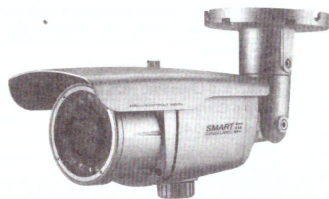


## Night Vision Super-Resolution Camera

### QUICK INSTALLATION GUIDE



#### ◆ Special features

- 1/3" Sony 960H Double Scan Super HAD CCDII
- 2.8~12mm VF DC Iris Lens (option: 5~50mm)
- 50M : IR Distance
- Horizontal resolution of over 800 TV Lines
- Auto Scene Recognition and Scene Select function
- Super Wide Dynamic Range (WDR+ ATR-EX2)
- Coaxial communication
- 2D & 3D noise reduction
- IR-Optimizer
- Motion detection (Frame rate link)
- Polygon privacy mask
- HLC (High Light Compensation)
- E-Zoom (256x)
- Defog (Auto)
- DIS(Digital Image Stabilizer)
- DSS(Digital Slow Shutter)
- RS485 Communication (Pelco-D,C)
- IP67 Waterproof
- Extra Video Out
- 12VDC or 12VDC/24VAC
- Option: Mounting Adaptor Plate (VN7X-MP)

#### Dear Customers!

By selecting this product, you have decided to use a professional device that guarantees highest quality and reliability. We would like to thank you very much for your confidence and kindly ask you to read the following instructions carefully before installation and operation in order to take full advantage of all quality features regarding this product.



The lighting flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated 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 appliance.

#### INFORMATION

This equipment has been tested and found to comply with 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.

#### WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

#### CAUTION – To prevent electric shock and risk of the fire hazards

- Do NOT use power source other than that specified.
- Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

## 1. Precautions

- Please read the manual carefully before the installation in order to make use the camera to be set up correctly and to have the best picture quality.
- Please keep the manual in good condition for your future reference and service application.
- Installation and services should only be carried out by an authorized personnel according to local safety regulations.
- If any liquid or solid matter gets into the housing, immediately disconnect the camera from power supply and have it checked by your authorized dealer before reusing.
- Avoid installing the camera at extremely hot or cold places.
- If you are not a certified person, never try to dismantle the camera. To avoid electric shock, never remove the screws or covers. There are no parts inside that need maintenance by the user. All maintenance should be carried out by qualified personnel.
- Avoid installing the camera at a place of high humidity.
- Avoid installing the camera at the place exposed to gas or oil.
- Keep the top glass of the lens always clean in order to obtain the best picture quality all the time. Be careful not to be stained by fingerprint.
- Don't face the camera directly toward sunlight or sunlight reflecting area. The sensor may go defective at this condition.
- Please give a special attention to keep the unit from dangerous drop or external shock during the process of transportation or handling.
- Never try to touch the camera in wet hand. It may cause an electric shock.
- Do not expose the camera to radioactivity. It causes a serious damage on the sensor.

## 2. Limitation of liability

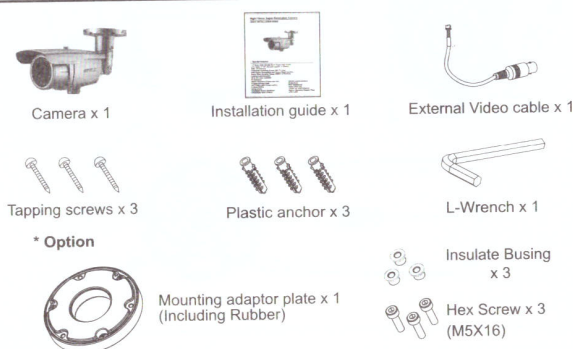
This publication is provided "AS IS" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for any particular purpose, or noninfringement of the third party's right. This publication could include technical inaccuracies or typographical errors. Changes are added to the information herein, at any time, for the improvements of this publication and/or the corresponding product(s).

## 3. Disclaimer of warranty

In no event shall seller be liable to any party or any person, except for replacement or reasonable maintenance of the product, for the cases, including but not limited to below:

- (1) Any damage and loss, including without limitation, direct or indirect, special, consequential or exemplary, arising out of or relating to the product;
- (2) Personal injury or any damage caused by inappropriate use or negligent operation of the user;
- (3) Unauthorized disassemble, repair or modification of the product by the user;
- (4) Inconvenience or any loss arising when images are not displayed, due to any reason or cause including any failure or problem of the product;
- (5) Any problem, consequential inconvenience, or loss or damage, arising out of the system combined by the devices of third party.
- (6) Any claim or action for damages, brought by any person or organization being photogenic subject, due to violation of privacy with the result of that surveillance-camera's picture, including saved data, for some reason, becomes public or is used for the purpose other than surveillance.

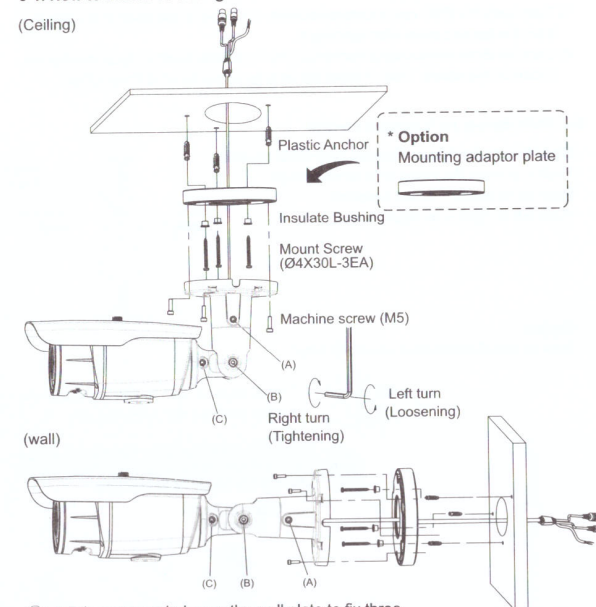
## 4. Package



## 5. Installation

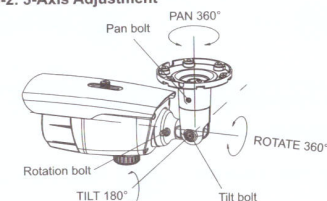
### 5-1. How to mount to ceiling / wall

(Ceiling)



- ① Drill three screw holes on the wall plate to fix three plastic anchors (supplied) in the holes.
- ② Fix the plastic anchors in the holes.
- ③ Position the mounting bracket on the screw points.
- ④ Fix the mounting bracket by tightening the screws.
- ⑤ Slightly loosen bolt (A) then adjust tilt(180°) and rotation(360°) of the camera using a serration on the bracket and tighten the bolt firmly.
- ⑥ Slightly loosen bolt (B) then adjust pan(360°) of the camera and tighten the bolt firmly.

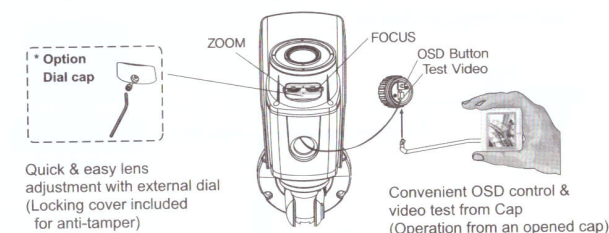
### 5-2. 3-Axis Adjustment



- ① Pan 360° Slightly loosen Pan bolt then adjust pan of the camera using a serration on the bracket and tighten the bolt firmly.
- ② Tilt 180° Slightly loosen Tilt bolt then adjust tilt of the camera using a serration on the bracket and tighten the bolt firmly.

- ③ Rotation 360° Slightly loosen Tilt bolt then adjust rotation of the camera using a serration on the bracket and tighten the bolt firmly.

### 5-3. Lens external adjustment, EXT-Video Zoom & Focus External Adjustment with Lens Dial (Patent pending)





## 5. Installation

### - How to use EXT-video

- 1) Turn open the OSD cap counterclockwise. OSD cap is designed to be hanging from the camera even after opening it.
- 2) Connect Extra video output connector (A) to camera tester or local monitor as shown in the above. Then, control the lens by using Zoom & Focus dial.

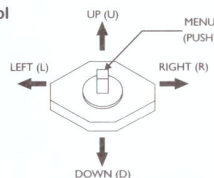
### 5-4. OSD Manual for functions control

#### - How to use tactile switch on the OSD control

Push — to enter the menu or to save settings.

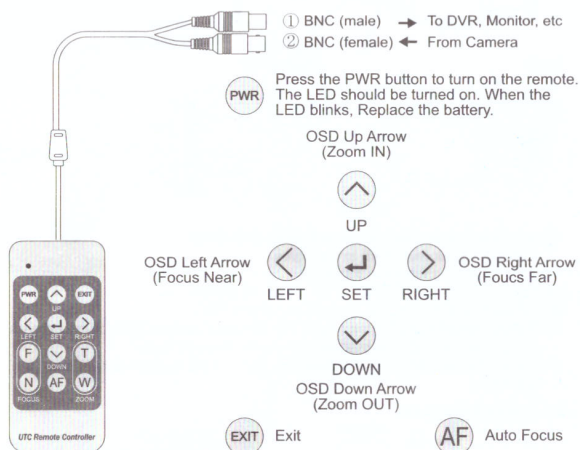
Push up or down — select functions.

Push left or right — to adjust levels.



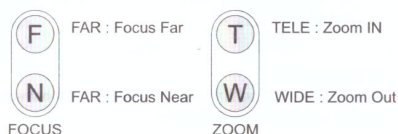
#### \* Option

#### - How to use Coaxial Remote Controller

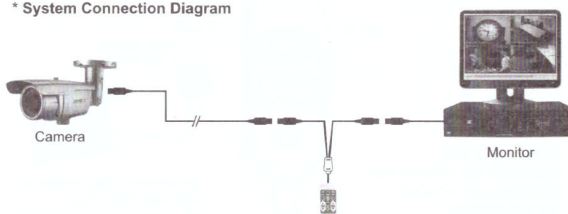


- OSD Control: Press SET button to turn on the OSD menu. Use the arrow buttons to navigate through the menu.

- Motorized focus and zoom



#### \* System Connection Diagram



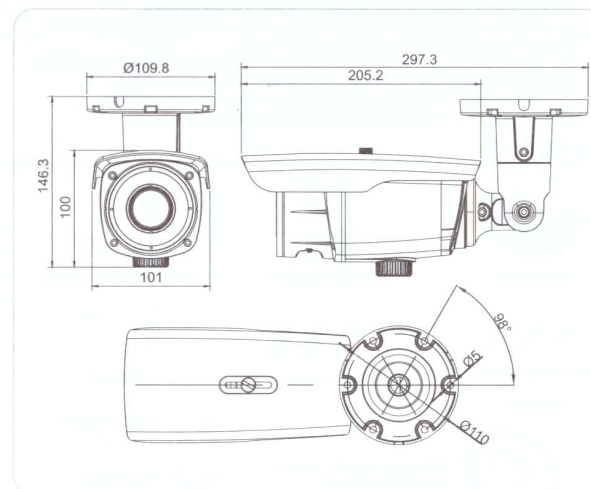
## 6. Troubleshooting

If there are problems in operating, please refer to the checklist below.

If the problem persists, please contact the agent where this product is purchased.

Problems	Troubleshooting				
Nothing appears on the screen.	<ul style="list-style-type: none"><li>• Please check that the power cord and line connection between the camera and monitor are fixed properly.</li><li>• Please check that you have properly connected VIDEO cable to the camera VIDEO output jack.</li></ul>				
The dim image on the screen.	<ul style="list-style-type: none"><li>• Is lens stained with dirt? Clean your lens with soft, clean cloth.</li><li>• Set the monitor to proper condition.</li><li>• If the camera is exposed to too strong light, change the camera position.</li><li>• Please check if the power supply is within the specification &amp; cables. (Due to the voltage drop with distance and gauges, LED will light poor)</li></ul>				
The dark image on the screen	<ul style="list-style-type: none"><li>• Adjust the contrast feature of the monitor.</li><li>• If there is an intermediate device, set the 75Ω / Hi-Z properly (Please check the impedance)</li></ul>				
The camera is not working properly, and the body of the camera is hot.	<ul style="list-style-type: none"><li>• Please check if the power supply is regulated and is within the standard requirement of the products.</li></ul>				
Color is not correct.	<ul style="list-style-type: none"><li>• Please check the setting of White Balance setup.</li></ul>				
The screen is flickering.	<ul style="list-style-type: none"><li>• Please check if the camera is facing directly towards sunlight or fluorescent light.</li></ul>				
RS-485 communication fails.	<ul style="list-style-type: none"><li>• Please check the polarity between RS-485 Control Port and RS-485 cable.</li></ul>				
	485 Control Board Connection Port		RS-485 Control Port		
	(+) CONNECTION TERMINAL (TRX+)		485+		
	(-) CONNECTION TERMINAL (TRX-)		485-		
	<ul style="list-style-type: none"><li>• Please check the RS-485 Communication establishment initial value.</li><li>• RS-485 Communication establishment initial value</li></ul>				
	Item	Camera ID	BAUD RATE	UART MODE	RET PKT
	Initial value	001	9600	8-NONE-1	ENABLE
<ul style="list-style-type: none"><li>• We recommend that you make ground connect between camera and controller in order to maintain safety communication control.</li></ul>					

## 7. Dimension (mm)



## 8. Specification

MODEL	Night Vision Super-Resolution Camera	
	• DC12V	• DC12V / AC24V
Image sensor	1/3" Sony 960H Double Scan Super HAD CCDII	
Effective Pixels	NTSC : 976(H) x 494(V), PAL : 976(H) x 582(V)	
H. Resolution	800TV Lines	
Synchronizing system	Internal	
Scanning system	NTSC : 525 Lines PAL : 625 Lines 2:1 Interlaced	
Video output	1.0Vp-p Composite 75 Ohms	
Gamma Correction	Standard γ=0.45	
Smmer Effect	0.005%	
S/N ratio	More than 50dB (AGC OFF)	
OSD		
Scene Select function	FULL AUTO / INDOOR / OUTDOOR / BACKLIGHT / ITS / CUSTOM (OFF)	
PICT ADJUST	Brightness / Contrast / Sharpness / Hue / Color gain	
EZOOM	electronic zoom images to ON or OFF	
DIS	Digital Image Stabilizer function ON / OFF selection	
PRIVACY MASK	15 EA Privacy mask setting	
MOTION Detection	4 frames Monitoring frame function / 96EA Dead band setting	
FLIP	Top bottom / Left right / Rotation by 180 degrees	
LCD / CRT	Monitor type selection LCD / CRT	
Communication	BAUD RATE : 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200	
	PARITY BIT : None / Odd / Even	
	ADDRESS : 0-255	
Camera ID	character string of up to 26 characters on 2 lines	
Language	English / Spanish / Russian / Portuguese / German / French / Japanese	
White pix mask	white pixel detection (AUTO / MANUAL / DATA CLEAR)	
Shutter / AGC	Auto : 1/50[s] 1/60[s] ~ 1/100,000[s] Manual / Fix : 6 ~ 44.8[dB] / 2 ~ 256 FLD	
White balance	1,800K ~ 10,500K AUTO ATW / PUSH / USER1 / USER2 / Manual / PUSH LOCK	
HLC / BLC	HLC / BLC / OFF control	
WDR / ATR-EX	WDR / ATR-EX / OFF control	
DNR	Adjusted to 0-6 steps	
DAY / NIGHT	AUTO / DAY / NIGHT	
IR OPTIMIZER	ON (AUTO, CENTER) / OFF	
LENS Shading	ON / OFF	
DEFOG	ON / OFF	
Flickerless	AUTO / ON / OFF	
ANTI CR	AUTO / ON / OFF	
Lens		
Lens	2.8-12mm VF DC Iris Lens (option : 5-50mm VF DC Iris Lens)	
Day & Night	ICR	
IR Illumination		
IR Spectrum	850nm	
IR Distance	50M	
Electrical / Dimensions		
Power Source	12VDC	12VDC / 24VAC
Operating current	100mA (IR off) 300mA (IR on)	12VDC : 130mA (IR off) 390mA (IR on) 24VAC : 75mA (IR off) 160mA (IR on)
Operation Temperature	-10℃ to +50℃	
Humidity	0% to 90% RH	
IP Rating	67	
Measurement (mm)	101(W) x 146.3(H) x 297.3(D)	
Weight (Approx. g)	1,850	1,900

\* Specifications are subject to change without prior notice for improvement.