Hanwha Vision

SECURITY CAMERA

User Manual

TNO-C*083E

CE

Security Camera

User Manual

(No. D20240000436 / Rev.00 / 2024.1.30)

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※ **Design and specifications are subject to change without prior notice.**

※ **The initial administrator ID is "admin" and the password should be set when logging in for the first time.**
Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a damp cloth.
   (Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a UL Listed Power Supply Unit marked "Class 2" or "LPS" or "PS2" and rated from PoE (48Vdc), 0.25A.
16. This product is intended to be supplied by isolation power.
17. If you use excessive force when installing the product, the camera may be damaged and malfunction.
    If you forcibly install the product using non-compliant tools, the product may be damaged.
18. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.
    This may cause damage to the product.
19. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.
    Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.
20. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.
    Install the product by referring to "Installation & connection" in the user manual.
21. Installing or using the product in water can cause serious damage to the product.
22. Although a rapid change in temperature could cause frost inside the dome, there will be no problem with the video.

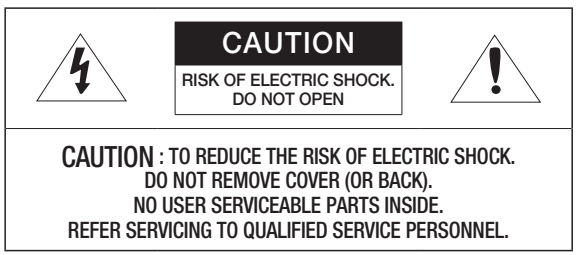
WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Disconnection Device

Disconnect the main plug from the apparatus, if it's defected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one camera and other devices must not be connected.

When a new product box is opened (or during the initial use of the product), moisture might build up on the glass of the camera. The built-up moisture disappears naturally within a few hours after powered on.

The ITE is to be connected only to PoE networks without routing to the outside plant.

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3af shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.

Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building.

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.
  The high temperature of the product surface may cause a burn.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

We do not guarantee the quality of third-party products (e.g. lenses, accessories) that you separately purchase.

In particular installation environments, there might be interference in radio communications. When interference of electromagnetic waves occurs between the product and radio communication device, it is recommended to keep a certain distance between the two or change the direction of the receiving antenna.

IMPORTANT SAFETY INSTRUCTIONS (EXPLOSION-PROOF PRODUCTS)

Carefully follow the contents as they are for preventing danger or property damage through the correct use of the product.

Explosion hazard

- This product shall be installed and maintained by qualified technicians in accordance with national standards such as EN/IEC 60079-14 and EN/IEC 60079-17 (applicable standards).
- Never open the product with power supplied in an explosion-proof area.
- Install the product by using appropriate tools.
- The manufacturer recommends to use explosion-proof tools.
- It is recommended to perform connection testing and maintenance work in a non-explosion-proof area.
- Grounding is required to reduce the ignition risk of the product when installed in a potentially explosive area.
- Be sure to connect the device to the protective earth.
  At this time, it is recommended to use an approved grounding cable.
- Before turning on the product in a potentially explosive area, make sure all connections such as cable glands are closed properly.
- If the temperature of the device's surface increases due to direct sunlight, its surface temperature grade is determined using only the ambient air temperature without considering direct sunlight.
- Make sure that devices are all certified for the installed application and environment conditions.
- Any changes that are not approved by the manufacturer are not covered by warranty.
- The enclosure shall be protected from impact corresponding to the low risk of mechanical danger.
- The ambient temperature range is -40 °C to +65 °C.
- Do not open when an explosive atmosphere is present.
- Ex d IIC or/and Ex tb IIIC certified cable gland and blanking element must be used for all cable entries. For Ex d, Ex d certified barrier type cable gland shall be used.
- Cable gland and cable with service temperature of at least 80 °C shall be used.
- To reduce the risk of ignition of hazardous atmospheres, disconnect the equipment from the supply circuit before opening.
- This equipment shall be installed in such way that the risk from propagating brush discharge is avoided.
- Do not loosen or twist the protective earthing conductor.
- For earthing, O-lug or U-lug shall be assembled and fixed by using bolt and washer in the groove of a rear cover.
- A readily accessible disconnect device shall be incorporated in the building installation wiring.
- Keep assembly tightly closed when operating.
- Use stainless steel hardware to fasten the mount to outdoor surfaces.
- Only use replacement parts recommended by the manufacturer.
- Do not change or repair the flamepaths of the product housings.
- The flameproof joints are not intended to be repaired.
- Do not dismantle the glass nut.

Electric shock hazards

- When installation or maintenance is performed with the circuit breaker ON, make sure the product is turned off.
- A power cut-off device shall be included in electrical units to detect hazards, possibly turning off power if necessary.
- An earth leakage circuit breaker (maximum of 16 A) is recommended to use for the electrical unit that is connected to the device.
- The minimum gap between circuit breaker contacts must be 3 mm (0.1˝) .
- Do not use worn or corroded cables.
- All cables shall comply with IEC 60332-1-2, IEC 60332-1-3, and IEC/EN 60079-14.
- During installation, check whether the characteristics of the power supply from the facility match those required by the product.
- This product is not suitable for use in the locations where children may be present.

Precautions for work

- Check that the installation method complies with explosion-proof regulations and specifications.
- After connection, it is recommended to test in a non-explosion-proof area and then install the product.
- Use appropriate cables that can withstand the operating temperatures.
- All unused cables should have been electrically insulated.
- Be sure to install the product only in a standard location.
- Proceed with installation after checking whether the product's power source is PoE or DC voltage and it is appropriate.
- The manufacturer assumes no responsibility for any damage caused by unauthorized modifications, use of non-genuine spare parts, and installation, maintenance, and repair by unqualified technicians.
- For technical services, contact with qualified technicians.
- This product shall be repaired by trained technicians or repaired under the supervision of the manufacturer.
- During repair, use only genuine parts of the manufacturer.
- Strictly follow the maintenance instructions in this manual.

Understanding the installation procedure

- Installers shall comply with general accident prevention guidelines while handling the product.
- Before installation, check the components to see if they match those in this manual.
- Installation in an explosion-proof area shall be performed by qualified technicians.
- The manufacturer assumes no responsibility for any damage caused by improper use of the device mentioned in this manual. The manufacturer also has the right to change parts without prior notice.
- Because user assumes responsibility to select a place on which the product is to be installed, any fixtures are not provided to attach the product. It is the installer's responsibility to select appropriate fixtures for the purpose.
  Use an installation method and materials that can support at least four times the weight of the product.
- For maintenance of the entire product, it is recommended to send the product to the manufacturer for repair.

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RECOMMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM) i7 3.4 GHz or higher
- RAM : 8G or higher
- Recommended browser: Chrome
- Supported browsers: Chrome, Safari, Firefox, MS Edge(chromium based)
- Supported OS : Windows, Mac, Linux, Android, iOS, Chrome
- Verification environment
  - Windows 10: Google Chrome version 80 or later, Firefox version 72 or later, MS Edge version 83 or later
  - Mac 10.13/14: Safari version 11.0.1 or later

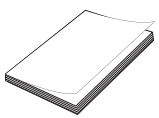
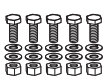
※ The video play performance of the web viewer depends on the performance of the user's CPU and GPU.

NAS RECOMMENDED SPECS

- Recommended capacity : 200GB or higher is recommended.
- For this camera, you are recommended to use a NAS with the following manufacturer's specs.
  Recommended products : QNAP NAS, Synology NAS

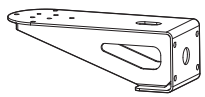
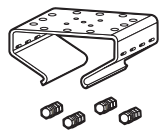
WHAT'S INCLUDED

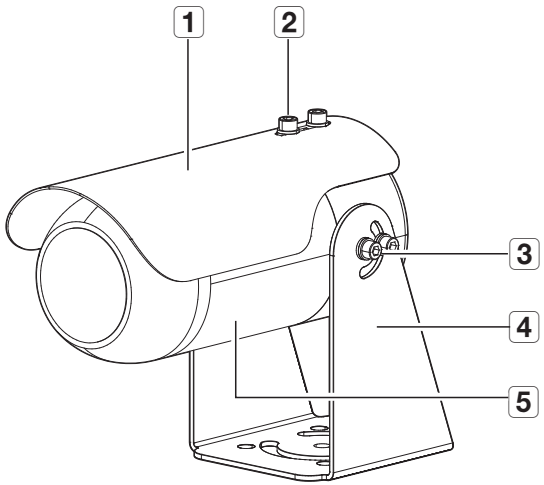
Please check if your camera and accessories are all included in the product package.
(As for each sales country, accessories are not the same.)

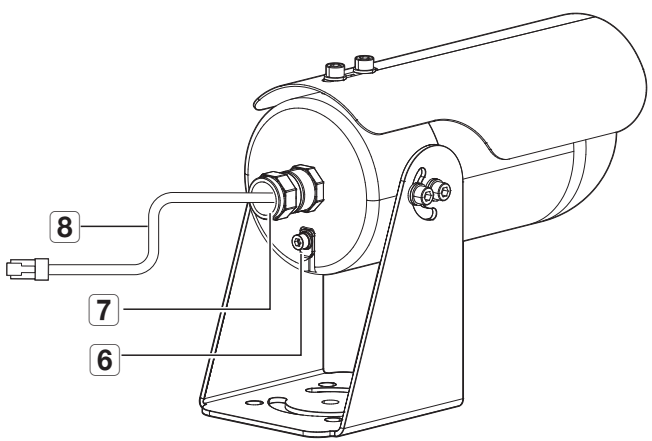
Appearance	Item Name	Quantity	Description
	Camera	1	
	Quick Guide	1	
	Hex L wrench (5/4/2.5/1.5 mm)	4	
	Hex bolt set (Hex bolts/Hex nuts/Spring washers/Flat washers)	5	Used to assemble the mount
	Tapping screws/ Plastic anchors	4/4	Used to fix the camera body on the wall or ceiling
	Wrench bolt (M6x10)	2	Used to assemble the camera to the mount bracket
	Copper tube terminal	1	Terminal used to install on the ground
	Wrench bolt (M5x8)	1	Used to fix the copper tube terminal in the grounding hole

OPTIONAL ACCESSORIES FOR INSTALLATION

You can purchase appropriate optional accessories available.

Wall Mount	Pole Mount
	
SBE-100WM	SBE-100PM





Item	Description
1 Sunshield	Used to block direct sunlight.
2 Sunshield fixing screw	Used to fix the sunshield on the camera.
3 Bracket fixing screw	The bracket can be rotated by loosening the bracket fixing screw.
4 Bracket	Used when installing the camera directly or assembling with a mount separately sold.
5 Camera body	Part on the body that contains a camera lens and connectors.
6 Grounding hole	Install by connecting to the earth for grounding.
7 Cable entry	Install by using explosion-proof products.
8 Network Cable	PoE Port & Ethernet Cable (3 m)

INSTALLATION

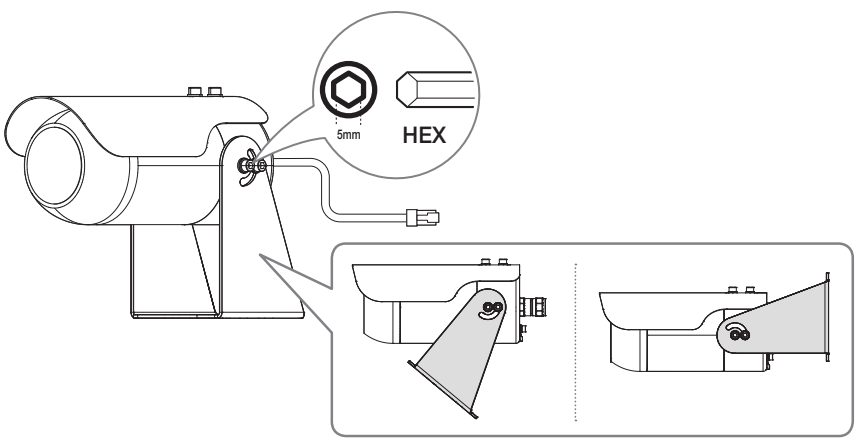
Precautions before installation

Ensure you read out the following instructions before installing the camera:

- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site.
  And put aside personal belongings from the site, just in case.
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction.
  Forcing assembly using non-compliant tools may damage the product.

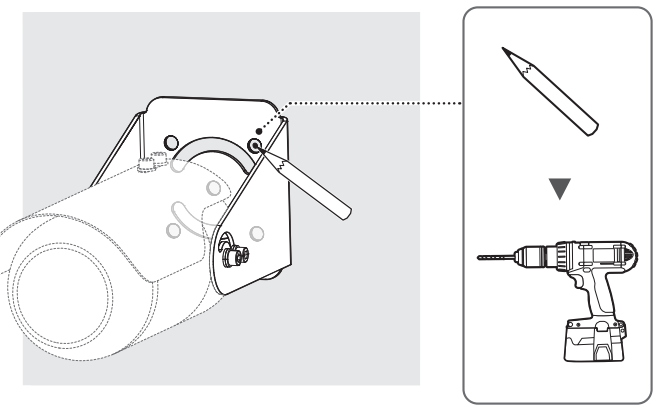
Installation

1. You can rotate the bracket by loosening the bracket fixing screw with the provided hex L wrench.
   - Adjust the installed direction of the camera and then tighten the bracket fixing screw to secure the camera.

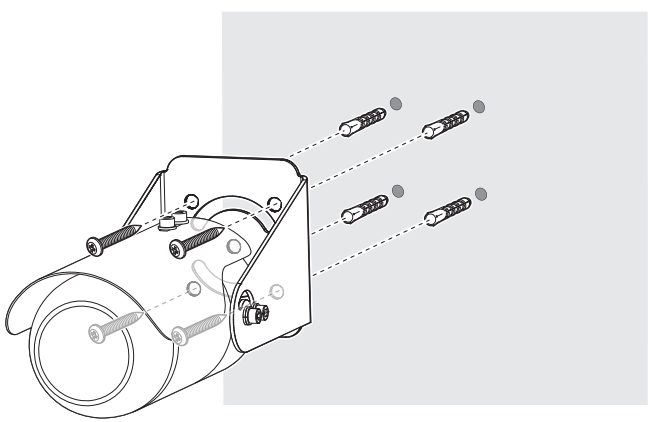


[Directly installing on wall/ceiling]

1. Place the camera bracket on the desired location considering the direction to be monitored, mark the locations for the screw holes, and then drill the holes.

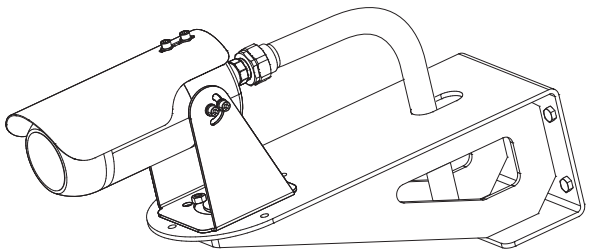


2. Secure the camera on the installation surface with the provided tapping screws and plastic anchors.



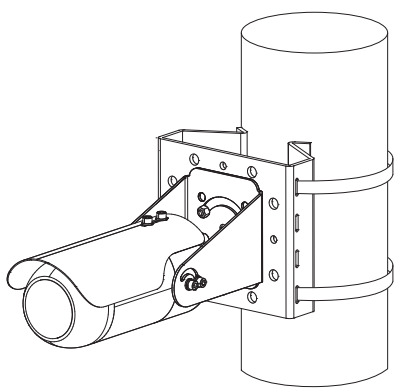
[Installing using Wall Mount]

1. Assemble the camera on the wall mount with the provided wrench bolts.
2. Install the wall mount on the wall with hex bolts.

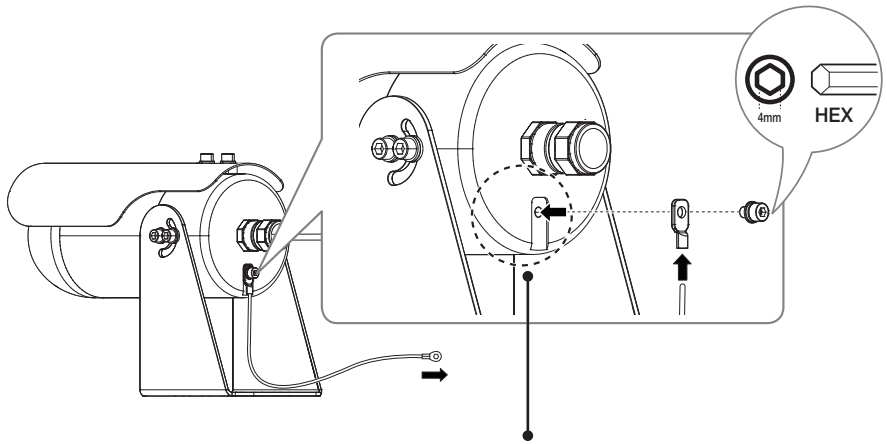


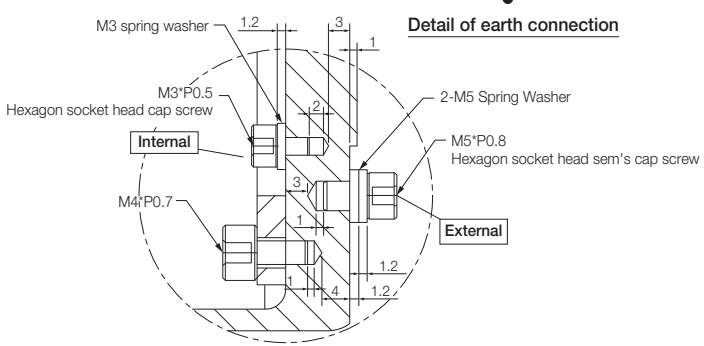
[Installing using Pole Mount]

1. Assemble the camera on the pole mount with the provided wrench bolts.
2. Install the pole mount on the round pillar with a steel band.



Installing the Grounding Cable



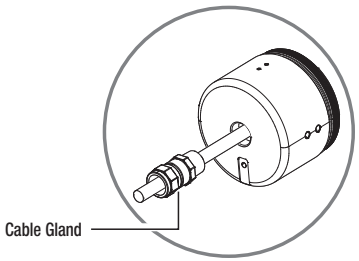


1. Insert the grounding cable into the provided copper tube terminal.
2. Compress the terminal with a cable clamp, and then secure it in the grounding hole with the provided hex L wrench.
3. Connect the grounding cable to the ground rod located outside.
4. MWID(External) : maximum wire insulation diameter is 4.5㎜ and maximum wire size is 25㎟ minimum wire insulation diameter is 3.5㎜ and minimum wire size is 15㎟ Must using for M5 Hexagon socket head sem's cap screw.
5. MWID(Internal) : maximum wire insulation diameter is 2.8㎜ and maximum wire size is 6.0㎟. minimum wire insulation diameter is 1.8㎜ and minimum wire size is 5.0㎟.
6. Hexagon socket head cap screw for internal earth is M3xP0.5 and external earth is M5xP0.8.
7. For earthing, O lug or U lug shall be assembled and fixed by using bolt and washer in the groove of a rear cover.

- Do not loosen or twist the protective earthing conductor.

Installation & Maintenance

When the cable connects to the inside camera , it should be pass through the certified conduit sealing device such as a cable gland and back cover.

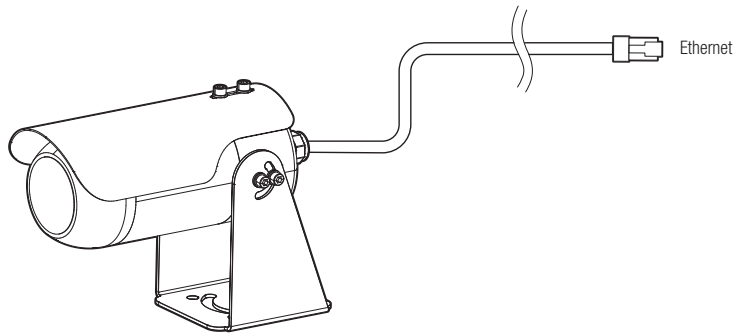


Sealing device

Item	Cable Gland
Entry threads	NPT1/2"-14 according to ANSI/ASME B1.20.1
Type of protection	Ex d IIC, Ex tb IIIC
Ingress protection	IP66
Ambient temperature	-60 °C to 80 °C *

* The operating temperature is for the sealing device only; refer to the product specifications for the operating temperature of the product.

CONNECTING WITH OTHER DEVICE



Powering and networking

Connect the PoE device with the PoE port of the camera.

- Connect and use a PoE enabled router.
- Use a PoE device that complies with the IEEE 802.3af standard.

Network Cable Specification

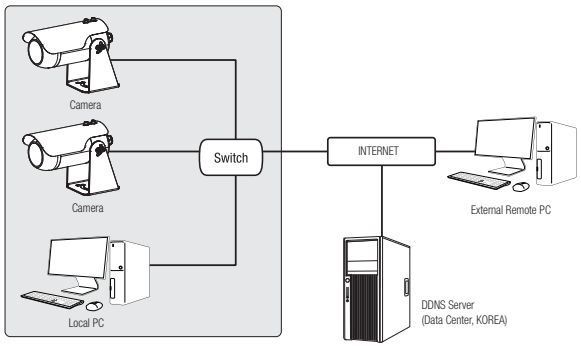
Item	Contents	Remark
Connector	RJ-45(10/100BASE-T)	
Ethernet	10/100BASE-T	
Cable	Category 5e or higher	
Max Distance	100 m	DC Resistance ≤ 0.125 Ω/m
PoE Support	IEEE 802.3af	

You can set up the network settings according to your network configurations.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the camera from a local PC in the LAN

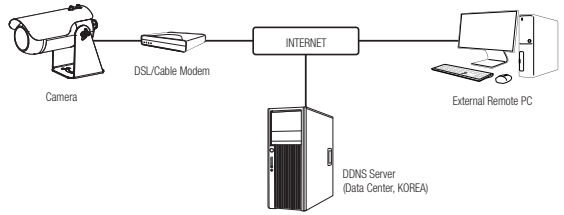
1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



<Local Network>

- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set.
  In this case, to resolve the problem, contact your network administrator.
- By factory default, the IP address will be assigned from the DHCP server automatically.
  If there is no DHCP server available, the IP address will be set to 192.168.1.100.
  To change the IP address, use the Device Manager.
  For further details on Device Manager use, refer to "**Using Device Manager**". (Page 14)

CONNECTING THE CAMERA DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Connect the user PC directly with the security camera.
2. Run the Device Manager and change the IP address of the camera so that you can use the web browser on your desktop to connect to the camera.
3. Use the Internet browser to connect to the web viewer.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Basic**] – [**IP & Port**], and set the IP type to [**DHCP**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

- For information on how to set DDNS, refer to the online help of Web Viewer.
- For information on how to set the IP format, refer to the online help of Web Viewer.

USING DEVICE MANAGER

- Device manager program can be downloaded from <**Support**>-<**Online Tool**> menu at Hanwha Vision website (https://www.HanwhaVision.com).
- More instructions of Device Manager can be found at <**Help**> menu of the main page.

AUTOMATICALLY SEARCHING CAMERA

If a camera is connected to the same network of the PC where device manager is installed, you can find security camera by using search function.

1. Click <**Search**> at the main page of device manager.
2. Check the camera from the list.
   - Check MAC address at the sticker attached to the camera.

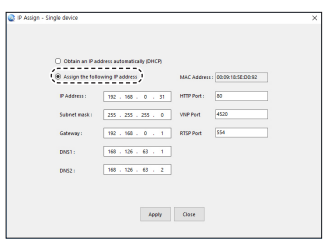
CONFIGURING IP ADDRESS

If you want to change camera network setting, <**Login OK**> sign must be displayed at <**Status**>. Click <**Authentication**> at the main page to log in.

Configuring Static IP

Manually insert and configure IP address & port information.

1. Click the camera from the list that you want the change the IP setting.
2. Click <**IP Assign**> at the main page of device manager.
3. Select <**Assign the following IP address**>.
   - IP information of the camera will be displayed as previously set.
4. Fill in IP & Port related categories.



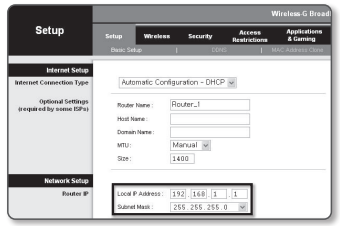
If not using a Broadband Router

For setting <**IP Address**>, <**Subnet Mask**>, and <**Gateway**>, contact your network administrator.

- HTTP Port : Used to access the camera using the Internet browser, defaulted to 80.
- RTSP Port: A port that controls real-time streaming. The initial value is 554.

If using a Broadband Router

- IP Address : Enter an address falling in the IP range provided by the Broadband Router.
  ex) 192.168.1.2~254, 192.168.0.2~254, 192.168.XXX.2~254
- Subnet Mask : The <**Subnet Mask**> of the Broadband Router will be the <**Subnet Mask**> of the camera.
- Gateway : The <**Local IP Address**> of the Broadband Router will be the <**Gateway**> of the camera.



- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.
- For more information about port forwarding of the broadband router, refer to "**Port Range Forward (Port Mapping) Setup**". (Page 16)

If the Broadband Router has more than one camera connected

Configure the IP related settings and the Port related settings distinctly with each other.

ex)

Category		Camera #1	Camera #2
IP related settings	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1
Port related settings	HTTP Port RTSP Port	8080 554	8081 555

- If the <**HTTP Port**> is set other than 80, you must provide the <**Port**> number in the address bar of the Internet browser before you can access the camera.
  ex) http://IP address : HTTP Port
  http://192.168.1.100:8080

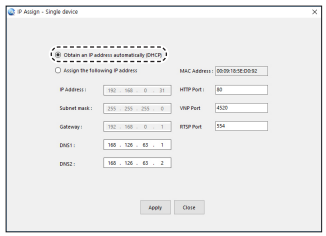
5. Click [**Apply**] Button.
6. If the success message is displayed, click [**OK**].

Configuring Dynamic IP

Receive IP address from DHCP

- Example of the Dynamic IP environment
  - If a Broadband Router, with cameras connected, is assigned an IP address by the DHCP server
  - If connecting the camera directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

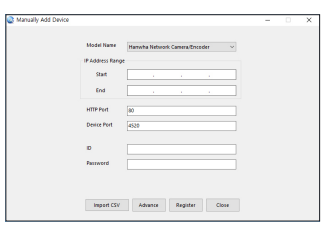
1. Click the camera from the list that you want to change the IP setting.
2. Click <**IP Assign**> at the main page of device manager.
3. Select <**Obtain an IP address automatically (DHCP)**>.
4. Click [**Apply**] button.
5. If the success message is displayed, click [**OK**].



MANUALLY REGISTERING CAMERA

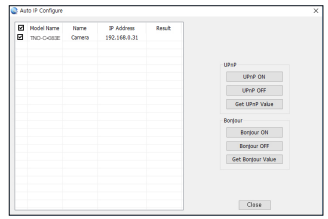
If the camera cannot be found using search function, the camera can be registered remotely by manually inserting IP information, if the camera is connected to external network.

1. Click <**Add Devices**> - <**Manually Add Device**> at the main page of device manager.
2. Insert the range of IP address that you search.
3. Select the <**Model Name**> of the camera that you register, and insert HTTP port, ID, and password.
4. Click [**Register**] button.
5. Check if camera is registered.
   - Check MAC address at the sticker attached to the camera.



AUTOMATICALLY CONFIGURING IP

1. Click the camera from the list that you want to automatically configure the IP.
2. Click < **+** > at the main page of device manager.
   - Equipment Setting menu appears.
3. At the menu, click <**Auto IP Configure**>.
4. Click [**Close**] button.

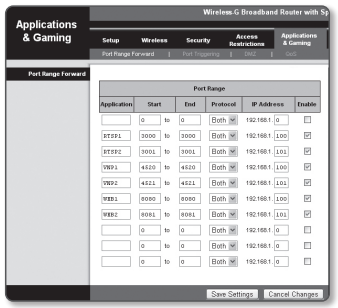


PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a Broadband Router with a camera connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the camera in it.

Manual Port Range Forwarding

1. From the Setup menu of the Broadband Router, select <**Applications & Gaming**> - <**Port Range Forward**>.
   For setting the port range forward for a third-party Broadband Router, refer to the user guide of that Broadband Router.
2. Select <**TCP**> and <**UDP Port**> for each connected camera to the Broadband Router.
   The number of each port to be configured to the IP router should be set according to the port number designated in <**Setup**> - <**Basic**> - <**IP & Port**> on the camera web viewer.
3. When done, click [**Save Settings**].
   Your settings will be saved.

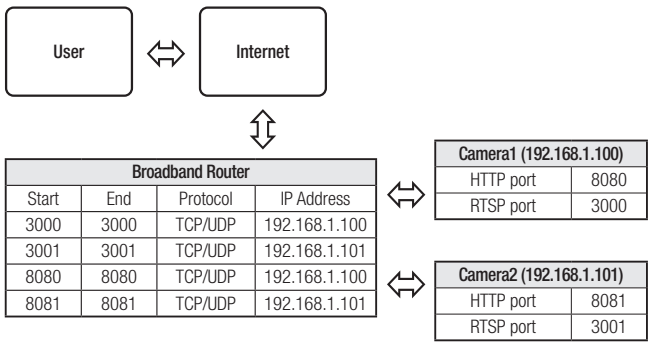


- Port forwarding setting is an example of setting CISCO IP router.
- The settings may differ depending on the connected Broadband Router model.
  For more information, refer to the user manual of the applicable router.

Setting up Port Range Forward for several security cameras

- You can set a rule of Port Forwarding on the Broadband Router device through its configuration web page.
- A user can change each port using the camera setting screen.

When Camera1 and Camera2 are connected to a router :



Broadband Router			
Start	End	Protocol	IP Address
3000	3000	TCP/UDP	192.168.1.100
3001	3001	TCP/UDP	192.168.1.101
8080	8080	TCP/UDP	192.168.1.100
8081	8081	TCP/UDP	192.168.1.101

Camera1 (192.168.1.100)	
HTTP port	8080
RTSP port	3000

Camera2 (192.168.1.101)	
HTTP port	8081
RTSP port	3001

- Port forwarding can be done without additional router setup if the router supports the UPnP (Universal Plug and Play) function. After connecting the security camera, select the checkbox from the menu <**Quick connect**> in <**DDNS**> in "**Settings** -> **Network** -> **DDNS**".

CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

1. Run device manager.
   It will scan for connected cameras and display them as a list.
2. Double-click a camera to access.
   The Internet browser starts and connects to the camera.

▪ Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

CONNECTING TO THE CAMERA FROM A REMOTE PC VIA THE INTERNET

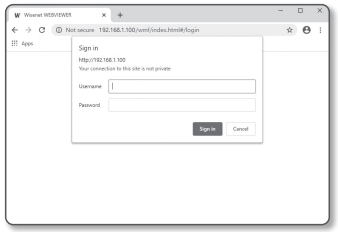
On a remote computer that is not in the Broadband Router's network cluster is not allowed, users can access cameras within a Broadband Router's network by using the camera's DDNS URL.

1. Before you can access a camera in the Broadband Router network, you should have set the port range forward for the Broadband Router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the camera, or the IP address of the Broadband Router in the address bar.
   ex) http://ddns.hanwha-security.com/ID

▪ To use DDNS, sign up at the DDNS homepage (http://ddns.hanwha-security.com) and register the product at [**My DDNS**]>[**Register Product**].

CONNECTING TO THE CAMERA

Normally, you would



1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.
   ex) • IP address (IPv4) : 192.168.1.100 ➞ http://192.168.1.100
   - the Login dialog should appear.
   • IP address (IPv6) : 2001:230:abcd: ffff:0000:0000:ffff:1111 ➞ http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - the Login dialog should appear.

If the HTTP port is other than 80

1. Launch the Internet browser.

Type the IP address and HTTP port number of the camera in the address bar.
ex) IP address : 192.168.1.100:HTTP Port number(8080)
➞ http://192.168.1.100:8080 - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the camera in the address bar.
   ex) URL address : http://ddns.hanwha-security.com/ID
   - the Login dialog should appear.

▪ Network connection is disabled in the LAN only environment.

Connecting via UPnP

1. Run the client or operating system in support of the UPnP protocol.
2. Click the camera name for search.
   In the Windows operating system, click the camera name searched from the network menu.
   - The login window is displayed.

Connecting via Bonjour

1. Run the client or operating system in support of the Bonjour protocol.
2. Click the camera name for search.
   In the Mac operating system, click the camera name searched from the Bonjour tab of Safari.
   - The login window is displayed.

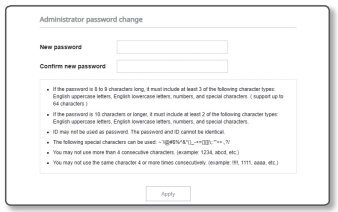
To check the DDNS address

If the camera is connected directly to a DHCP-based cable modem or DSL modem, the IP address will change each time it tries to connect to the ISP (the company you subscribed to).
If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.
To register your device to the <**DDNS**> server, visit http://ddns.hanwha-security.com and register your device first, and then set the Web Viewer's <**Network**> - <**DDNS**> to <**DDNS**>, as well as providing <**Product ID**> that had been used for DDNS registration.

PASSWORD SETTING

When you access the product for the first time, you must register the login password.



- For a new password with 8 to 9 characters, you must use at least 3 of the following: uppercase/lowercase letters, numbers and special characters. For a password with 10 characters or longer , you must use at least 2 types of those mentioned. (support up to 64 characters)
  - Special characters that are allowed. : ~`!@#$%^&*( )_-+={ }[ ]\\;:'"< >.,?/
- Space is not allowed for password.
- For higher security, you are not recommended to repeat the same characters or consecutive keyboard inputs for your passwords.
- If you lost your password, you can press the [**RESET**] button to initialize the product. So, don't lose your password by using a memo pad or memorizing it.

LOGIN

Whenever you access the camera, the login window appears.
Enter the User ID and password to access the camera.

1. Enter "**admin**" in the <**User name**> input box.
   The administrator's ID, "**admin**," can be changed in the Web Viewer.
2. Enter the password in the <**Password**> input field.
3. Click [**Sign in**].
   If you have logged in successfully, you will the Live Viewer screen.

- When you access the camera web viewer, pay special attention to the security by checking whether the image data is encrypted.

- You will experience the best video quality if the screen size is 100%. Reducing the ratio may cut the image on the borders.

CAMERA WEB VIEWER SETUP

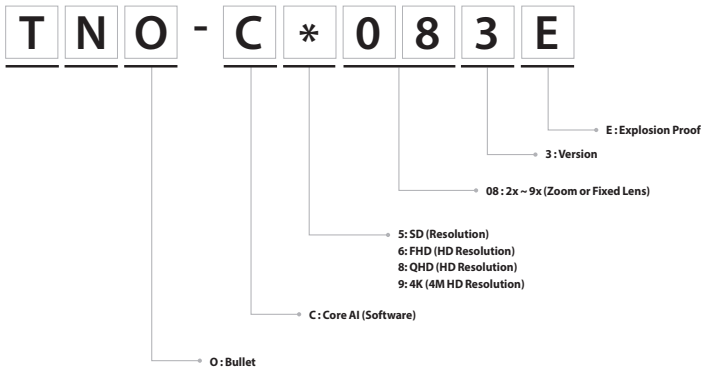
1. Click the [**Setup ( )**] icon.
2. The Settings window appears.
3. You can configure settings for the camera's basic information, video, audio, network, event, analysis, and system over the network.
4. Click <**Help ( )**> to view detailed descriptions of each function.

TROUBLESHOOTING

PROBLEM	SOLUTION
No video is displayed when accessing the plug-in free webviewer on Safari via HTTPS.	• On the authentication popup window prompted when initially accessing https, click "View Authentication Certificate" and select the "Always trust when connecting to the designated webviewer IP" check box. • If the webviewer continues failing to display a video after you select "Next" on the message window below, press the command key + Q to exit the Safari browser, access again and follow the procedures stated above.
I can't access the camera from a web browser.	• Check to make sure that the camera's Network settings are appropriate. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. • If the camera is connected to a Broadband Router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• Connected Viewers become disconnected upon any change to camera or network configurations. • Check all network connections.
The camera connected to the network is not detected in the Device Manager program.	• Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.
<Motion detection> of <Analytics> is set to <Enable>, but no notification e-mail reaches me even when an analysis event had occurred.	• Verify the settings in the following sequence: A. Check <Data & Time> settings. B. The <Motion detection> should be set to <Enable>. C. Check if the <E-mail> option of <Event setup> menu is checked to use.

PROBLEM	SOLUTION
No signal is found at the Alarm Output port even when an intelligent video analysis event is generated.	• Check alarm output port settings.
Cannot record in the NAS.	• Confirm that the information registered in the NAS is correct.
It reports that NAS setting has failed.	• Confirm that the IP address of the NAS is valid. • Confirm that the ID/password of the NAS is valid. • Confirm that you can access the folder designated as the default folder using the ID of the NAS. • Confirm that the NAS SMB/CIFS items are unchecked. • Confirm that the NAS IP address and the camera IP address are in the same format. ex) The NAS & camera subnet mask initial value is 255.255.255.0. If the IP address is 192.168.20.32 then the NAS IP address should be in the range of 192.168.20.1~192.168.20.255. • Check whether you tried to access as another user without formatting the default folder saved or used. • Confirm that you used recommended NAS equipment.

PRODUCT NAMING RULE



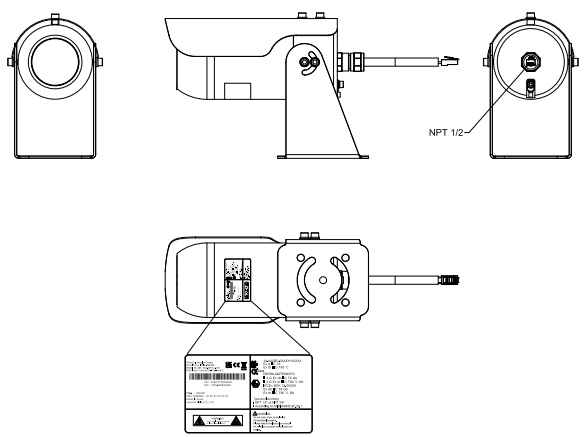
GENERAL INFORMATION

1. Description of the Products

Type of Products	Explosion Proof Camera
Model Name	TNO-C*083E
Electrical Rating	TNO-C*083E: PoE Class3(IEEE 802.3af), DC48V, Max 69 mA, 3.3 W
Type of protection	• Ex db IIC T6 Gb • Ex tb IIIC T80 °C Db
Condition of Use	• Ambient temp. : -40˚C ≤ Ta ≤ 65˚C (-13˚F ≤ Ta ≤ 149˚F) • Operating temp. : -30˚C ~ 55˚C (-22˚F ~ 131˚F) • Ambient Pressure : 80kpa(0.8bar) to 110kpa(1.1bar) • Humidity : Less than 95% • Location of Install : Indoor or Outdoor
Size of Products	ø100mm x 215(L)mm
Cable entry	NPT1/2˝ according to ANSI/ASME B1.20.1
Material of enclosure & bracket	Stainless Steel (CF3M according to ASTM A351)
Standard	• IEC 60079-0 : 2017 (Ed. 7) • IEC 60079-1 : 2014 (Ed. 7) • IEC 60079-31 : 2013 (Ed. 2) • EN IEC 60079-0: 2018 • EN 60079-1:2014 • EN 60079-31 : 2014

2. Marking

Name of the manufacturer	Hanwha Vision
Model Name	TNO-C*083E
Serial Number	******
The name of the certificate issuer	DEKRA Certification B.V.
Symbol of type of the protection	“db” , “tb”
Symbol of the group	IIC , IIIC
Symbol of the maximum surface temperature	T6 , T85°C
The equipment protection level	Gb, Db

Ambient Temperature	-40˚C ≤ Ta ≤ +65˚C (-13˚F ≤ Ta ≤ 149˚F)
Operating Temperature	-30˚C ~ 55˚C (-22˚F ~ 131˚F)
The degree of protection	IP66 in accordance with IEC 60079-0 and IEC 60529
Power Rating	POE Class3 (IEEE 802.3,af), DC 48V, Max 69 mA, 3.3 W
Warning mark	Do not open when an explosive atmosphere is present. Please refer to the instruction manual for selection of a proper cable glands and cables
Type and size of entry	NPT ½˝ in accordance with ANSI/ASME B1.20.1
Manufacturer Address	Hanwha Vision Co., LTD. 6, Pangyo-ro 319beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488, KOREA
Year of construction	****
Size and Location	

3. Product Detail

Material	Stainless Steel (CF3M according to ASTM A351) Enclosure
Structure	Two sizes of Housing Enclosure (Front Cover+ Main Body +Back Cover) and a camera or camera module is included in the each housing.
Equipment	Equipment covered by this certificate are as follows : Explosion Proof Camera TNO-C*083E are designed to meet the requirement of Ex d and Ex t with a built-in camera unit. Window in front cover is tempered glass and 63.5mm length. Armored cable is able to installed in Explosion Proof Camera with Ex cable gland. All equipment is considered to meet ingress protection rating IP66 in accordance with IEC 60079-0 and IEC 60529.
Model reference	TNO-C*083E : ø100mm, Security Camera

DECLARATION OF MANUFACTURE

Manufacturer	Hanwha Vision Co., LTD.
Address	6, Pangyo-ro 319beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488, KOREA
Tel	+82.70.7147.8771
FAX	+82.31.8018.3740
Contact Person	Hanwha Vision Co., LTD.
E-Mail	https://www.hanwhavision.com/en

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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.

Hanwha Vision cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.
The Eco mark represents Hanwha Vision's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.
Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.
Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.
To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

Hanwha
Vision