brightness or light marks, which are not the device malfunction, and affect the longevity of Charge Coupled Device (CCD) or Complementary Metal-Oxide Semiconductor (CMOS).
- Do not place the device in a damp or dusty environment, extremely hot or cold temperatures, or the locations with strong electromagnetic radiation or unstable lighting.
- Keep the camera away from water or other liquid to avoid damages to the internal components.
- Keep the indoor device away from rain or damp to avoid fire or lightning.
- Keep sound ventilation to avoid heat accumulation.
- Transport, use and store the device within the range of allowed humidity and temperature.
- Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.
- Pack the device with standard factory packaging or the equivalent material when transporting the device.

Operation and Daily Maintenance

- Do not directly touch the heat dissipation component of the device to avoid scald.
- Do not dismantle the device because there is no component that can be fixed by users themselves. Otherwise, it might cause water leakage or bad image due to unprofessional dismantling.
- Please contact after-sale service to replace desiccant when it becomes green.
- It is recommended to use the device together with lightning arrester to improve lightning protection effect.
- It is recommended to get the grounding holes to be grounded to enhance the reliability of the device.
- Do not directly touch the optic component CCD or CMOS. You can use the air blower to blow away the dust or dirt on the lens surface. Please use a dry cloth wetted by alcohol to wipe away the dust gently if necessary.
- Use the dry soft cloth to clean the device. If the dust is difficult to be removed, please wipe it away with a clean cloth wetted slightly by the mild detergent, and then use the dry cloth to clean the device. Do not use volatile solvents like alcohol, benzene, thinner, or strong detergent with abrasiveness, otherwise it will damage the surface coating or reduce the working performance of the device.
- When installing or using the device, do not directly touch or wipe the surface of the dome cover because it is an optical device. If stained with dirt, use oil-free soft brush or air blower to gently wipe it away. If stained with grease or fingerprint, use soft cloth to gently wipe the water drop or oil and wait till it is dry, and then use oil-free cotton cloth or lens cleaning paper soaked with alcohol or detergent to wipe from the lens center outward till it is clean.
- We are not liable for any problems caused by unauthorized modification or attempted repair.

-1-

Warnings

- Please modify the default password after login to avoid being stolen.
- Use the standard components provided by manufacturer and make sure the device is installed and fixed by professional engineers.
- The surface of the image sensor should not be exposed to laser beam radiation in an environment where a laser beam device is used.
- Do not provide two or more power supply sources for the device, otherwise it might damage the device.

Disclaimer

- This manual is for reference only. Please refer to the actual product for more details.
- Minor differences might be found in user interface, and there might be deviation between the actual value of some data and the value provided in the manual due to the reasons such as the real environment is not stable. Please refer to the final explanation of the company if there is any doubt or dispute.
- All the designs and software are subject to change without prior written notice. The manual will be regularly updated according to the product upgrade without prior announcement.
- Please contact the supplier or customer service if there is any problem occurred when using the device.
- Please contact the customer service for the latest procedure and supplementary documentation.
- Please visit our website or contact your local service engineer for more information.
- The company is not liable for any loss caused by the operation that does not comply with the manual.
- If there is any uncertainty or controversy, please refer to our final explanation.

• Regulatory Information •

FCC Information

1.1 FCC conditions

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

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause undesired operation.

1.2 FCC compliance

This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference. This equipment generate, 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 communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note
- Please refer to the user's manual for more details.
- Before installation, please open the package and check all the components are included.
- Contact your local retailer as soon as possible if something is broken in your package.

Component list	Quantity
Camera (with bracket)	1
Quick Start Guide	1
Installation Accessories Bag	1

-2-

• 1、Device Framework •

1.1 Device External Cable

Note
- The following structure figure is for reference only. It is only used to know the functions of cable ports.
- There might be some minor differences between different devices, so please refer to the actual products you purchased.
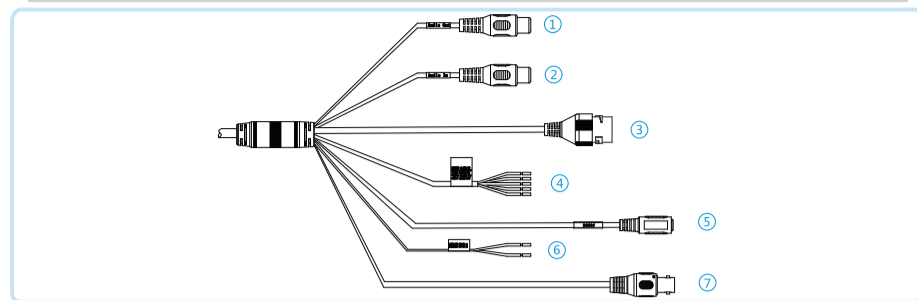

Figure 1-1

Please refer to Table 1-1 for the functions of external cable.

SN	Port	Port Name	Connector	Function description
①	AUDIO OUT	Audio input and output	RCA	Output audio signal to speaker and other devices.
②	AUDIO IN	Audio input port		Input audio signal, receive analog audio signal from pickup and other devices.
③	LAN	Network port	Ethernet port	Connect to standard Ethernet cable.
④	ALARM_NO ALARM_COM	Alarm output	Various alarm devices, such as smoke detector and siren etc.	Alarm output port, output alarm signal to alarm device.
	ALARM_IN1 ALARM_IN2	Alarm input		Alarm input port, receive on-off signal from external alarm source.
	ALARM_GND	Alarm GND		Alarm public GND
⑤	POWER	Power input port	–	Power port, input DC12V. **Note** Actual use is in accordance with device label.
⑥	RS485	RS485 port	–	Used to connect to external RS485 device.
⑦	VIDEO OUT	Analog video output	BNC	Output analog video signal, it can connect to TV monitor to check image.

Table 1-1

Note
- Take out the connector from the accessory bag and insert it into the network port before device power on, and then power on the device, at this moment, the BNC outputs HDCVI signal.

1.2 Dimension

Note
The following figure is for reference only, which is only used to know the device dimension.
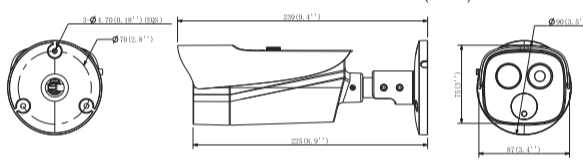Refer to Figure 1-2 for the dimension of the device. The unit is mm (inch).

Figure 1-2

-3-

• 2、Device Installation •

2.1 Installation Preparation

2.1.1 Check Installation Space and Intensity

Make sure the installation location has enough space to install the product and its corresponding installation component. Please make sure the installation wall and bracket can sustain the total weight of camera and its installation structure. It is required to have 8 times of safety factor.

2.1.2 Cable Preparation

• Select required power and cable
It is recommended to implement the following requirement when users need to lengthen the power cable.
The recommended max transmission distance is shown in the following table when the size of wire diameter is fixed and DC 12V voltage transmits power of 15W.

Wire diameter（mm）	Max distance（feet/m）
0.800	40.71（12.41）
1.000	63.61（19.39）
1.250	99.39（30.29）
2.000	254.44（77.55）

Table 2-1

• Select required signal cable
All the signal cables (audio, alarm input output, RS485 and so on) are recommended to use 0.56mm (24AWG) and wider cable as extended signal cable.
• Select needed video cable
◇ 75 ohm impedance
◇ Full cable with copper conductor
◇ 95% knitted copper shield

International mode	Max distance（feet/m）
RG59/U	750ft（229m）
RG6/U	1,000ft（305m）
RG11/U	1,500ft（457m）

Table 2-2

2.2 Installation Steps

Warning
- It shall avoid devices, parts, tools and other objects falling from high altitude during installation, which is to avoid injuring people and damaging other objects.
- Please cut off the device power when installing Micro SD card.
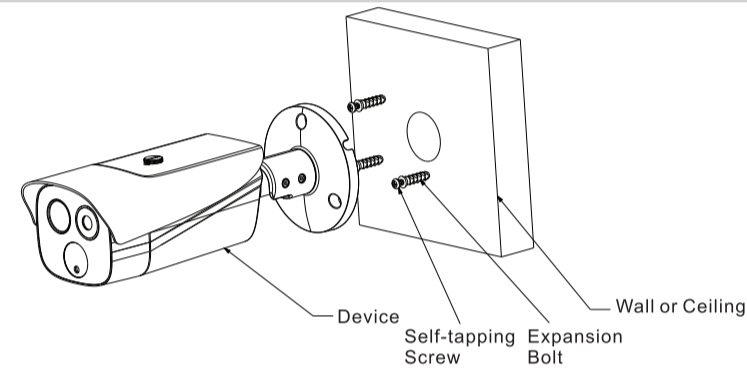

Figure 2-1

-4-

Step 1
Fix the device onto the installation surface.
1) Take out the installation position map from the accessory bag, paste it on the mounting surface (wall or ceiling) and dig holes in the hole sites marked on the installation position map.
2) Take out the expansion bolts from accessory bag and put them into the holes you just dug.
3) Take out the self-tapping screws from accessory bag, align the mounting holes on the device bracket chassis with the expansion bolts which have been well inserted, and use self-tapping screws to fix the device on the mounting surface (wall or ceiling).

Step 2
Connect the external cable well according to the use requirement.
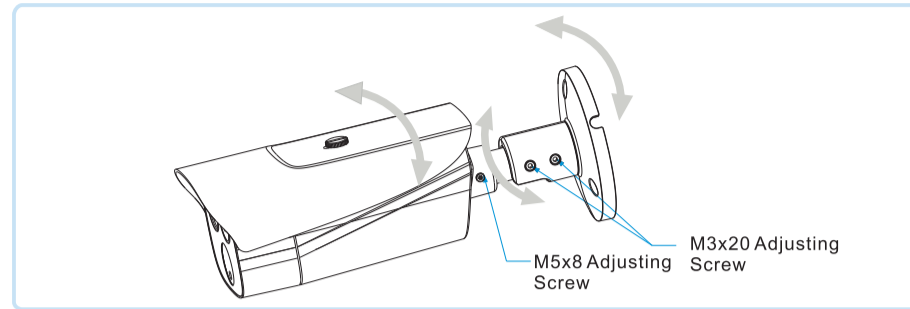
Step 3
Adjust device angle.

Figure 2-2

1) Use inner hex screwdriver to loosen the adjusting screws shown in Figure 2-2.
2) Adjust the device UDLR and set the monitoring direction according to requirement.
3) Use inner hex screwdriver to tighten the adjusting screws.

Step 4
(Optional) Install waterproof connector of network port, which is shown in Figure 2-3.

Note
It needs to implement the step when the device is equipped with waterproof connector and used outdoors.
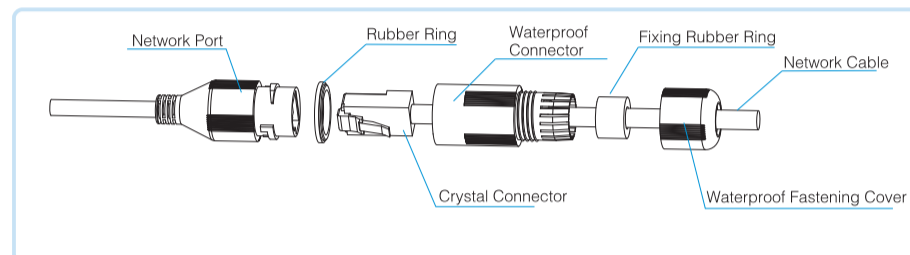

Figure 2-3

1) Keep the convex groove outward and install the rubber ring into the network port, and keep the smaller hole of the rubber ring outward and install the fixing rubber ring into the main body of the waterproof connector.
2) After pulling the network cable without crystal head through main body of waterproof connector, fixing rubber ring and waterproof fastening cover, make the crystal connector of network cable and then insert it into the network cable.
3) Put the main body of waterproof connector on the network port and rotate it clockwise to lock the network port and waterproof connector firmly.
4) Put the waterproof fastening cover on the main body of waterproof connector and rotate it clockwise to lock the waterproof connector and waterproof fastening cover firmly.

-5-

• 3、Network Configuration •

The IP address of all the cameras is the same when leaving factory (default IP 192.168.1.108). To make the camera access to the network smoothly, please plan the available IP segment reasonably according to the actual network environment.

3.1 Modify IP Address

The cameras which are accessed via wired network can acquire and modify the IP address through "Quick Configuration Tool". This section introduces the approach of modifying IP address via "Quick Configuration Tool". You can also modify the IP address in the network parameters of the WEB interface. Please refer to the document WEB Operation Manual for more details.
To modify IP address, do the following:

Step 1
Double-click "ConfigTool.exe" to open the "Quick Configuration Tool".

Step 2
Click 🔧 to enter the interface where you can modify IP address, and then click **Search setting**.
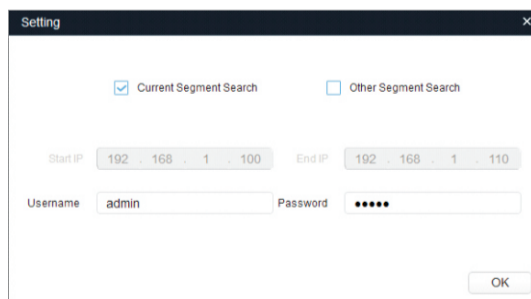The system pops up the Setting dialog box, see Figure 3-1.

Figure 3-1

Step 3
Set the device network segment, login user name and password, and then click **OK**. The system will display the searched devices after searching completes.

Note
The default username and password is admin and admin respectively.

Step 4
Select the devices which IP addresses need to be modified, and then click 🔧 Batch Modify IP .
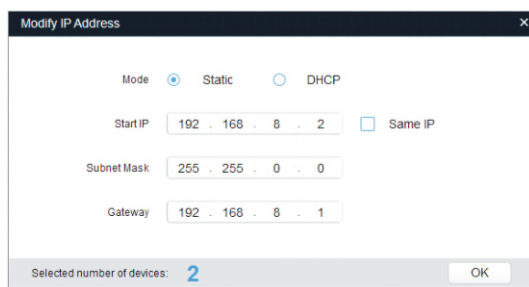The system will pop up the Modify IP Address dialog box, see Figure 3-2.

Figure 3-2

-6-

Step 5
Set the mode as **Static**, and input the planned Start IP, Subnet Mask and Gateway.

Note
Set the mode as **DHCP** when there is DHCP server in the network, the device will automatically acquire IP address from the DHCP server.

Step 6
Click OK to finish modification.

3.2 Login WEB Interface

Note
Different devices might have different WEB interfaces, the figures in this document are just for reference, please refer to the document WEB Operation Manual and the actual interface for more details.

To login WEB interface, do the following:

Step 1
Open IE browser and input the modified camera IP address in the address bar, and then press Enter key. The login interface shows, see Figure 3-3.
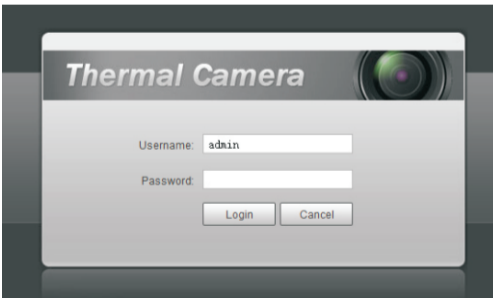

Figure 3-3

Step 2
Input username and password, click Login. The system will pop out WEB main interface.

Note
- The default username and password is **admin** and **admin** respectively, please modify the administrator password as soon as possible after you successfully logged in.
- The system will pop out prompt box of **Modify Password** when log in for the first time, users need to modify administrator password and save properly.
- It will remind users to install plug-in for the first login, please save and install plug-in according to prompt. WEB client will be auto refreshed after plug-in is installed, and then it will show the preview interface.
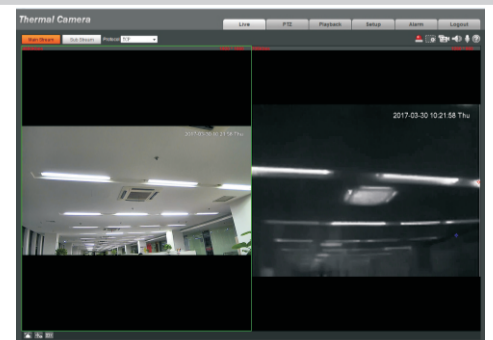

Figure 3-4

-7-

• 4、Featured Function •

The camera is equipped with fusion function. The fusion function can realize data overlay of both visual channel and thermal channel, which is able to save visual details and mark different temperatures with color, making video image of thermal channel much clearer.

Step 1
Select "Setup > Camera". The system will display the interface of "Camera", which is shown in Figure 4-1.
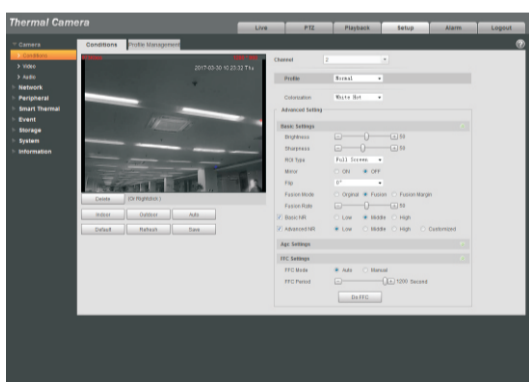

Figure 4-1

Step 2
Set "Fusion Mode". Please refer to Figure 4-2 for fusion modes.

Original

Fusion

Fusion Margin

Figure 4-2

Step 3
Click "OK" to save config.

-8-

APPENDIX I LIGHTENING PROTECTION AND SURGE PROTECTION

This series speed dome adopts TVS lighting protection technology. It can effectively prevent damages from various pulse signals below 6000W, such as sudden lighting and surge. While maintaining your local electrical safety code, you still need to take necessary precaution measures when installing the speed dome in the outdoor environment.

- The distance between the signal transmission cable and high-voltage device (or high-voltage cable) shall be at least 50 meters.
- Outdoor cable layout shall go under the penthouse if possible.
- For vast land, please use sealing steel tube under the land to implement cable layout and connects one point to the earth. Open floor cable layout is forbidden.
- In area of strong thunderstorm hit or near high sensitive voltage (such as near high-voltage transformer substation), you need to install additional high-power thunder protection device or lightning rod.
- The thunder protection and earth of the outdoor device and cable shall be considered in the building whole thunder protection and conform to your local national or industry standard.
- System shall adopt equal-potential wiring. The earth device shall meet anti-jamming and at the same time conforms to your local electrical safety code. The earth device shall not short circuit to N (neutral) line of high voltage power grid or mixed with other wires. When connect the system to the earth alone, the earth resistance shall not be more than 4Ω and earth cable cross-sectional area shall be more than 25 mm². See Figure 5-1.
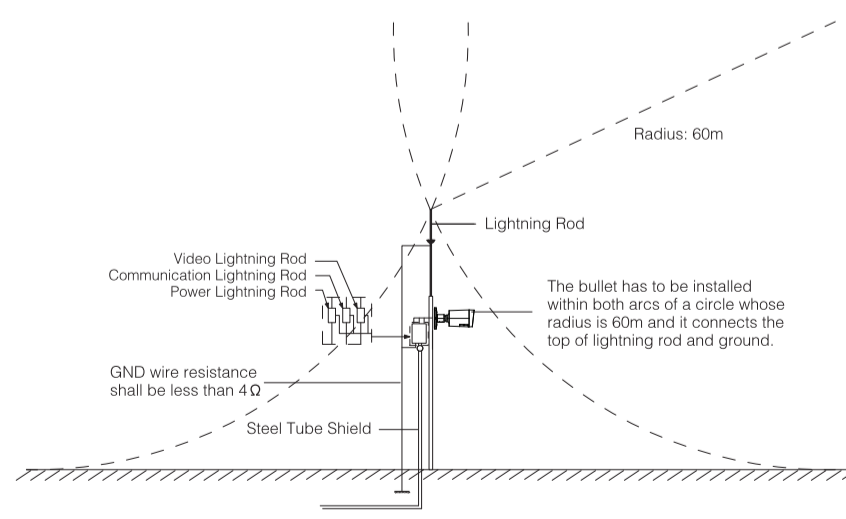

Figure 5-1

1.2.51.32.12228-001

-9-

SMART THERMAL

Thermal Hybrid Bullet Camera

Quick Start Guide

V1.0.0