

BARCODE READER

User Manual

TNS-7000M



Barcode Reader

User Manual

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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 soft, dry cloth or 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 lightning 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 24 Vdc, 0.31 A.
16. This product is intended to be supplied by isolation power.
17. If you use excessive force when installing the product, the barcode reader 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. Install cables and wires away from high-voltage power sources and wiring. This will reduce the risk of damage or malfunction due to overvoltage, line noise, electrostatic discharge (ESD), power surges, and other causes of power supply issues.
23. The safety of any system incorporating this product is the responsibility of the assembler of the system.
24. This device has been verified using STP cable. The use of appropriate GND grounding and STP cable is recommended to effectively protect your product and property from transient voltage, thunderstroke, communication interruption.
25. The operating temperature of the product is -40°C to +55°C (-40°F ~ +131°F).

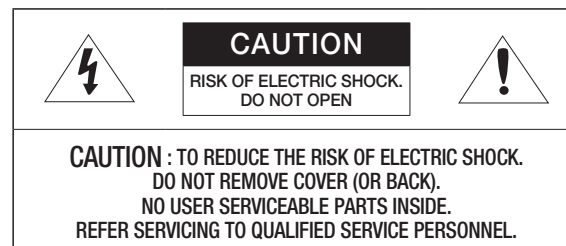
WARNING

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 OPENINGS 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.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

The battery cannot be replaced.

Prohibition of battery abuse

- Do not install and use the wrong type of battery.
- Do not leave the battery in a mechanically crush or cut it because it can explode.
- Do not leave the battery in a high temperature environment.
- Do not leave the battery in a low-pressure environment.

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

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

ATTENTION

IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.
METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

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 barcode reader 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 barcode reader. The built-up moisture disappears naturally within a few hours after powered on.

Do not arbitrarily loosen or tighten the gore valve.

Do not expose the image sensor to laser light. Image sensors can be damaged by direct, or reflected, laser light. If your application requires laser light that might strike the image sensor, use a lens filter at the corresponding laser wavelength. For suggestions, contact your local integrator or application engineer.

There are no user serviceable parts in this product. The product will not be covered by the warranty if it is disassembled or repaired by the user.

Ensure that the cable bend radius begins at least six inches from the connector. Cable shielding can be degraded or cables can be damaged or wear out faster if a service loop or bend radius is tighter than 10x the cable diameter.

Make sure to connect/disconnect the power input and LED light cables with the power off. Connecting them while the power is on may cause a malfunction or damage to the product. A network camera near the LED lights may expose to horizontal line noise (caused by the flicker phenomenon).

In this case, be sure to set the anti-flicker function of the network camera to <ON>.

If horizontal line noise occurs even when the anti-flicker function is set to <ON>, adjust the camera to prevent overlapping angles between LED lights and the network camera.

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 barcode reader.
The high temperature of the product surface may cause burn.

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

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.

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RECOMMENDED PC SPECIFICATIONS

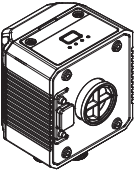
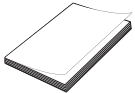
- CPU : Intel(R) Core(TM) i7 3.4 GHz or higher
 - RAM : 8G or higher
 - Recommended browser: Chrome
 - Supported browsers: Chrome, Safari, Firefox, MS Edge(chromium based)
 - Supported OS : Windows, Mac, Linux, Android, iOS, Chrome
 - Verification environment
 - Windows 10: Google Chrome version 80 or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

RECOMMENDED MICRO SD/SDHC/SDXC MEMORY CARD SPECIFICATIONS

- Hanwha Vision Memory Card : SPP-E128G, SPP-E256G
- Recommended capacity : 16GB to 512GB (MLC type recommended)
- Recommended Manufacturers / Product Type :
 - SanDisk / High Endurance, MAX ENDURANCE
 - Western Digital / Purple QD101
 - Transcend / High Endurance

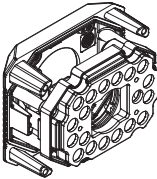
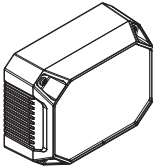
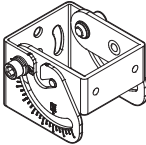
WHAT’S INCLUDED

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

Appearance	Item Name	Quantity	Description
	Barcode reader	1	
	Quick Guide (Optional)	1	

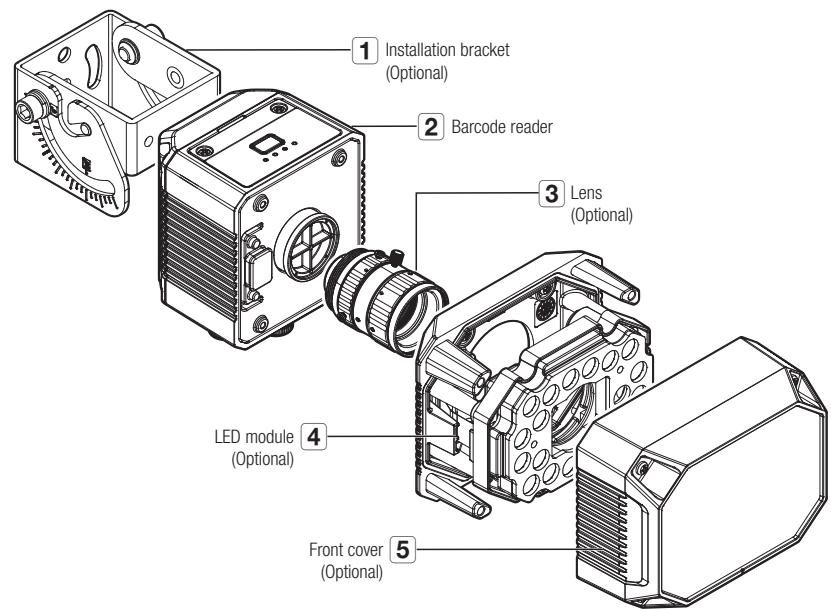
OPTIONAL ACCESSORIES FOR INSTALLATION

You can install it after purchasing the following separately sold product.

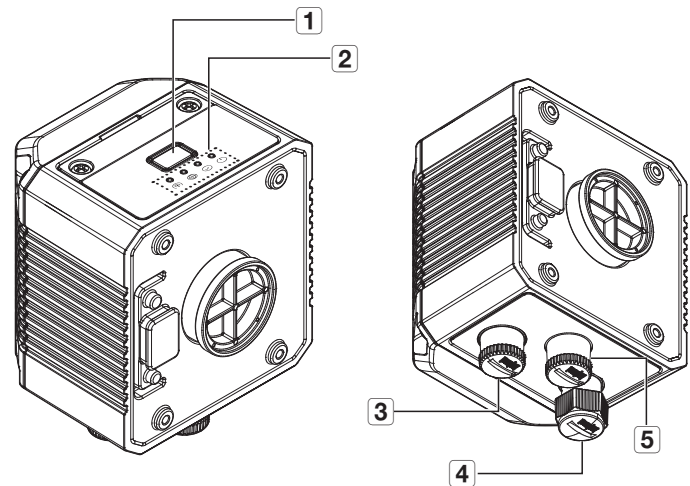
Item Name	Appearance	Description	Model Name
Lens		Lens for barcode reader mounting	SLM-5M06
			SLM-5M08
			SLM-5M12
			SLM-5M16
			SLM-5M25
LED Module		LED lighting device	SPI-BWN0
			SPI-BWM0
			SPI-BWM1
			SPI-BWW0
Front Cover (Filter included)		Case to protect the lens unit	SPF-BCB0 (Polarizing filter: SPF-BPB0) (Diffusion filter: SPF-BDB0)
Installation bracket		Barcode reader installation bracket	SBO-BPM0

* Product shape may vary depending on the model name.

AT A GLANCE



Barcode reader

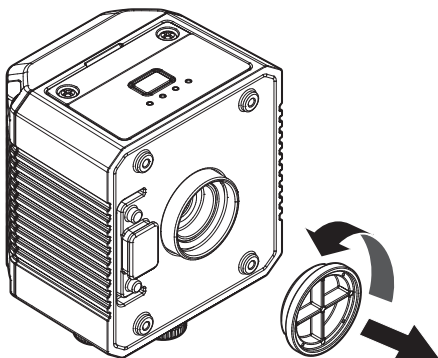


Item		Description
1	Trigger & Reset button	A short press of the button resets the switch trigger settings to factory defaults, while a long press (10 seconds) of the button resets the barcode reader settings to factory defaults.
2	LED Indicator	 Displays trigger status Occurred: Blue ON Not occurred: OFF
		 Displays network connection Connected: Green ON Not connected: OFF
		 Displays reading results Read: Green ON Not read: Red ON (in trigger mode)
		 Displays power status Power on: Green ON Power off: OFF
3	Network terminal	A terminal that connects to the switch hub and network cable for network connection.
4	External light connection terminal	A terminal that connects to an external lighting device.
5	Power input (DC 24 V) terminal	A terminal that connects to the power cable.

ASSEMBLING

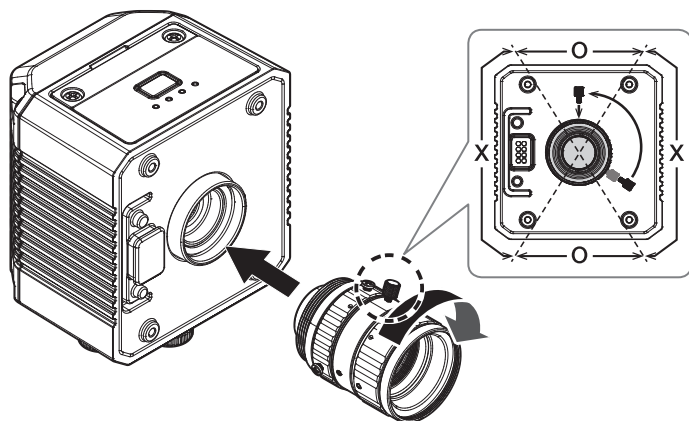
Assembling the lens (separately sold)

1. Remove the lens cap before assembling the lens.



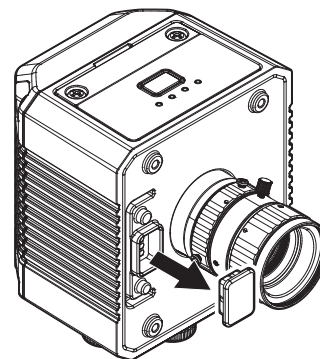
2. Assemble the lens to the barcode reader.

- If the fixing screw is in the 'X' area, move it to the 'O' area to assemble.

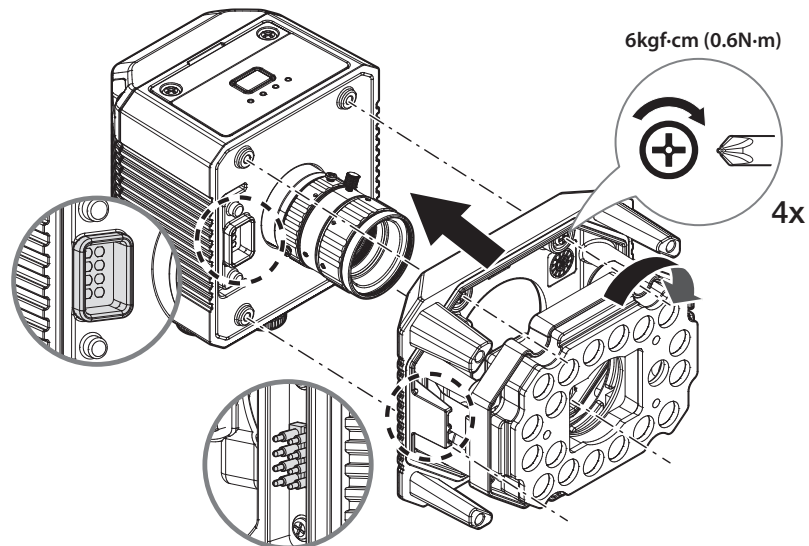


Assembling LED module (separately sold)

1. Remove the pogo pin cap before assembling the LED module.

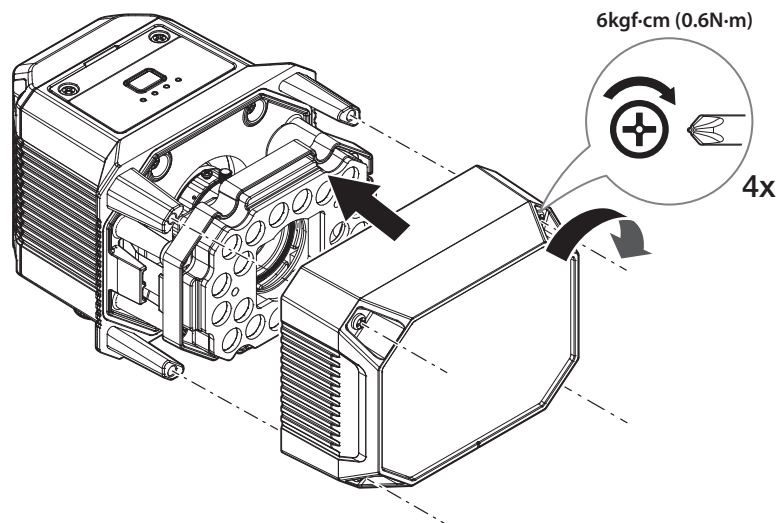


2. Assemble the LED module by tightening the fastening screws on the LED module.
 - Check the location of pogo pins during assembling.

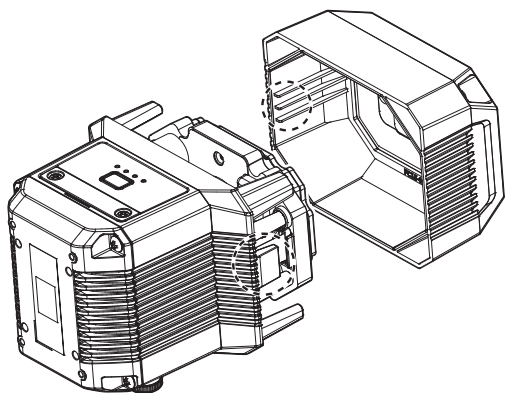


Assembling the front cover (separately sold)

1. Add the absorbent included in the front cover product.
2. Assemble the front cover by tightening the fastening screws on the front cover.

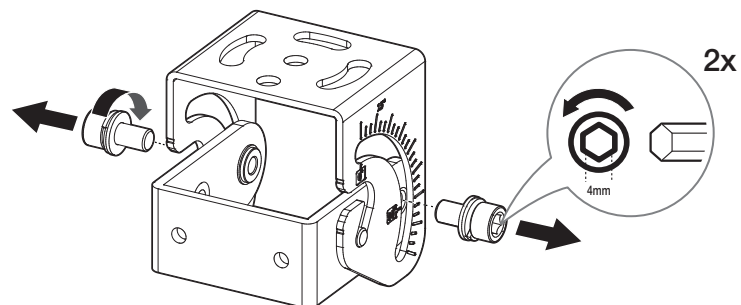


■ When assembling the front cover, assemble it by referring to the indicated protrusion. If assembled conversely, the front cover cannot be assembled.

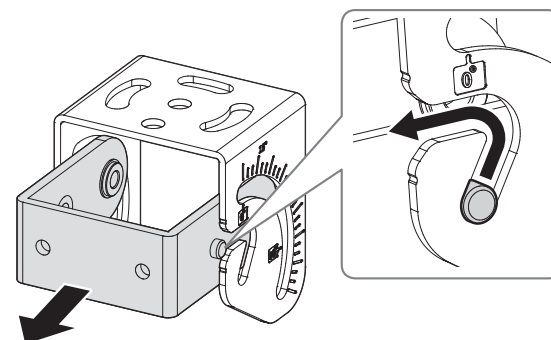


Assembling the bracket (separately sold)

1. Remove the angle fixing screws. Remove the angle fixing screws on the installation bracket.

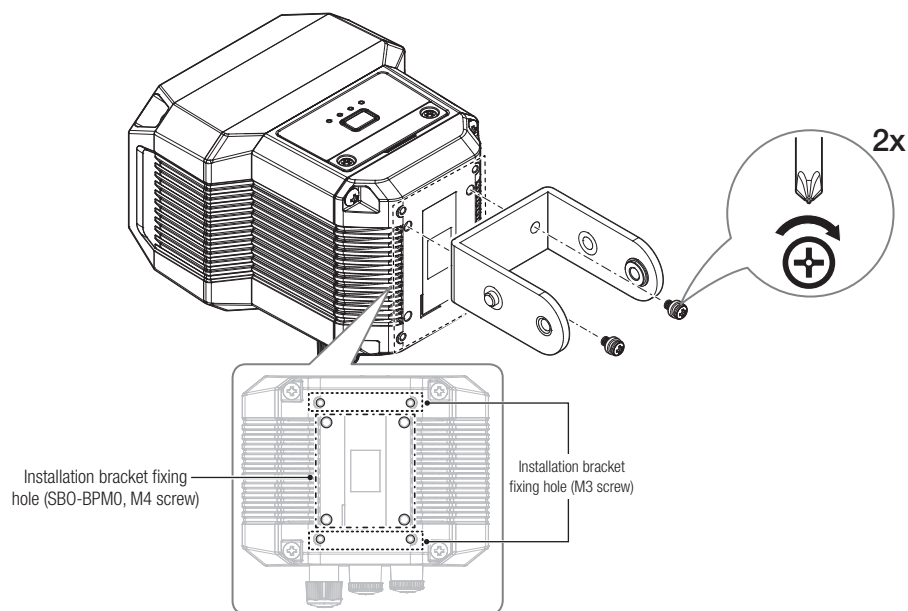


2. Detach the installation bracket as shown in the figure.



3. Assemble the detached installation bracket to the fixing hole.

- Select a fixing hole and install it according to the installation angle and environment.



INSTALLATION



- The jack connected to the external cable is not waterproof unless a protective cap or M12 cable is connected. For waterproofing, a protective cap or M12 cable must be connected.

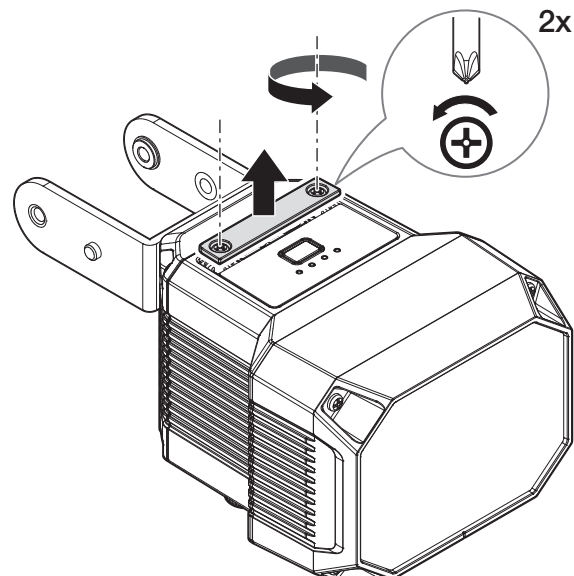
Precautions before installation

Ensure you read out the following instructions before installing the barcode reader:

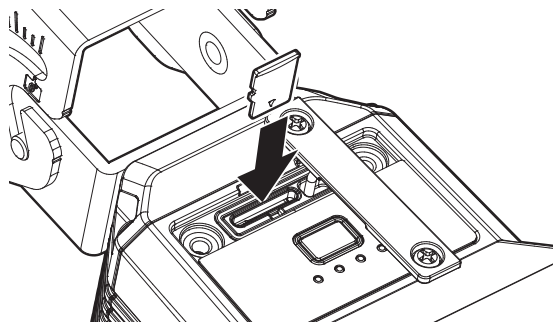
- Select an installation site that can hold at least 5 times the barcode reader's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone away from the installation site. And put aside personal belongings from the site, just in case.
- If the product is forcibly installed with excessive force, it may malfunction and damage the barcode reader. Forcing assembly using non-standard tools may damage the product.
- Make sure to connect/disconnect the power input and LED light cables with the power off. Connecting them while the power is on may cause a malfunction or damage to the product.
- A network camera near the LED lights may expose to horizontal line noise (caused by the flicker phenomenon). In this case, be sure to set the anti-flicker function of the network camera to <ON>. If horizontal line noise occurs even when the anti-flicker function is set to <ON>, adjust the camera to prevent overlapping angles between LED lights and the network camera.

Inserting a Micro SD card

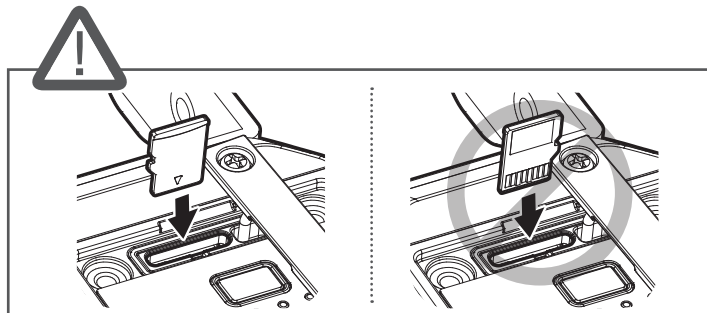
1. Loosen the two screws on the micro SD cover by turning them counterclockwise.



2. Insert a micro SD card in the direction of the arrow shown in the figure.



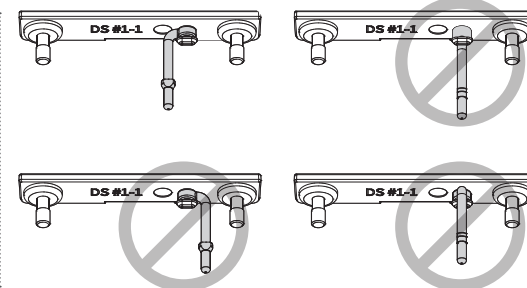
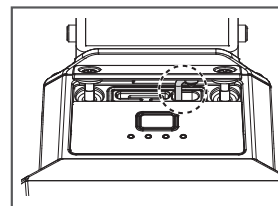
- ! ■ Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.



- Before installing the barcode reader, the Micro SD card should be inserted while the power source and the body are separated.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.

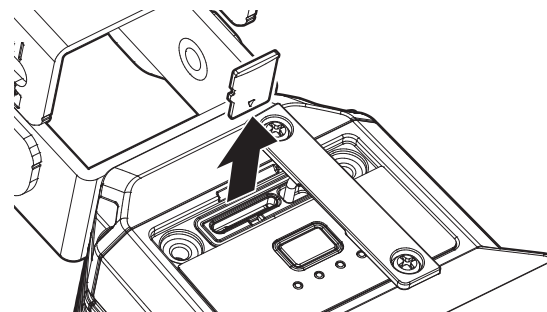
3. After inserting the micro SD card, assemble in the reverse order of disassembly.

- ! ■ When assembling the micro SD cover, pay attention to the direction of the anti-detachment rubber ring.



Removing a Micro SD card

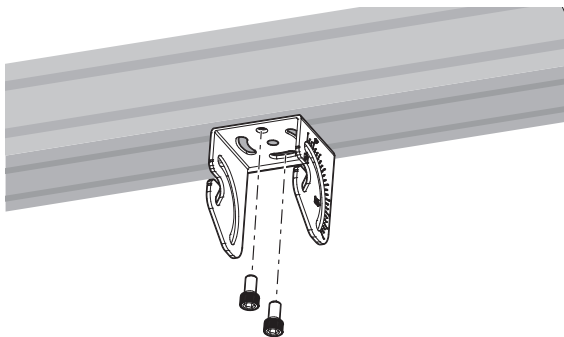
Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.



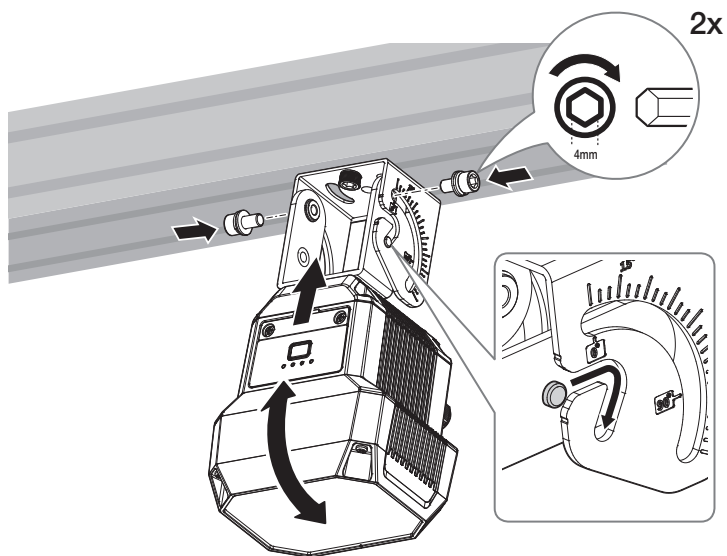
- ! ■ Before removing the Micro SD card, in **<Setup (⚙)>** **<Event>** **<Storage>**, set the device to **<Off>** and press the **[Apply]** button and turn the barcode reader off.
- If you turn off the barcode reader or remove the Micro SD card that contains data from the product, the data may be lost or damaged.

Installation

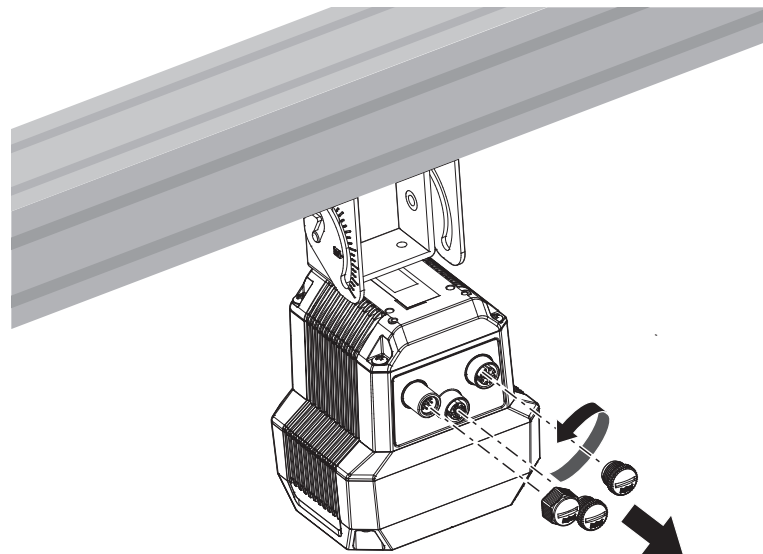
1. Fix the bracket to the installation surface using appropriate screws.
 - There are five screw holes, and use at least two screws to secure them.



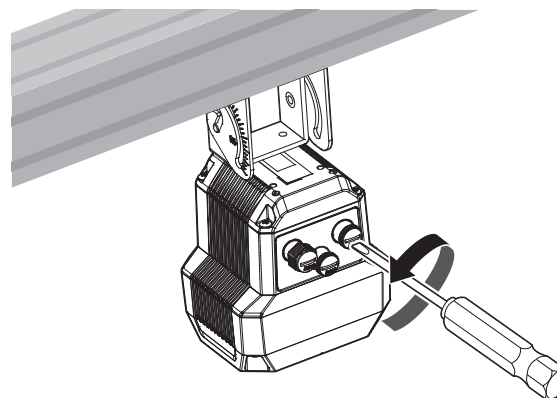
2. Adjust the angle after assembling the barcode reader to the bracket.
3. Once angle adjustment is complete, secure it by tightening the angle fixing screws.



4. Remove the cable cap before connecting the cable.

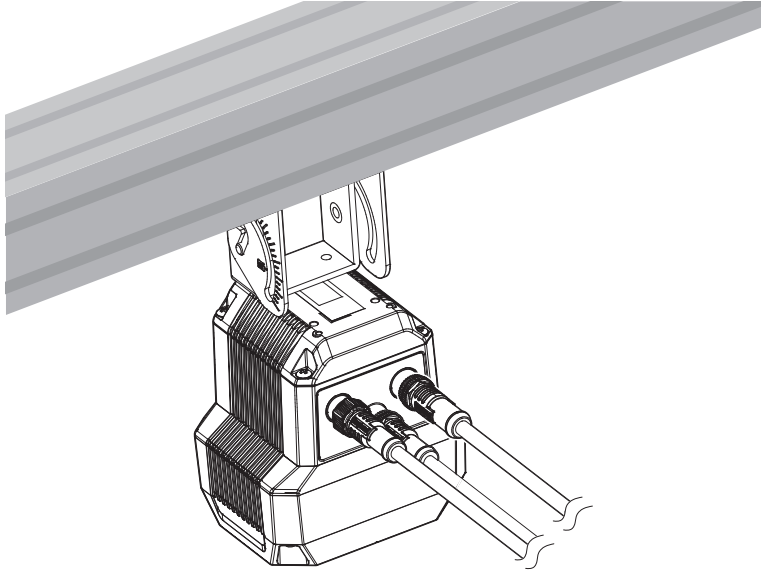


-  ▪ If the cable cap cannot be removed, use a flathead screwdriver to remove it.

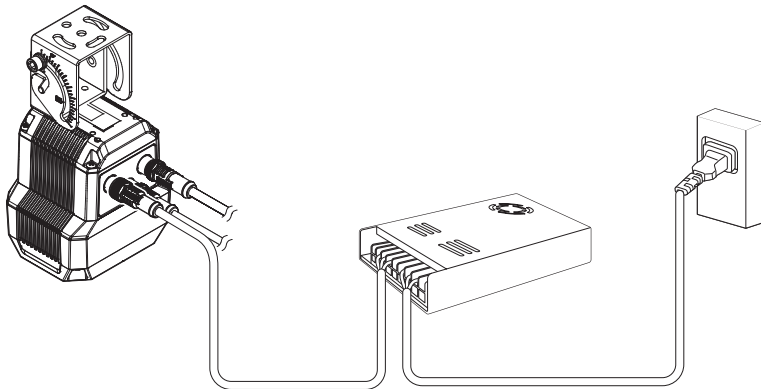


installation & connection

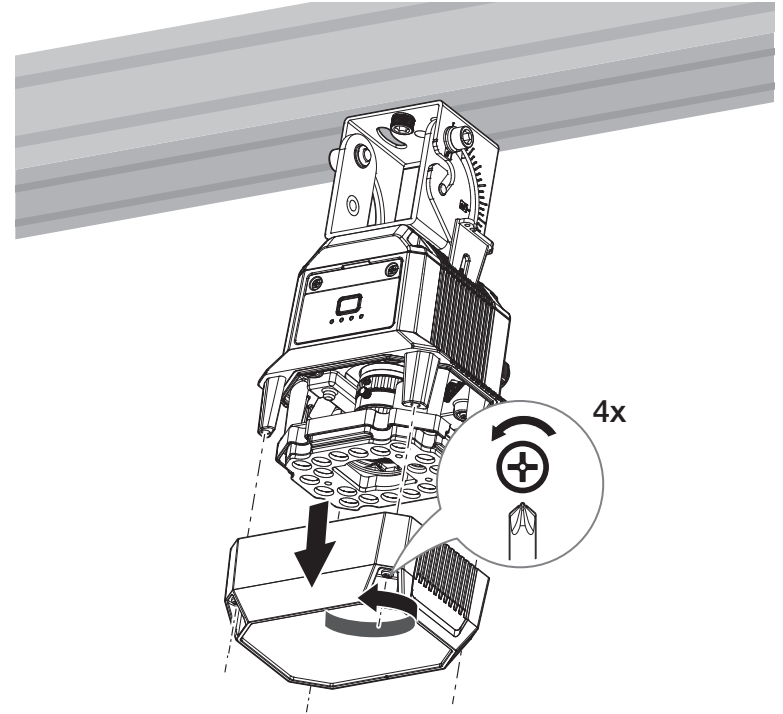
5. Connect the network, power and light cables. Make sure to use cables that meet the specifications (300 V, 80 °C, VW-1 (UL approved)).
- When connecting an external lighting device, connect the network and power cables in consecutive order after connecting the external lighting device.



6. After completing the cable installation, supply power.



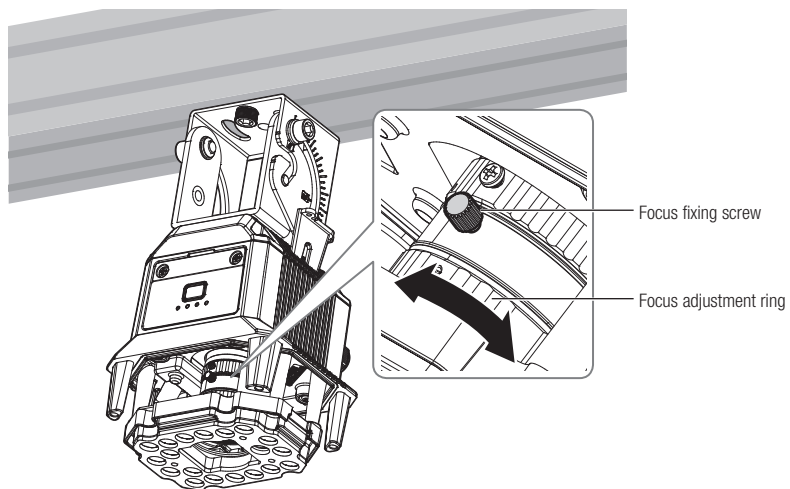
7. Remove the front cover for focus adjustment.



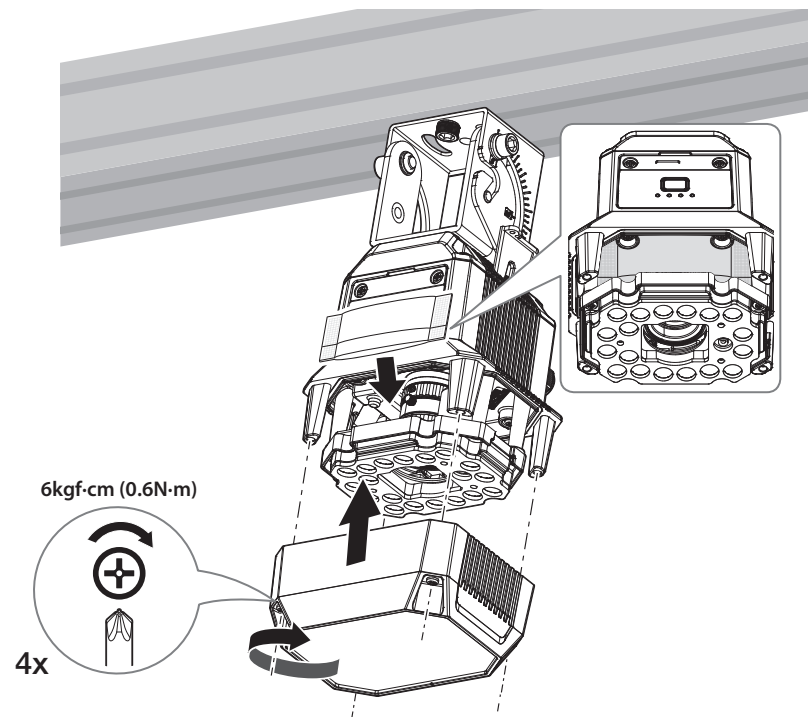
8. Loosen the focus fixing screw by turning it twice counterclockwise.
9. Adjust focus using the focus adjustment ring.
10. Once focus adjustment is complete, fasten it by turning the focus fixing screw clockwise.



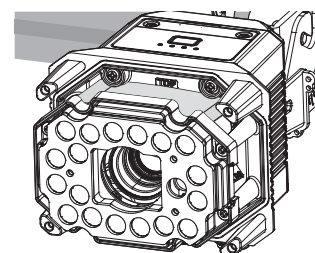
- Product shape may vary depending on the lens model.
- Be careful not to fully loosen the focus fixing screw.



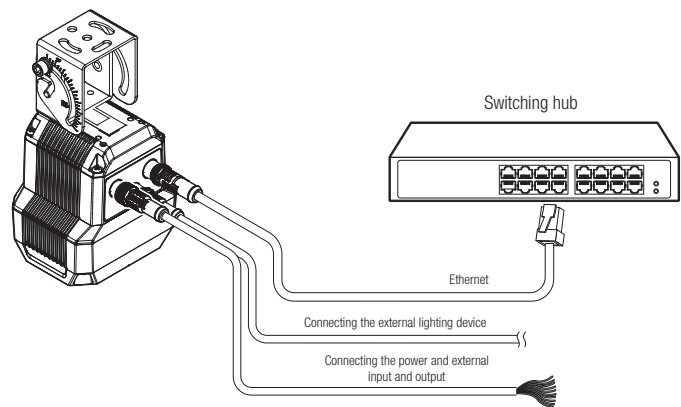
11. Add the absorbent included in the front cover product.
12. Assemble the front cover by tightening the fastening screws on the front cover.



- Be careful that the absorbent is not caught between the front cover and the gasket around the camera.



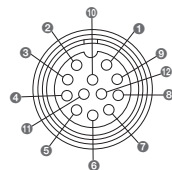
CONNECTING WITH OTHER DEVICE



Connecting the Power and I/O Ports

You can use the M12 power and I/O cables to connect the power and I/O ports of the barcode reader.

[Pin Map for the Barcode reader Connector]



1	NOT USE	7	DC 24V
2	NOT USE	8	GND
3	NOT USE	9	Alarm Out Common
4	NOT USE	10	Alarm_1 Input
5	Alarm_2 Input	11	Alarm_1 Output
6	Alarm In Common	12	Alarm_2 Output

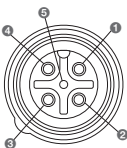
- If you want to connect an external device, you must turn it off before doing it.
- Before connecting a power plug to an outlet, connect the power cable to the barcode reader and adapter first.

Connecting the Light Terminal

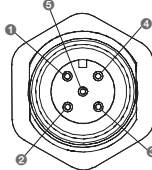
You can use the M12 sensor cable to connect a lighting device.

[Pin Map for the Barcode reader Connector]

<Barcode reader>



<LED module>



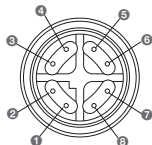
1	+24V DC
2	Intensity Control
3	GND
4	Strobe
5	LED DRIVER ON/OFF

- Third-party LED modules are not compatible. Randomly connecting devices may cause a product malfunction or damage.
- When connecting a lighting device to use it, turn off the camera before connecting.

Connecting the Network

You can use the M12-RJ45 conversion cable to connect the barcode reader to a network.

[Pin Map for the Barcode reader Connector]

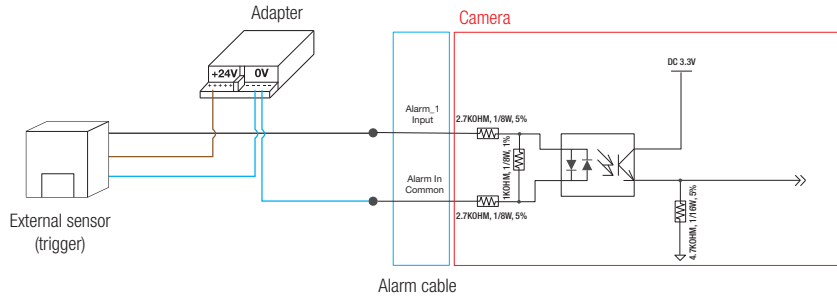


1	WHT/ORG	TxRx A+
2	ORG	TxRx A-
3	WHT/GRN	TxRx B+
4	GRN	TxRx B-
5	WHT/BRN	TxRx D+
6	BRN	TxRx D-
7	WHT/BLU	TxRx C+
8	BLU	TxRx C-

How to connect an external sensor (INPUT) (※ Input voltage maximum: 26.4V, minimum: 12V)

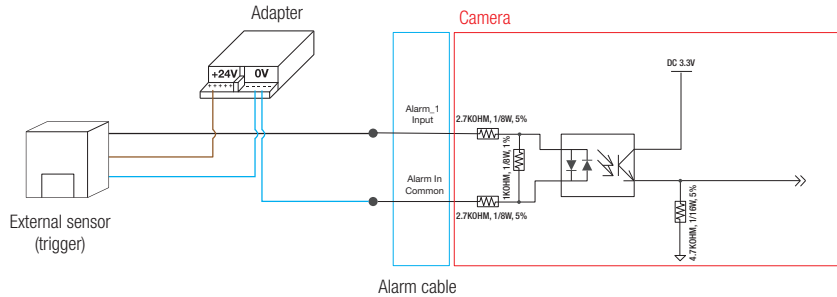
(1) NPN sensor

For an NPN sensor, connect "+24V" to the Alarm In Common pin and connect the sensor output to the desired INPUT (Alarm_1 Input or Alarm_2 Input) pin.



(2) PNP sensor

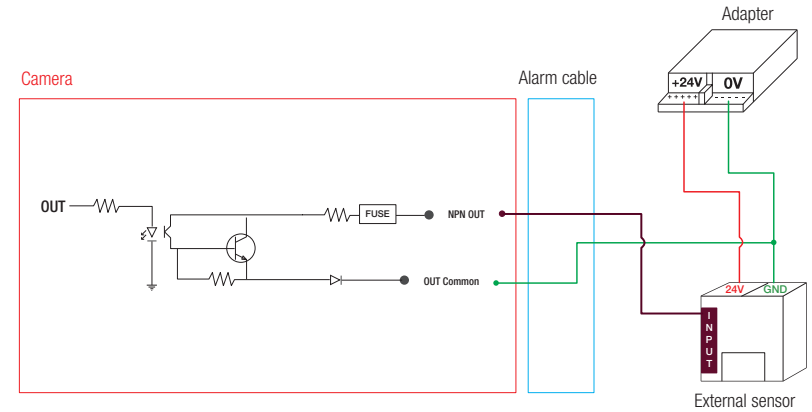
For a PNP sensor, connect "GND" to the Alarm In Common pin and connect the sensor output to the desired INPUT (Alarm_1 Input or Alarm_2 Input) pin.



How to connect an external sensor (OUTPUT) (※ External load maximum voltage: 26.4V, maximum current: 50 mA)

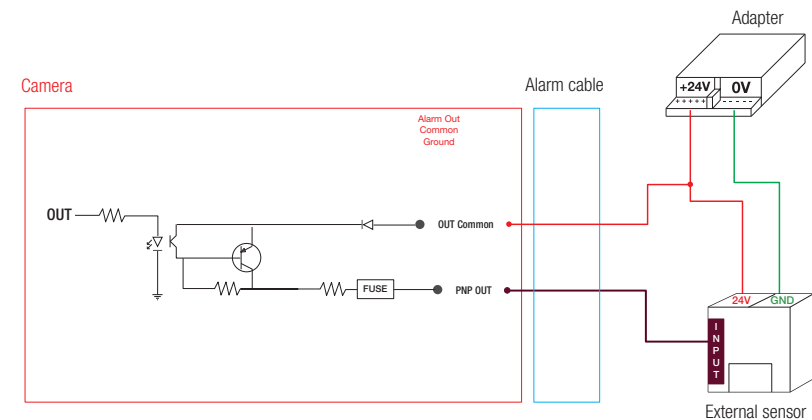
(1) NPN sensor

For NPN load, connect the Alarm Out Common pin to the GND pin of the external sensor and Alarm_1 Output to the NPN Input pin.



(2) PNP sensor

For PNP load, connect the Alarm Out Common pin to the +24V pin of the external sensor and Alarm_1 Output to the PNP Input pin.



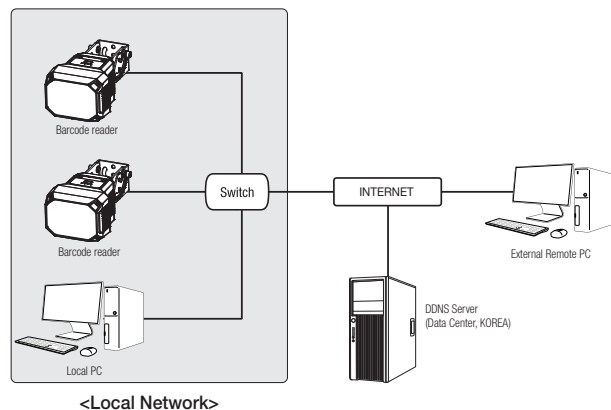
network connection and setup

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

CONNECTING THE BARCODE READER DIRECTLY TO LOCAL AREA NETWORK

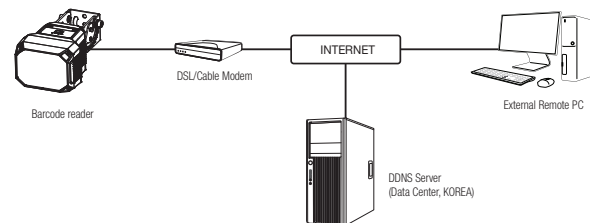
Connecting to the barcode reader from a local PC in the LAN

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



- A remote PC in an external Internet out of the LAN network may not be able to connect to the barcode reader installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, 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 how to use the device manager, refer to "Using Device Manager". (Page 19)

CONNECTING THE BARCODE READER DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Connect the user PC directly with the barcode reader.
2. Run the Device Manager and change the IP address of the barcode reader so that you can use the web browser on your desktop to connect to the barcode reader.
3. Access the Web Viewer of the barcode reader using an Internet browser.
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 barcode reader, which was removed from your PC, directly to the modem.
8. Restart the barcode reader.

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

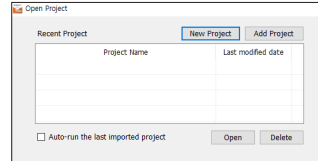
USING DEVICE MANAGER



- 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.

SETTING UP PROJECTS

You can save and import barcode readers for each project.
To create a new project, set the project name and a password.
You need to enter a password to run the created project.



SEARCHING BARCODE READER AUTOMATICALLY

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

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

CONFIGURING IP ADDRESS

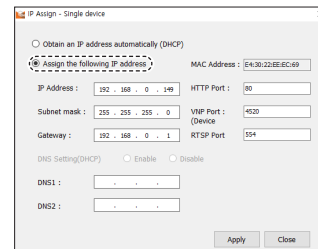
If you want to change barcode reader network setting, <Login OK> sign must be displayed at <Status>. Click <Authentication> at the main page to log in.

Configuring Static IP

Manually insert and configure IP address & port information.

When setting one barcode reader

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



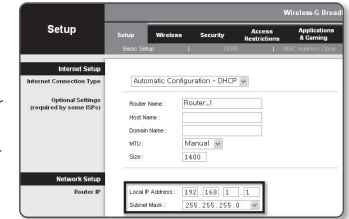
If not using a Broadband Router

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

- HTTP Port : Used to access the barcode reader using the Internet browser. The default value is 80.
- RTSP Port : Used to control real-time streaming. The default 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 barcode reader.
- Gateway : The <Local IP Address> of the Broadband Router will be the <Gateway> of the barcode reader.



- 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 21)

If the Broadband Router has more than one barcode reader connected

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

ex)

Category		Barcode reader #1	Barcode reader #2
IP related settings	IP Address	192.168.1.100	192.168.1.101
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
Port related settings	HTTP Port	8080	8081
	RTSP Port	554	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 barcode reader.
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].

When setting multiple barcode readers

Model	MAC Address	IP(DHCP)	IP(New)	Subnet(New)	Gateway(New)	DNS1(DHCP)	DNS2(DHCP)	HTTP	Device	RTSP	Result
WIV-A90...	E4:30:22:8E:EC:49	192.168.0.149						80	4320	554	
QNF-C96...	E4:30:22:8F:29:DA	192.168.0.150						80	4320	554	

1. Click the barcode reader that you want to change the IP setting at the list.
2. Click <IP Assign> at the main page of the device manager.
3. Select <Assign the following IP address>.
4. Enter the initial address of the IP address range to be assigned.
5. Click the [Simulate] button to check the IP address to be assigned for each equipment.
 - You can edit each address by double-clicking the IP address item.
6. Click the [Apply] button to start IP assignment.
7. Check the <Result> item for the success of IP assignment.

Configuring Dynamic IP

Receive IP address from DHCP

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

When setting one barcode reader

1. Click the barcode reader that you want to change the IP setting at the list.
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].

When setting multiple barcode readers

Model	MAC Address	IP(DHCP)	IP(New)	Subnet(New)	Gateway(New)	DNS1(DHCP)	DNS2(DHCP)	HTTP	Device	RTSP	Result
WIV-A90...	E4:30:22:8E:EC:49	192.168.0.149						80	4320	554	
QNF-C96...	E4:30:22:8F:29:DA	192.168.0.150						80	4320	554	

1. Click the barcode reader that you want to change the IP setting at the list.
2. Click <IP Assign> at the main page of device manager.
3. Select <Obtain an IP address automatically (DHCP)>.
4. Click the [Apply] button to start IP assignment.
5. Check the <Result> item for the success of IP assignment.

REGISTERING BARCODE READER MANUALLY

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

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

CONFIGURING IP AUTOMATICALLY

1. Click the barcode reader from the list that you want to automatically configure the IP.
2. Click **<+>** at the main page of the device manager.
 - Equipment Setting menu appears.
3. At the menu, click **<Auto IP Configure>**.
4. To use the **<UPnP>** or **<Bonjour>** protocol, select **<Enable>** and click the **[Apply]** button.

PORT RANGE FORWARD (PORT MAPPING) SETUP

If you use a Broadband Router with a barcode reader connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the barcode reader 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 barcode reader 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 barcode reader web viewer.
3. When done, click **[Save Settings]**.
Your settings will be saved.

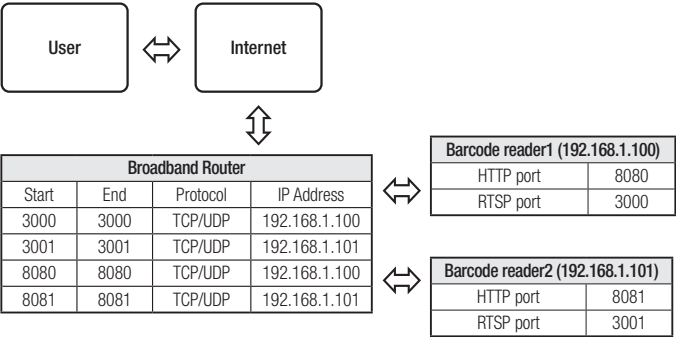


- Port forwarding setting is an example of setting a CISCO IP router.
- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.

Setting up Port Range Forward for several barcode readers

- 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 barcode reader setting screen.

When Barcode reader1 and Barcode reader2 are connected to a router :



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

CONNECTING TO THE BARCODE READER FROM A SHARED LOCAL PC

1. Run the device manager.
It searches connected barcode readers and displays them as a list.
2. Select the desired project, then click the [Open] button.
3. Entering the password will display the list of barcode readers in the project.
4. Double-click a barcode reader to access.
The Internet browser opens and the barcode reader is connected.

- Access to the barcode reader can also be available by typing the barcode reader's IP address in the address bar of the Internet browser.

CONNECTING TO THE BARCODE READER FROM A REMOTE PC VIA THE INTERNET

On a remote computer that is in the Broadband Router's network cluster, users can access barcode readers within a Broadband Router's network by using the barcode reader's DDNS URL.

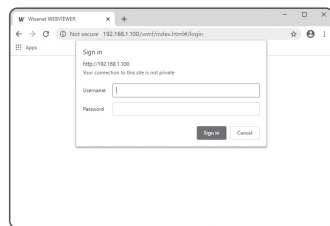
1. Before you can access a barcode reader in the Broadband Router network, you should have set the port range forward for the Broadband Router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the barcode reader, or the IP address of the Broadband Router in the address 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 BARCODE READER

Normally, you would

1. Launch the Internet browser.
2. Type the IP address of the barcode reader 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://\[2001:230:abcd:ffff:0000:0000:ffff:1111\]](http://[2001:230:abcd:ffff:0000:0000:ffff:1111]) - the Login dialog should appear.



If the HTTP port is not 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the barcode reader 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 barcode reader 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 to support the UPnP protocol.
2. Click the barcode reader name for search.
In the Windows operating system, click the barcode reader name searched from the network menu.
- The login window is displayed.

Connecting via Bonjour

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



- To use the UPnP or Bonjour protocol, refer to "Automatically configuring IP".

To check the DDNS address

If the barcode reader is connected directly to the DHCP cable modem, DSL modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server. In this 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 a barcode reader for the first time, you must register its 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.

LOGIN

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

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 log in successfully, you can see the Live Viewer screen.

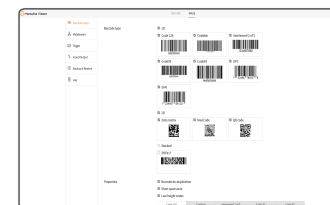
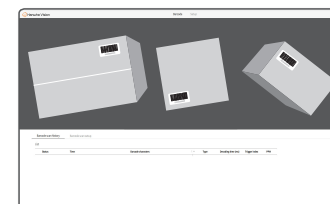
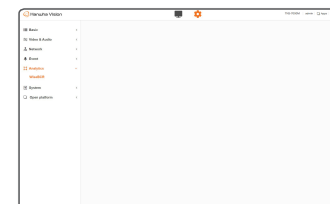
- When you access the barcode reader web viewer, pay special attention to the security by checking whether the image data is encrypted.
- You will experience the best video quality if the screen size is 100%. Reducing the ratio may cut the image on the borders.

BARCODE READER WEB VIEWER SETUP

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

WiseBCR SETTING

1. Click the [Setup (⚙️)] icon.
2. In the Setup menu, click <Analytics> - <WiseBCR>.
3. Go to the WiseBCR app screen and configure the App settings.



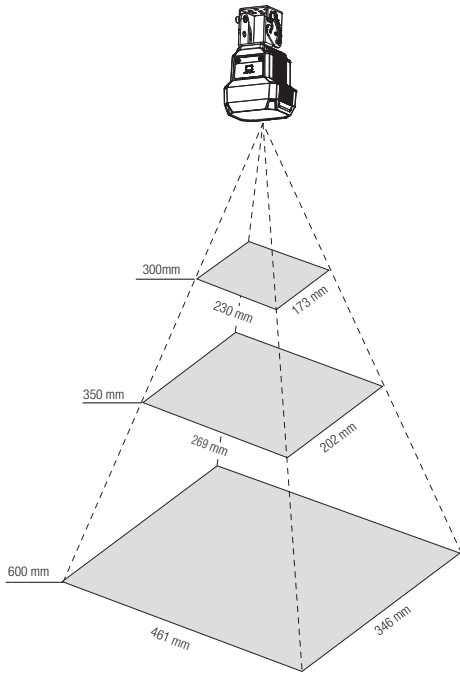
FIELD OF VIEW (FoV) AND READING DISTANCE

You can check the field of view (FoV) and reading distance for the lenses attached to the barcode reader.

The barcode size that can be recognized by FoV according to the distance of movement may vary.

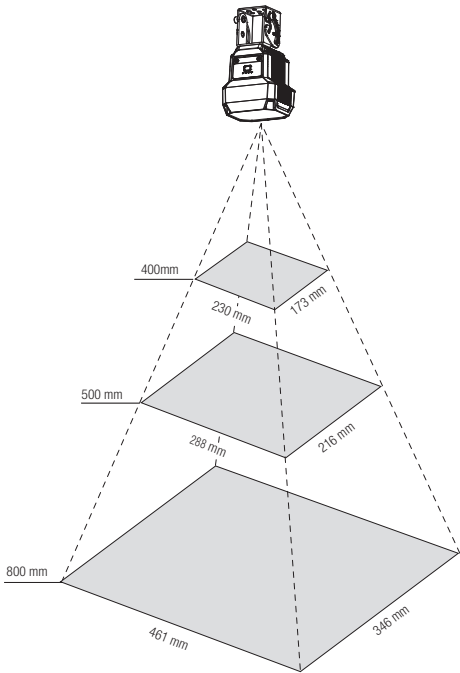
The following table shows the FoV values for a barcode reader with a 6-mm lens.

Working Distance (mm)	Horizontal (mm)	Vertical (mm)
300	230	173
350	269	202
600	461	346



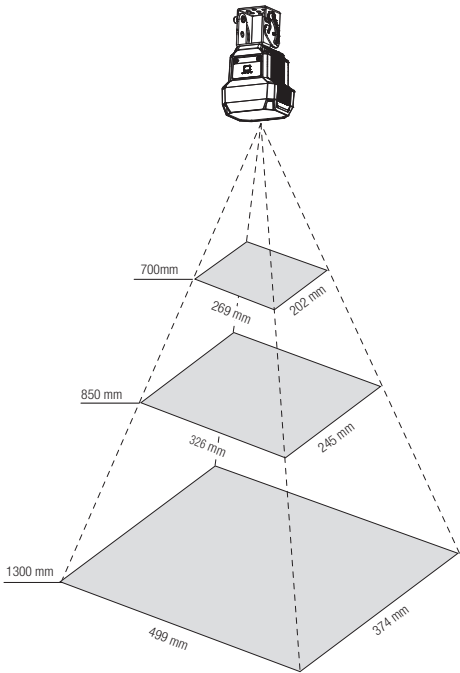
The following table shows the FoV values for a barcode reader with a 8-mm lens.

Working Distance (mm)	Horizontal (mm)	Vertical (mm)
400	230	173
500	288	216
800	461	346



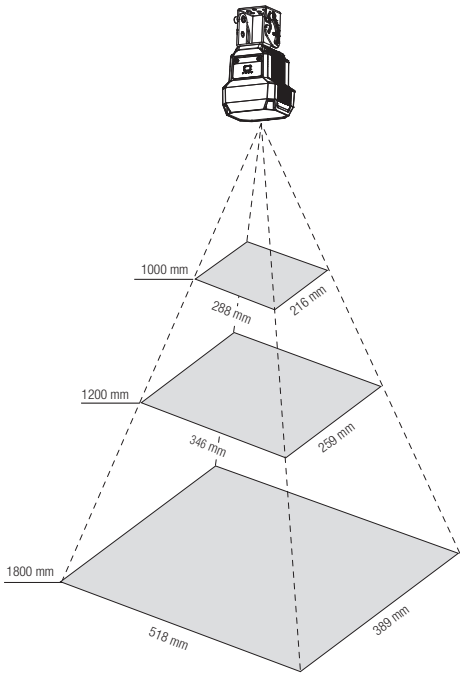
The following table shows the FoV values for a barcode reader with a 12-mm lens.

Working Distance (mm)	Horizontal (mm)	Vertical (mm)
700	269	202
850	326	245
1300	499	374



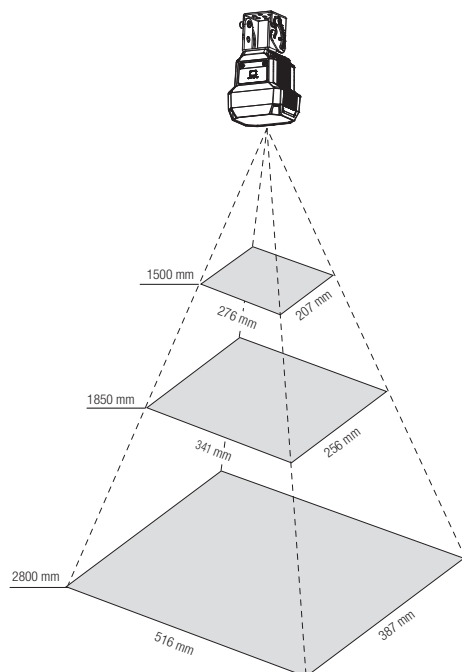
The following table shows the FoV values for a barcode reader with a 16-mm lens.

Working Distance (mm)	Horizontal (mm)	Vertical (mm)
1000	288	216
1200	346	259
1800	518	389



The following table shows the FoV values for a barcode reader with a 25-mm lens.

Working Distance (mm)	Horizontal (mm)	Vertical (mm)
1500	276	207
1850	341	256
2800	516	387



TROUBLESHOOTING

PROBLEM	SOLUTION
When an Windows 10 user accesses the web viewer through Chrome or Firefox, the sound volume of microphone changes periodically.	This is what happens when microphone driver has been set to Realtek driver. Install the High Definition Audio device (Windows Default Driver) or the third party driver as the microphone driver.
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 barcode reader from a web browser.	- Check to make sure that the barcode reader's Network settings are appropriate. - Check to make sure that all network cables have been connected properly. - If connected using DHCP, verify that the barcode reader is able to acquire dynamic IP addresses without any problem. - If the barcode reader 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 barcode reader or network configurations. - Check all network connections.
The barcode reader connected to the network is not detected in the Device Manager program.	Turn off the firewall settings on your PC and then search the barcode reader again.
Images overlap.	Check whether two or more barcode readers are set to a single multicast address instead of different addresses. If a single address is used for multiple barcode readers, 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 where the barcode reader is connected.
Micro SD card is inserted but the barcode reader does not operate properly.	- Check if the Micro SD card is inserted in the proper direction. Operation of Micro SD card that is formatted by other devices is not guaranteed with this barcode reader unit. - Format the Micro SD card again in <Setup> → <Event> → <Storage> menu.



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.

