Kamera wewnętrzna IP o rozdzielczości 2MP z wbudowanym promiennikiem IR LED z serii GENSTAR

2.8-12mm | 1080p | PoE | ROI | H.264 | DNR | d-WDR

Model: ZN8-D4NVF56L

Cechy szczególne:

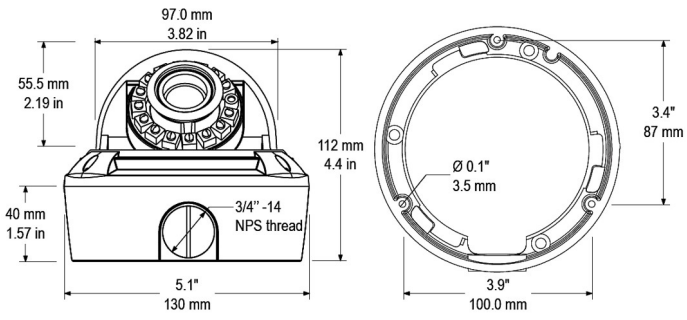
- Precyzyjna regulacja parametrów obrazu, obejmująca dostosowanie takich parametrów jak: nasycenie, jasność, kontrast, ostrość oraz obrót (rotacja).
- **ROI** (Region of Interest) - na podstawie określonych przez użytkownika stref ROI (obszary zainteresowania) kamera obniża jakość obrazu poza strefami w celu zmniejszenia zapotrzebowania na przepustowość transmisji i pamięć masową, z jednoczesnym zachowaniem maksymalnej jakości obrazu w strefach ROI.
- **Tryb korytarzowy** – dopasowanie pola widzenia do sceny charakteryzującej się znaczną dysproporcją pomiędzy wysokością i szerokością powierzchni użytkowej.
- **HLC** – kompensacja silnych miejscowych prześwietleń obrazu wywołanych m.in. reflektorami samochodu.
- **2D/3D-DNR** – 2 oraz 3-wymiarowa cyfrowa redukcja szumu.
- **D-WDR** – cyfrowa funkcja szeroko-dynamiczna.

Parametry techniczne

Model	ZN8-D4NVF56L
Przetwornik	1/2.9" CMOS --- IMX322 + HI3516C 2MP
Czułość (AGC ON)	Kolor: 0,01lux / IR ON: 0lux
Tryb Dzień/No	Filtr automatyczny IR-Cut
Migawka elektron.	1/5 – 1/20.000
Tryb WDR	d-WDR
Redukcja szumu	2D / 3D-DNR
Obiektyw	2.8 – 12mm (kąt widzenia: 89° - 35°)
Oświetlacz IR	12 x IR LED, zasięg do 20 metrów
Kompresja video	H.264 / MJPEG
Bitrate (CBR/VBR)	Strum.1: 500k – 12Mbit
	Strum.2: 100k – 6Mbit
Kompresja audio	G.711, RAW PCM
Rozdzielczość	1920x1080 (30kl/sek.)
Strumienie video	Strum.1: maks. 1920x1080
	Strum.2: maks.D1
Ustawienia obrazu	Obrót, nasycenie, jasność, kontrast, ostrość
Funkcje cyfrowe	HLC / ROI
Tryb Korytarzowy	Tak (9:16)
Protokoły sieciowe	HTTP, HTTPS, TCP, UDP, RTSP, DHCP, NTP,
	PPPoE, Unicast, Multicast
Obsługa RTSP	Standard RFC2326 (VLC Player / QuickTime)
Zabezpieczenia	Autoryzacja użytkownika, WatchDog sprzętowy
Kompatybilność	ONVIF, CGI
Interfejs Ethernet	10/100 Base-T, RJ45
Audio	1 x WEJ. / 1 x WYJ. (wbudowany mikrofon)
Alarm	1 x WEJ. / 1 x WYJ.
Przycisk resetu	Tak
Wyjście analogowe	1 x BNC – złącze serwisowe wideo

Adapter do mocowania kamery: **Brak**

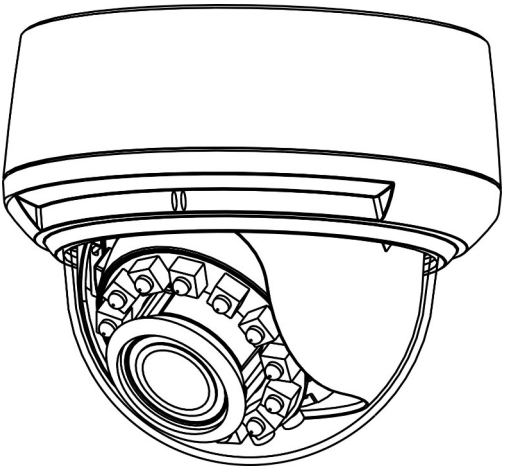
Wymiary zewnętrzne:



Obsługa kart SD	Slot Micro SD / SDHC, maks. 32GB
Zasilanie	12V DC / PoE (802.3af)
Pobór prądu	5W (IR-LED wył.) / 7W (IR-LED wł.)
Temperatura działania	-40°C ~ +60°C
Maks. wilgotność	90%
Certyfikaty i klasy	CE / FCC
Wymiary / masa	Ø 130 x 112 mm / 400g

GANZ ZN8-D4NVF56L Dome Network Camera

User Manual



Issue **V1.0**

Date **2016-02-22**

Precautions

Precautions

Fully understand this document before using this device, and strictly observe rules in this document when using this device. If you install this device in public places, provide the tip "You have entered the area of electronic surveillance" in an eye-catching place. Failure to correctly use electrical products may cause fire and severe injuries. To prevent accidents, carefully read the following context:

Symbols

This document may contain the following symbols whose meanings are described accordingly.

Symbol	Description
DANGER	It alerts you to fatal dangers which, if not avoided, may cause deaths or severe injuries.
WARNING	It alerts you to moderate dangers which, if not avoided, may cause minor or moderate injuries.
CAUTION	It alerts you to risks. Neglect of these risks may cause device damage, data loss, device performance deterioration, or unpredictable results.
TIP	It provides a tip that may help you resolve problems or save time.
NOTE	It provides additional information.

DANGER

To prevent electric shocks or other dangers, keep power plugs dry and clean.

WARNING

- Strictly observe installation requirements when installing the device. The manufacturer shall not be held responsible for device damage caused by users' non-conformance to these requirements.

- Strictly conform to local electrical safety standards and use power adapters that are marked with the LPS standard when installing and using this device. Otherwise, this device may be damaged.
- Use accessories delivered with this device. The voltage must meet input voltage requirements for this device.
- If this device is installed in places with unsteady voltage, ground this device to discharge high energy such as electrical surges in order to prevent the power supply from burning out.
- When this device is in use, ensure that no water or any liquid flows into the device. If water or liquid unexpectedly flows into the device, immediately power off the device and disconnect all cables (such as power cables and network cables) from this device.
- Do not focus strong light (such as lighted bulbs or sunlight) on this device. Otherwise, the service life of the image sensor may be shortened.
- If this device is installed in places where thunder and lightning frequently occur, ground the device nearby to discharge high energy such as thunder strikes in order to prevent device damage.

CAUTION

- Avoid heavy loads, intensive shakes, and soaking to prevent damages during transportation and storage. The warranty does not cover any device damage that is caused during secondary packaging and transportation after the original packaging is taken apart.
- Protect this device from fall-down and intensive strikes, keep the device away from magnetic field interference, and do not install the device in places with shaking surfaces or under shocks.
- Clean the device with a soft dry cloth. For stubborn dirt, dip the cloth into slight neutral cleanser, gently wipe the dirt with the cloth, and then dry the device.
- Do not jam the ventilation opening. Follow the installation instructions provided in this document when installing the device.
- Keep the device away from heat sources such as radiators, electric heaters, or other heat equipment.
- Keep the device away from moist, dusty, extremely hot or cold places, or places with strong electric radiation.
- If the device is installed outdoors, take insect- and moisture-proof measures to avoid circuit board corrosion that can affect monitoring.
- Remove the power plug if the device is idle for a long time.
- Before unpacking, check whether the fragile sticker is damaged. If the fragile sticker is damaged, contact customer services or sales personnel. The manufacturer shall not be held responsible for any artificial damage of the fragile sticker.

Special Announcement

All complete products sold by the manufacturer are delivered along with nameplates, operation instructions, and accessories after strict inspection. The manufacturer shall not be held responsible for counterfeit products.

This manual may contain misprints, technology information that is not accurate enough, or product function and operation description that is slightly inconsistent with the actual product. The manufacturer will update this manual according to product function enhancement or changes and regularly update the software and hardware described in this manual. Update information will be added to new versions of this manual without prior notice.

This manual is only for reference and does not ensure that the information is totally consistent with the actual product. For consistency, see the actual product.

Contents

1 Overview

1.1 Hardware connection

Figure 1-1 and Figure 1-2 shows the multi-head cable used by the IR Indoor Dome Network Camera, which is described in Table 1-1.

Figure 1-1 Multi-head cable

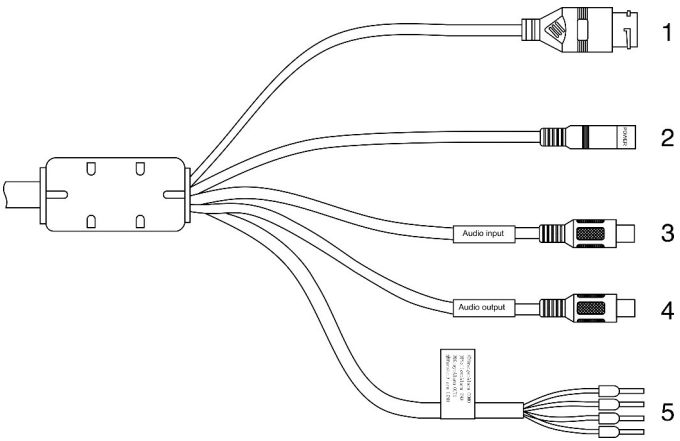


Figure 1-2 Simple multi-head cable (optional)

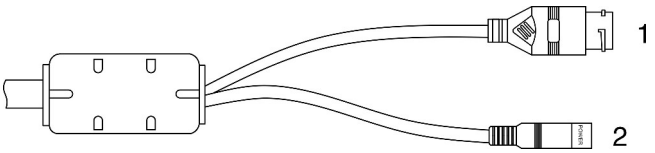


Table 1-1 Multi-head cable description

NO.	Color	Port	Description
1	N/A	Network	Connects to a standard Ethernet cable.

NO.	Color	Port	Description
		access port	
2		Power supply port	Connects to a 12V direct current (DC) power supply.
3		Audio input port	Receives analog audio signals from devices such as a sound pickup device.
4		Audio output port	Connects to an external audio device such as a speaker.
5	Gray core	Alarm output terminal A (normal open)	Alarm output
	Purple core	Alarm output terminal B (normal open)	
	yellow core	Alarm input positive terminal	Alarm input terminal
	Orange core	Alarm input ground terminal	

Figure 1-3 shows the SD card slot, which is described in Table 1-1.

Figure 1-3 SD card slot

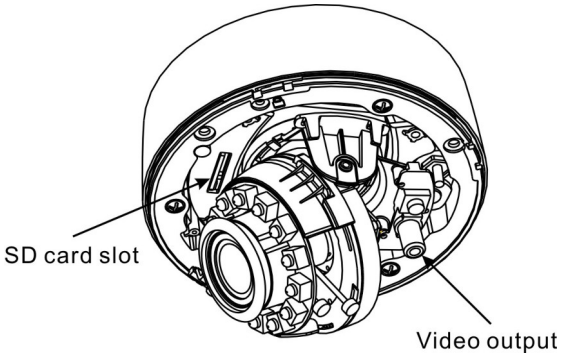


Table 1-1 Hardware port connection

Port	Description
SD card slot	Installs an SD card. NOTE • Before installing an SD card, verify that the SD card is not in the write protection state. • Before removing an SD card, verify that the SD card is not in the write protection state. Otherwise, some data may be lost or the SD card may be damaged. • Before installing or removing an SD card when the camera is running, stop video recording first.
SD card indicator	Indicates the SD card status. The status is described as follows: • Off: No SD card is inserted. • On: An SD card is inserted.
RESET button	Restores the camera to the factory settings by pressing and holding this button for more than five seconds.
Network indicator	When plug into the network cable, the red indicator on and the green indicator is flashing which in the adjacent position.

1.2 Features

Network Features

- Supports the complete TCP/IP protocol suite.
- Support video, audio, and alarm data.
- Provides a built-in web browser and supports access using Microsoft Internet Explorer.
- Supports network data transmission and remote access.
- Supports Point-to-Point Protocol over Ethernet (PPPoE), Dynamic Host Configuration Protocol (DHCP), and Dynamic Domain Name System (DDNS).
- Supports Power over Ethernet (PoE) that complies with the IEEE802.3af standard. The IP camera can connect to a switch or router supporting the PoE function to implement PoE.
- Supports remote upgrade and maintenance.

Image Processing Features

- Supports multiple streams. Encoding parameters for the main stream and sub stream can be configured separately.
- Supports dynamic stream parameters based on different image quality requirements.
- Supports independent hardware compression, constant bit rate (CBR), and Variable bit rate (VBR). Videos can be compressed using the Motion Joint Photographic Experts Group (MJPEG) or H.264 standard. The frame rate and bit rate can be configured.

I/O Features

- Support channel associated audio, bidirectional intercom, and unidirectional broadcast.
- Provides a 10/100 Mbit/s self-adaptive Ethernet port.

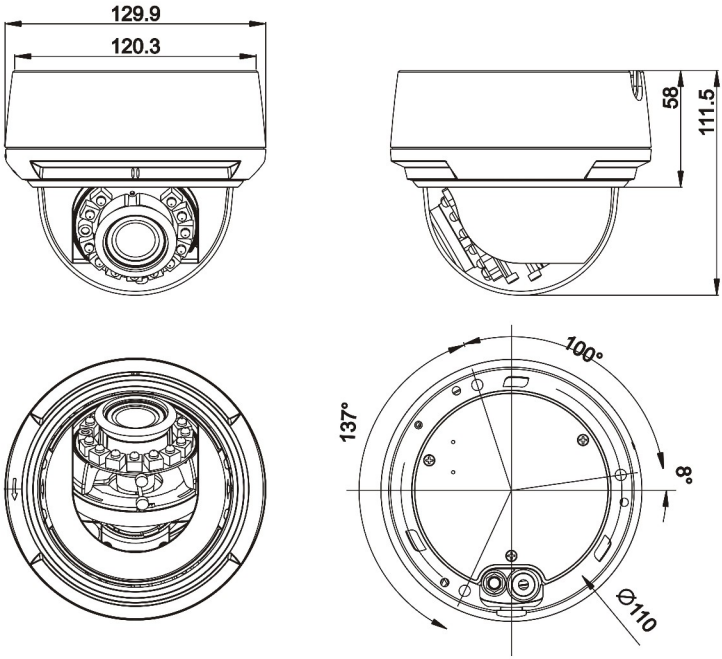
Other Features

- Supports the heartbeat function that allows the management host to learn the running status of the IP camera in real time.
- Supports level-based user rights management.

2 Device Dimensions

Figure 1-1 shows the camera dimensions.

Figure 1-1 Dimensions (unit: mm)



3 Device Installation

3.1 Installation Modes

IR Indoor Dome Camera can be installed in planar and embedded modes. Check whether accessories listed in Table 1-1 are provided in the packaging box prior to installation.

Table 1-1 List of accessories

Accessory	Appearance
Expansion particle: 3PCS (φ5.6*29mm)	
Self-tapping screws: 3PCS (PA4.0*30mm)	
Black screws: 3PCS (PA3.5*70mm)	
Locking screw	

WARNING

After installation, power on the device, keep it running for at least half an hour, and then install the upper cover to prevent moisture.

3.2 Planar Installation

Direct installation and lower cover installation are supported in planar installation mode.

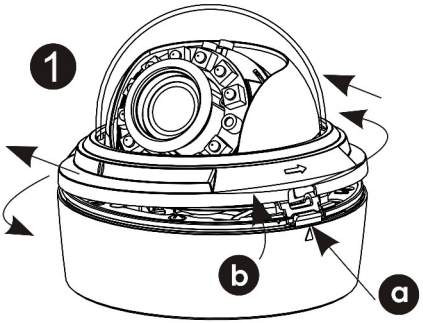
NOTE

- Do not detach the protective film from the dome cover before all the installation steps are complete.
- Keep the dome cover clean during the installation. Do not contact the dome by hand or with other materials to avoid affecting video image quality.

Direct Installation

Step 1 Press down the dome with one hand at position **a** (marked by an arrow), rotate the upper cover of the dome counterclockwise with the other hand, and gently pull the upper cover upward to remove it, as shown in Figure 1-1.

Figure 1-1 Removing the upper cover



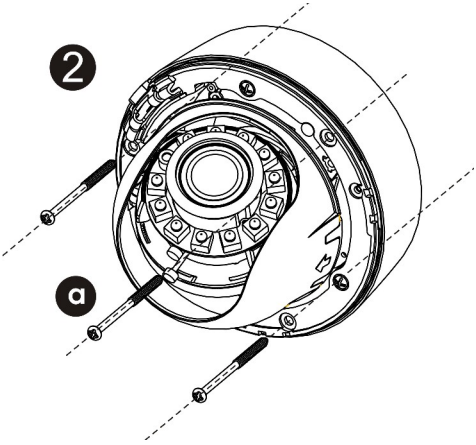
Step 2 Take the positioning label out of the accessory bag and attach it to the installation position. Use a ϕ5.5mm drill bit to drill three holes with a depth of at least 30mm at position B.

Step 3 Drive the three white expansion particles into the holes.

Step 4 Take three black self-tapping screws with a length of 70mm out of the sealed PE bag and drive them into the three expansion particles.

Step 5 Fix the dome on the installation plane, as shown in Figure 1-1.

Figure 1-1 Direct installation

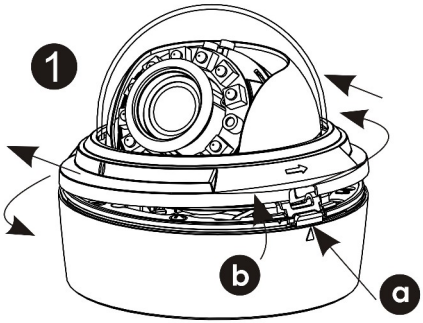


Step 6 Install the upper cover.

Lower Cover Installation

Step 1 Press down the dome with one hand at position **a** (marked by an arrow), rotate the upper cover of the dome counterclockwise with the other hand, and gently pull the upper cover upward to remove it, as shown in Figure 1-1.

Figure 1-1 Removing the upper cover

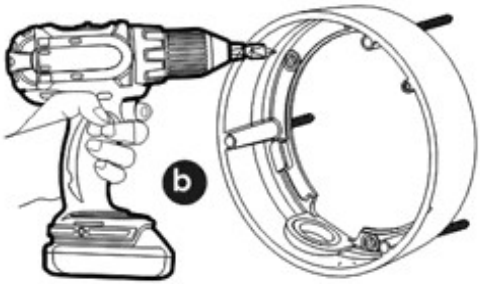


Step 2 Install the lower cover.

1. Remove the two white self-tapping screws at the lock position and keep them in good manner.

2. Rotate the dome core counterclockwise for about 5 degrees to remove the white lower cover.
3. Take a positioning label out of the accessory bag and attach it to the installation position. Use a ϕ5.5mm drill bit to drill three round holes with a depth of more than 30mm at position A.
4. Drive the three white expansion particles into the holes.
5. Use the three black self-tapping screws with a length of 30mm in the accessory bag to install the white lower cover in place specified, as shown in Figure 1-1.

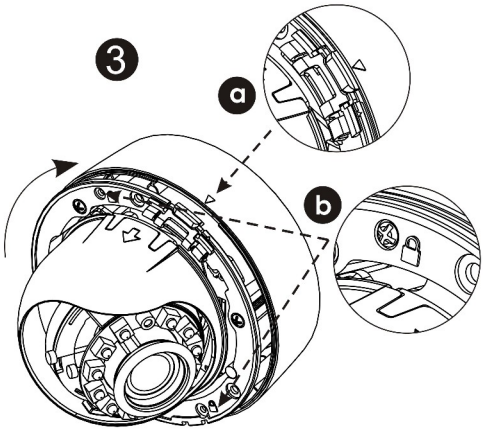
Figure 1-1 Installing the lower cover of the camera



Step 3 Fasten the lower cover and bottom cover.

1. Drive the dome core into the lower cover in direction marked by an arrow, and rotate the dome core clockwise to install it in place specified, as shown in position **a** in Figure 1-1.
2. Use the two white self-tapping screws removed in Step 2 (spare parts are available in the bag) to fasten the dome core and lower cover, as shown in position **b** in Figure 1-1.

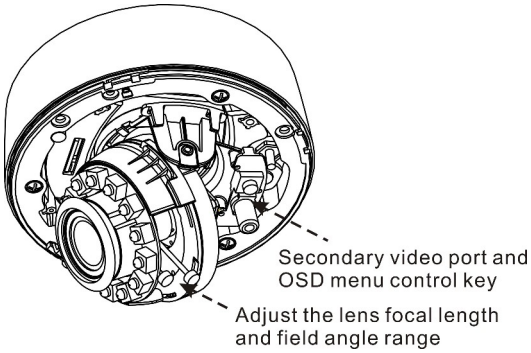
Figure 1-1 Fastening the lower cover and dome core



Step 4 Adjust the focus.

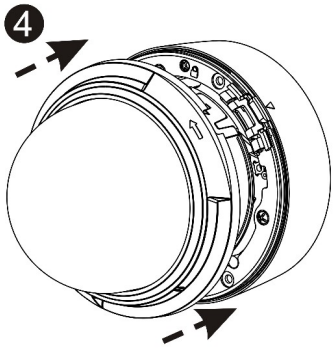
1. Adjust the lens angle and fix the focusing lever.
2. By default, the focusing lever is locked. To adjust the focusing lever, loosen the focusing lever and adjust the focus in clockwise or counterclockwise direction, as shown in Figure 1-1.

Figure 1-1 Adjusting the lens angle and focus



Step 5 Install the upper cover in direction marked by the arrow, and align the gap on the upper cover with the position on the lower cover marked by the arrow, as shown in Figure 1-1.

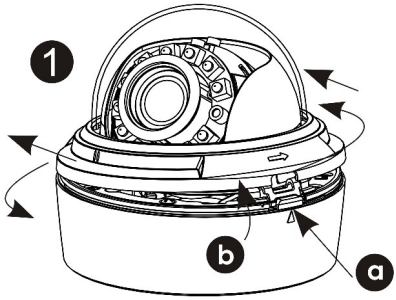
Figure 1-1 Installing the upper cover



3.3 Embedded Installation

Step 6 Press down the dome with one hand at position **a** marked by an arrow, rotate the upper cover of the dome counterclockwise with the other hand, and gently pull the upper cover upward to remove it, as shown in Figure 1-1.

Figure 1-1 Loosening the screws



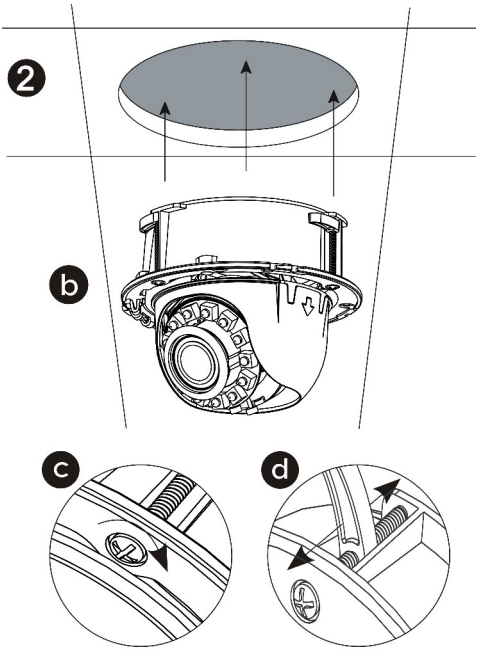
Step 7 Take a label out of the accessory bag, drill a round hole at the installation position by following the inner edge of the label (the hole is larger than the dotted circle but smaller than the outer edge of the label).

Step 8 Put the dome into the hole and keep the installation lever still, as shown in Figure 1-1.

Step 9 Attach the lower cover to the ceiling, hold the dome with one hand, and fasten the screws with the other hand till the installation lever is tightened. Tighten the screws

when the installation surface touches the inner side of the ceiling, as shown in Figure 1-1.

Figure 1-1 Embedded installation



Step 10 Take an analog video output line out of the accessory bag, connect the RCA end of the line to the second video output port, and connect the BNC end of the line to a monitor for tests.

Step 11 Adjust the angle of the camera, fix the focusing lever, and adjust the lens angle as required.

NOTE

By default, the focusing lever is locked. To adjust the focusing lever, loosen it in counterclockwise direction and then tighten it after adjustment

Step 12 Install a liner to a proper position and pay attention to the installation angle.

Step 13 Install the upper cover.

4 Quick Configuration

4.1 Login and Logout

CAUTION

You must use Internet Explorer 6 or a later version to access the web management system; otherwise, some functions may be unavailable.

Login system

Step 1 Open the Internet Explorer, enter the IP address of IP camera (default value: 192.168.1.168) in the address box, and press Enter.

The login page is displayed, as shown in Figure 1-1.

Figure 1-1 Login page

Step 2 Input the User and password.

NOTE

- The default name is **ADMIN.** The default password is **1234**. Change the password when you log in the system for first time to ensure system security.
- You can change the system display language on the login page.

Step 3 Click Login.

The main page is displayed.

logout

To logout of system, click **Sign out** in the upper right corner of the main page, the login page is display after you log out of the system.

4.2 Browsing Video

User can browse the real-time video in the web management system.

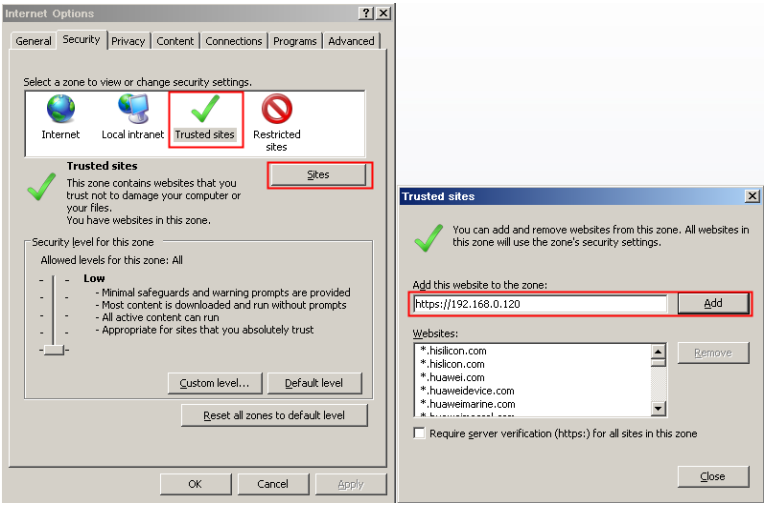
Preparation

To ensure the real-time video can be play properly, you must perform the following operation when you log in to the web for the first time:

1. Open the Internet Explorer. **Choose Tools > Internet options > Security > Trusted sites > Sites.**

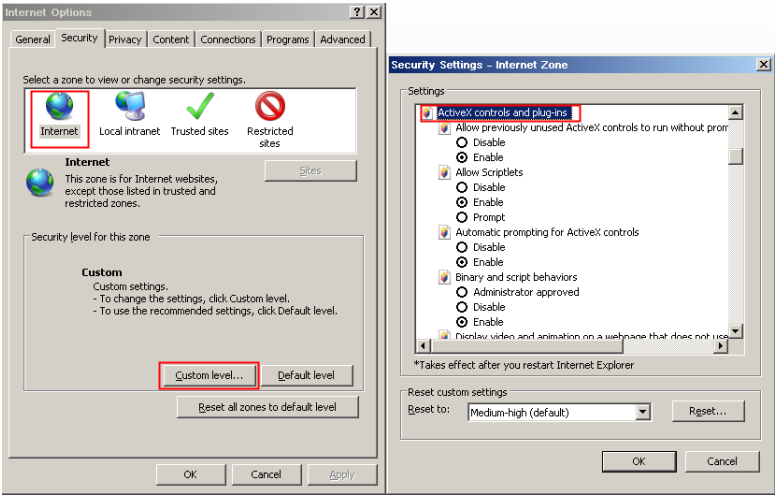
   In the display dialog box, click **Add**, as shown in Figure 1-1.

Figure 1-1 Adding the a trusted site



2. In the Internet Explorer, choose **Tool** > **Internet Options** > **Security** > **Customer level**, and set **Download unsigned ActiveX control** and **initialize and script ActiveX controls not marked as safe for scripting under ActiveX controls and plug-ins** to **Enable**, as shown in Figure 1-1.

Figure 1-1 Configuring ActiveX control and plug-ins



3. Download and install the player control as prompted.

NOTE

The login page is display when the control is loaded.

4.2.1 Download the right control in the Internet Explorer

Real-time video page pop-ups the message **clicks to play live video with ActiveX control to reduce latency**.

Click the message, jump to download ActiveX control interface, once downloading is complete, you can watch more fluent video screen.

Unable to display video picture, and need to download and install the control

Real-time video page pop-up the message **click to download the latest version of Flash Play live video** and **click to play video with ActiveX control to reduce latency**.

Click the message **click to play live video with ActiveX control to reduce latency**, jump download Adobe Flash Player Plugin control interface, once downloading is complete, you can watch video screen.

Click the message **click to download the latest version of Flash Play live video**, jump to download ActiveX control interface, once downloading is complete, you can watch more fluent video screen.

4.2.2 In the Google, Firefox, or Safari browsers watch real-time video

Google, Firefox, and Safari browsers only support Adobe Flash Player Plugin to play video. When Adobe Flash Plugin control version is too low, browser will automatically clew you to download the latest control.

4.3 Setting Local Network Parameters

Description

Local network parameters include:

- IP protocol
- IP address
- Subnet mask
- Default gateway
- Dynamic Host Configuration Protocol (DHCP)
- Preferred Domain Name System (DNS) server
- Alternate DNS server
- MTU

Procedure

Step 1 Choose **Device Configuration** > **Local Network**, the **Local Network** page is displayed.

Step 2 Set the parameters according to Table 1-1.

Table 1-1 Local network parameters

Parameter	Description	Setting
IP Protocol	IPv4 is the IP protocol that uses an address length of 32 bits.	[Setting method] Select a value from the drop-down list box. [Default value] IPv4
Obtain an IP address automatically	The device automatically obtains the IP address from the DHCP server.	[Setting method] Click the button on to enable **obtain IP address automatically**. NOTE To query the current IP address of the device, you must query it on the platform based on the device name.
DHCP IP	IP address that the DHCP server assigned to the device.	N/A
IP Address	Device IP address that can be set as required.	[Setting method] Enter a value manually. [Default value] 192.168.0.120
Subnet Mask	Subnet mask of the network adapter.	[Setting method] Enter a value manually. [Default value] 255.255.255.0
Default Gateway	This parameter must be set if the client accesses the device through a gateway.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Preferred DNS Server	IP address of a DNS server.	[Setting method] Enter a value manually. [Default value] 192.168.0.1

Parameter	Description	Setting
Alternate DNS Server	IP address of a domain server. If the preferred DNS server is faulty, the device uses the alternate DNS server to resolve domain names.	[Setting method] Enter a value manually. [Default value] 192.168.0.2
MTU	Set the maximum value of network transmission data packets.	[Setting method] Enter a value manually. Note The MTU value is range from 800 to 1500, the default value is 1380, please do not change it arbitrarily.

Step 3 Click **Apply**.

- If the message "Apply succeed!" is displayed, click **Confirm**. The system saves the settings. The message "Set network parameter success, Please login system again" is displayed. Use the new IP address to log in to the web management system.
- If the message "Invalid IP Address", "Invalid Subnet Mask", "Invalid default gateway", "Invalid primary DNS", or "Invalid space DNS" is displayed, set the parameters correctly.

NOTE

If you set only the **Subnet Mask**, **Default Gateway**, **Preferred DNS Server**, and **Alternate DNS Server** parameters, you do not need to log in to the system again.

5 Technical Specifications

Table 1-1 lists the technical specifications of the camera.

Table 1-1 Technical specifications

Items	parameters	Description
Camera function	Image sensor	1/2.9" CMOS sensor
	Video standard	Configurable
	Effective Pixels	1984(H) ×1105(V)
	Digital zoom	Support
	Minimum illumination	Color: 0.05Lux@ (F1.2, AGC ON) B&W: 0Lux @(IR LED ON)
	Day & Night mode	Auto/Color/B&W
	Removable optical filter	Supported, day: IR CUT; night: fully transparent
	Electronic shutter speed	1/5 seconds to 1/20k seconds
	Gain control	Auto/Manual
	White balance	Auto
	Fisheye correction	Not supported
	Wide dynamic range	Support
	BLC	Support
	Highlight compensation	Support
	DNR	Auto/manual(support for 3D noise reduction)
	Digital image stabilization	Not supported
Lens	Lens type	Vari-focal lens

Items	parameters	Description	
	Focal length of the lens	2.8-12mm	
	Auto Iris	Fixed lens	
Infrared function	Infrared distance	10-20 m	
External interface	Network interface	RJ-45, 10/100Base-T self-adaptive Ethernet port	
	RS485	Not supported	
	Alarm interface	Input	Passive input type (switch)
		Output	Passive output type (switch)
	Audio interface	Input	1 audio input (RCA interface)
		Output	1 audio output (RCA interface)
	CVBS interface	Support for analog video output interface RCA/3.5	
	SD card interface	Micro SD	
Video	Video encoding format	H.264(BP/HP/MP) and MJPEG	
	Video resolution and frame rate	50Hz: 25fps 60Hz: 30fps The main stream: 1920*1080/1280*720 The secondary stream: D1/CIF/QCIF/VGA/QVGA/640*360	
	Video bit rate	Primary stream: 1080p: 500 kbps to 12 Mbps 720p: 200kbps to 8Mbps Secondary stream: 100 kbps to 6 Mbps	
	Multi-stream	Support for double stream	
	Stream type	CBR、VBR	
	S/N Ratio	≥54dB	
Audio	Audio encoding format	Support for G711	
	Audio bit rate	64kbps(G.711)	
	Intercom	Support	
	Embedded	Not supported	

Items	parameters	Description
	loudspeaker	
	Embedded microphone	Support
Network	Network protocol	IPv4/ Ipv6, RTSP/RTP/RTCP, TCP/UDP, HTTPS, DHCP, DNS, DDNS, PPPoE, SMTP
	Streaming mode	Unicast
	Number of users in concurrent access	4(up to two 1080p videos)
Function	Corridor mode	Support
	Defogging	Support
	Video buffering	Support
	Region of interest ROI	Support
	User rights	Two roles: administrator and common users. The administrator can assign common users different rights.
	Security mode	User name and password-based authentication
	Support for SDK development	Linux/Windows C++ SDK
	Other functions	A reset button, the heartbeat mechanism
Storage	Local storage type	Support for SD and SDHC cards
	Capacity	32G
	SD card availability	Unavailable
WEB applications	Language	Simplified Chinese, English, Spanish, Portuguese, Polish and Italian
	Management and maintenance	Management and maintenance via the web is not supported. An independent upgrade tool is available.
Environmental features	Heating function	Support
	Power supply	DC12V(-15%-+10%) / PoE(802.3af)

Items	parameters	Description
	Power consumption	3W(IR LED OFF; heater OFF) 6W(IR LED ON; heater OFF) 8W(IR LED ON; heater ON)
	Operating temperature	-25℃–+55℃
	Operating humidity	Humidity: <90% (non-condensing)
Physic features	Dimension	φ130mm×111.5mm
	Net weight	575g

A Hazardous Substance Declaration

Component	Hazardous Substance or Element					
	Plumbum (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr6+)	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Structural part	×	○	○	○	○	○
Board/circuit module	×	○	○	○	○	○
Cable connector	×	○	○	○	○	○
Accessories	×	○	○	○	○	○

○: indicates that the concentration of the hazardous substance in all homogeneous substances of the component is within the limit specified in SJ/T 11363-2006 **Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products**.

×: indicates that the concentration of the hazardous substance in at least one homogeneous substance of the component exceeds the limit specified in SJ/T 11363-2006 **Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products**.

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