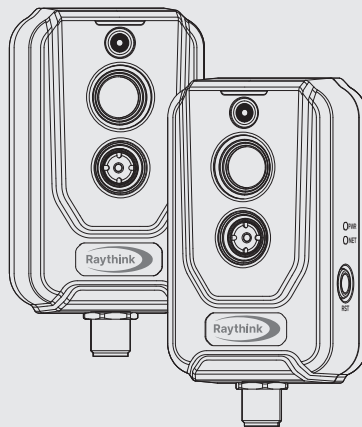




Thermographic Cube Camera



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Quick Start Guide

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■ Preface ■

The following are the correct usage instructions for the product. To prevent danger and avoid property loss, please carefully read this manual before using the device and strictly follow its instructions during use. Please store the manual properly after reading.

Symbol Conventions

The symbols used in this document are explained as follows:

 Note	Note text emphasizes and supplements the main content.
 Caution	Caution text indicates potential risks. Ignoring these warnings may result in device damage, data loss, reduced performance, or unpredictable outcomes.
 Warning	Warning text indicates a low to moderate potential danger. Ignoring these warnings may lead to accidents, device damage, or business interruptions.
 Danger	Danger text indicates a high potential risk. Failure to avoid these hazards may result in severe injury or death.

Important Safety Information



Warning

- Strictly adhere to local electrical safety standards during the installation and use of the product.
- Use a power adapter provided by a certified manufacturer and check that the power supply is correct before operating the device (refer to the device label for power requirements).
- When installing wiring, include an easily accessible power disconnection device for emergency power shutdown if necessary.
- Protect the power cord from being stepped on or pinched, especially at the plugs, power sockets, and points where they exit the device.
- Ensure the product is securely fixed when mounting it on a wall or ceiling.
- If the product is not functioning properly, contact the vendor or manufacturer. Do not disassemble or modify the product in any way (the company is not responsible for issues resulting from unauthorized modifications or repairs).



Caution

- Do not place the device in environments that are humid, dusty, extremely hot or cold, exposed to corrosive gases, or where lighting conditions are unstable.
- Transport, use, and store the device within the allowed humidity and temperature range.
- Avoid pointing the lens directly at strong light sources (such as the sun or lasers) as this may damage the image sensor.
- Do not block the ventilation openings near the device to prevent heat buildup.
- When transporting the device, use the original packaging or materials of equivalent quality.
- Do not subject the device to heavy pressure, severe vibration, or immersion during transport, storage, or installation.
- It is recommended to use this device with a surge protector to enhance lightning protection.

- To clean the device body, use a soft dry cloth. For stubborn dirt, gently wipe it off with a clean soft cloth moistened with a small amount of neutral detergent, then wipe dry. Avoid using volatile solvents like alcohol, benzene, or thinner, as well as harsh, abrasive cleaners, which can damage the surface coating or reduce the device's performance.
- The lens cover is an optical component; do not touch or wipe the dome surface directly during installation or use. If dust accumulates, gently remove it with an oil-free soft brush or blower. For grease or fingerprints, use water drops or an oil-free soft cloth to wipe gently until dry, then use an oil-free cotton cloth or lens cleaning paper moistened with lens cleaner, and wipe repeatedly from the center outward until clean.
- After logging into the device, promptly change the default user password to prevent unauthorized access.



Note

- Use only accessories or attachments specified by the manufacturer, and ensure installation and repairs are performed by professional service personnel.
- Qualifications for installation and repair personnel:
 - (1) Must hold a certification or have experience in video surveillance system installation and repair, with qualifications for related work (e.g., working at heights). In addition, they must possess the following knowledge and operational skills.
 - (2) Basic knowledge and installation skills for video surveillance systems and their components.
 - (3) Basic knowledge and operational skills for low-voltage wiring and low-voltage electronic circuit connections.
 - (4) Basic knowledge and skills in network security, and the ability to understand the contents of this manual.
- Requirements for lifting equipment
 - (1) Use safe lifting equipment suitable for the installation site and the installation method of the device.
 - (2) The lifting equipment must have sufficient height to reach the installation position.
 - (3) The lifting equipment must have good safety performance.

1.Product Overview

1.1 Product Appearance

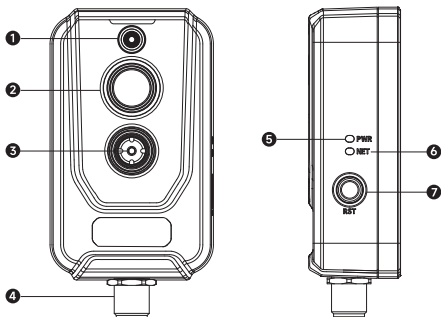


Figure 1.1 Product Appearance and Connector Illustrations

1.2 Appearance Introduction

No.	Description
①	LED lamp
②	Visual camera
③	Infrared camera
④	M12 17-pin connector
⑤	Power indicator LED
⑥	Ethernet communication indicator LED
⑦	Restart button

1.3 Cable and Use

The product comes standard with a 17-pin cable. The diagram and description are as follows:

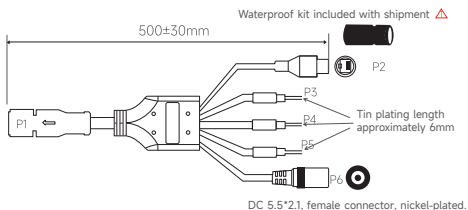


Figure 1.2 17-pin Cable Diagram

- P1:** M12 17-pin A-coded aviation connector, used for connecting the device M12 connector
- P2:** RJ45 Ethernet female connector, used for network cable connection
- P3:** Alarm Output (ALARM OUTPUT), red is +, black is -
- P4:** Alarm Input (ALARM INPUT), red is +, black is -
- P5:** RS485 communication interface (485), red is +, black is -
- P6:** DC power connector, supports DC12V power supply, please connect the positive and negative terminals of the power supply correctly.

After the power and network cable is connected, the power indicator light will stay solid red, and the network indicator light will blink green. Wait for approximately 1 minute, and the network connection will be established successfully.

2.Product Installation

2.1 Introduction before Installation

There are mounting holes at the rear housing of the camera. You can use the included alignment guide in the packaging to assist with drilling holes and install the product using screws. Additionally, a rear mounting plate is available for customers to choose from. If the product heats up during operation, this is normal. To ensure adequate heat dissipation, it is recommended to mount the thermal camera to metallic objects at its rear housing which can reduce device heating as well as decrease the temperature drift of the detector.



Do not use too long screws. Using screws that are too long will damage the thermal camera. The maximum depth of holes in the camera is 4mm.

2.2 Mounting with Screws

Attach the alignment guide on the mounting position, and drill four $\Phi 2.5$ mounting holes according to the marker on the alignment guide, then mount with four M2 screws, as illustrated in figure 2.1.

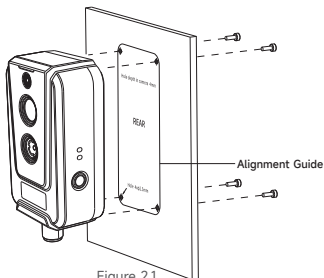


Figure 2.1

2.3 Mounting with Rear Plate

• Step 1 Mounting Rear Plate

As illustrated in figure 2.2, connect the rear plate to the thermal camera with M2x6 screws. See figure 2.3 for mounting effect.

- **Step 2 Drilling Holes**

As illustrated in figure 2.4, put the alignment guide on the mounting position, and drill four $\Phi 4.5$ mounting holes according to the marker on the alignment guide.

- **Step 3 Mounting Camera**

As illustrated in figure 2.4, mount the camera to the designated location with M4 screws.

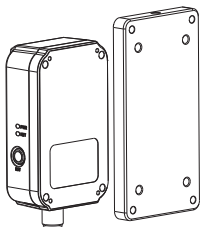


Figure 2.2

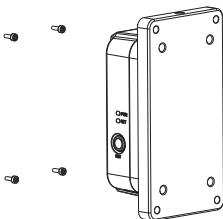


Figure 2.3

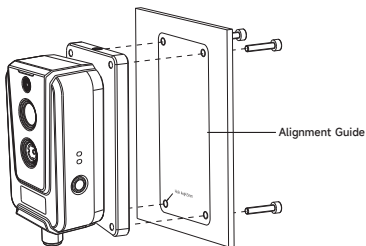


Figure 2.4

3.Operation Guide

3.1 Preparations

- 1.The default IP address of the device is 192.168.1.123.
- 2.The subnet mask is: 255.255.255.0. You can modify the device's IP address. For example, if you change the device's IP address to 192.168.2.123, modify your computer's IP address to be in the same subnet as the network server, with the same subnet mask. For example, 192.168.2.124.
- 3.Test whether the device starts up correctly. In Windows, follow these steps: <Start → Run → cmd> to open the Command Prompt. In the Command Prompt, type ping 192.168.1.123. If it does not display 'Request timed out', the startup is normal.

3.2 System Login

- 1.After powering on and connecting to the network, enter the IP address in the address bar of browsers such as Google Chrome, Firefox, or Edge, and press Enter. The login screen shown in the following image will appear. You can switch languages on this screen, or after logging in, you can switch languages on the home screen. Both Simplified Chinese and English are supported.

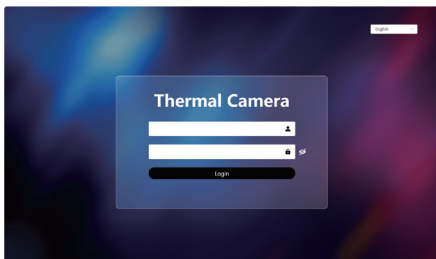


Figure 3.1 Login Interface

2. For the first login, the default factory username is admin, the password is admin.
3. Click the Login button to access the live view of the web server interface. As shown below:

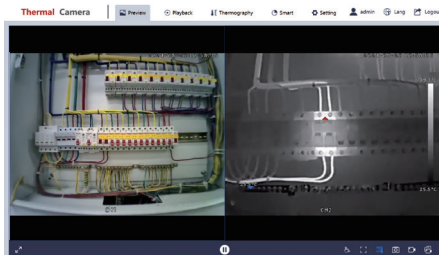


Figure 3.2 Live View

3.3 Home Screen Introduction

On the home screen of the web server interface, you can perform operations and configurations such as preview, video playback, temperature measurement, intelligent analysis and settings.

1. Preview: Used for real-time observation, as well as capturing images and recording videos.
2. Playback: Allows searching and online playback of images and videos as needed.
3. Temperature Measurement: Supports parameter settings, temperature analysis settings, alarm settings, etc.
4. Intelligent Analysis: Supports general capability analysis, motion detection, target filtering, fire alarm settings, and other functions.
5. Settings: Supports camera settings, network settings, peripheral settings, storage management, etc.

Appendix A Camera Maintenance

Lens Maintenance

The lens surface is coated with an anti-reflective film. If it becomes contaminated with dust, grease, fingerprints, or other substances, harmful effects may occur, leading to performance degradation, scratches, or mold. If dirt is detected, please follow the methods below for cleaning.

Dust contamination: Use an oil-free soft brush or a blower to gently remove the dust.

Grease contamination: Use a soft cloth to gently wipe away the grease or fingerprints with water drops or oil, and allow it to dry. Then, using an oil-free cotton cloth or lens cleaning paper moistened with alcohol or lens cleaner, wipe from the center of the lens outward. If the contamination persists, repeat the process with a fresh cloth several times.

Network Safety Maintenance

To ensure the network security of the device, it is recommended that you conduct regular network security assessments and maintenance. Our company can provide the corresponding professional technical services.

Appendix B Emissivity of Common Materials

Materials	Temperature (°C)	Emissivity
Water	0~100	0.95~0.98
Soil(dry)	20	0.92
Soil(wet)	20	0.95
Woods	17	0.962
Sand	20	0.9
Sandstone	19	0.909~0.935
PVC plastic	70	0.93
Asphalt	20	0.967
Paint	70	0.92~0.94
Wallpaper	20	0.85~0.90
Cloth	20	0.98
Concrete	20	0.92
Pavement surface	5	0.974
Smooth china	20	0.92
Ceramic tile	17	0.94
Gypsum	17	0.86
Bricks	35	0.94
Hard rubber	0~100	0.89
Carbon	20~400	0.95~0.97
Granite(rough)	20	0.879
Cold rolled steel	70	0.09
Oxidized steel	50	0.88
Copper	20	0.07
Oxidized copper	50	0.6~0.7