

HD CCTV Total Solution

IR Bullet Camera User Manual



The product image shown above may differ from the actual product.
Please use this camera with a DVR which supports HD video recording.
Please read the instructions thoroughly before using the product.



CAUTION

RISK OF ELECTRIC SHOCK



CAUTION:

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

Only operate this apparatus from the type of power source indicated on the label.

The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.



The lightning flash with 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.



This 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.



ROHS Announcement

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.



The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste.



CE Mark

This apparatus is manufactured to comply with the radio interference.

The company does not warrant that this manual will be uninterrupted or error-free. We reserve the right to revise or remove any content in this manual at any time.

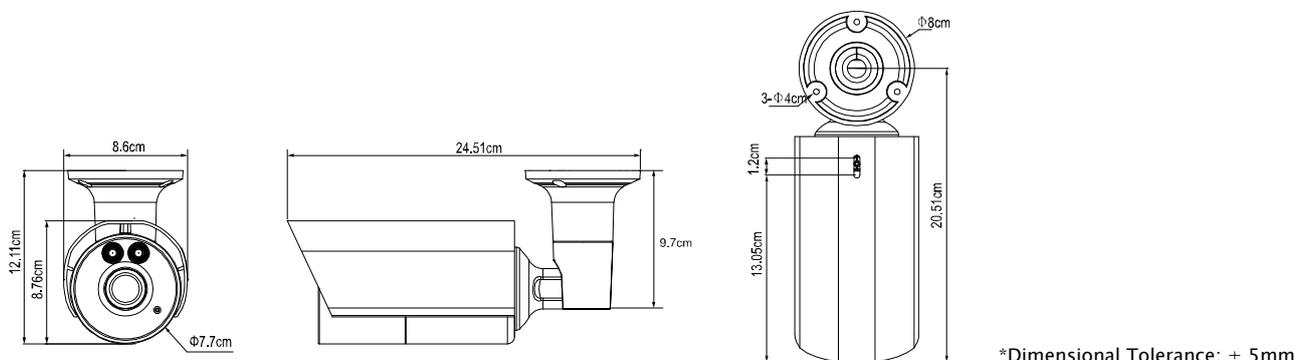
FEATURES

1. 1/2.8" CMOS Sensor with 1080P video output
2. Motorized zoom lens equipped to allow focal length and focus adjustment remotely via DVR
3. External alarm I/O device connection
4. WDR to increase image recognizability in overexposure and dark areas
5. Solid Light series featuring better overexposure prevention (Advanced Smart Light Control), automatic adjustment of image brightness, and longer lifetime of LEDs
6. IR effective distance up to 30 meters for 24-hour surveillance
7. IP66 for weather-proof application

PACKAGE CONTENT

- IR camera
- Sun shield
- Accessories
- User manual
- (Optional) Waterproof kit

DIMENSIONS*



SPECIFICATIONS*

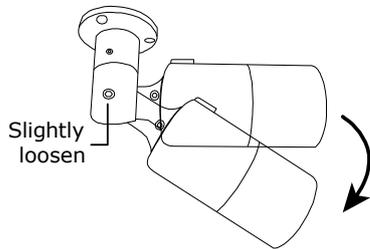
Pick-up Element	1/2.8" SONY CMOS image sensor
Number of Pixels	1936(H) × 1096(V)
Video Frame Rate	1080P@30fps / 1080P@25fps
Min. Illumination	0.1 Lux / F1.4(Wide)~F2.8(Tele), 0 Lux (IR LED ON)
S/N Ratio	More than 48dB (AGC OFF)
Shutter Speed	1/10,000 ~ 1/7.5 (Slow shutter)
Lens	f2.8 ~ 12mm / F1.4 ~ F2.8
Lens Angle	Wide: 103° (Horizontal) / 54° (Vertical) / 122° (Diagonal) Tele: 31° (Horizontal) / 17° (Vertical) / 36° (Diagonal)
IR LED	2 units
IR Effective Distance	Default mode: up to 20 meters IR enhanced mode: up to 30 meters
IR Shift	YES
Smart Light Control	YES
IRIS Mode	AES
White Balance	ATW
AGC	Auto
WDR	YES (120dB)
External alarm I/O	YES (1 input / 1 output)
IP Rating	IP66
Operating Temperature	-20°C ~ 50°C
Operating Humidity	90% or less relative humidity
Power Source (±10%)	DC12V / 1.5A
Current consumption (±10%)	1030mA (max.)
Optional Peripherals	Ceiling-mount bracket (AVM552C-BBKT) / Connector (BULLETCON1)

* The specifications are subject to change without notice.

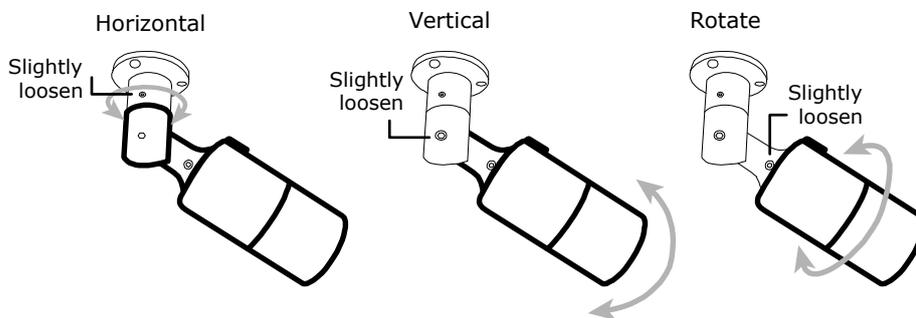
INSTALLATION

Step1: Locate where you want to install this camera, and fasten the camera to the ceiling or wall.

NOTE: It's recommended to slightly loosen the screw on the bracket as indicated below to move the camera down a little bit. It's easier for bracket installation to the ceiling or wall.



Step2: Adjust the viewing angle of the camera, as indicated below.



Step3: Slide the sun shield to the camera, and fasten it with the supplied screw.

Step4: (Optional) Connect to the external alarm device. Please refer to the section "**WIRE INDICATION FOR ALARM CONNECTION**" for details.

Step5: Connect the camera to a DVR which supports HD recording, and power on the camera.

NOTE: Please use the correct power adaptor, DC12V (regulated), to operate this unit. The power tolerance of this unit is DC12V \pm 10%. Over maximum DC 12V power input will damage this unit.

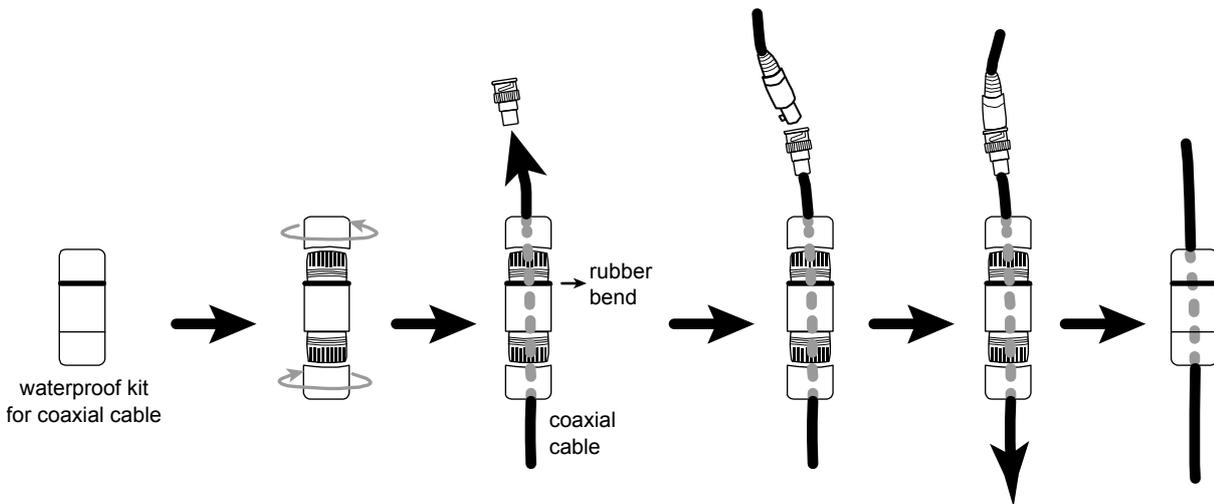
NOTE: A waterproof kit for a coaxial cable could be used to protect the connectors from moisture / water. Please check "WATERPROOF KIT FOR COAXIAL CABLE" to know how to use it.

Step6: Follow the steps in the next section "**ADJUST FOCAL LENGTH & FOCUS**" if necessary.

NOTE: In order to make the best performance, please adjust the angle of IR shift up and down within 30 degree respectively, left and right within 15 degree respectively.

WATERPROOF KIT FOR COAXIAL CABLE

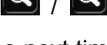
NOTE: The waterproof kit is optional. Please purchase separately.



FOCAL LENGTH & FOCUS ADJUSTMENT

This camera supports remote focal length and focal adjustment remotely from our HD CCTV DVR.

On the DVR live view, click the channel which connects this camera to display in the full screen mode, and select  to show the functions:

	Zoom in / out max	Click to zoom in on the image to the largest / zoom out on the image to its original size.
	Zoom in / out	Click to zoom in / out the image.
	Focus near / far	Click to adjust the focus of the image.
	Manual Focus	This function is used to memorize the focus parameters you've made after you use    to manually adjust the focal length and focus. The next time when you move to the same focal length, the camera will use the parameters as the ones for Auto Focus.
	Auto Focus	Click to automatically adjust the focus of the camera.

The, go to **ADVANCED CONFIG** → **DCCS**, and choose **ANGLE OF VIEW** for final calibration. For details, please refer to the section “CAMERA PARAMETERS”.

WIRE INDICATION FOR ALARM CONNECTION

COLOR	FUNCTION
Yellow	ALARM IN
Blue	ALARM OUT
Black	GND

CAMERA PARAMETERS

On the DVR, right-click to show the main menu, and go to **ADVANCED CONFIG** → **DCCS**.

In **DCCS**, select the channel which connects this camera, and click **SETUP** to enter the menu of camera parameters.

ADVANCED CONFIG				
CAMERA DETECTION ALERT NETWORK DISPLAY RECORD DCCS NOTIFY MULTICASTING	CH1	CH2	CH3	CH4
	MENU			SETUP
	F.W.			1015
	DEVICE			AVT553
	CONNECTION			OK
EXIT				

Item	Description
BRIGHTNESS	Click the current value to manually adjust the brightness of the image. The higher the value, the brighter the image.
CONTRAST	Click the current value to manually adjust the contrast of the image. The higher the value, the higher the contrast ratio.
HUE	Click the current value to manually adjust the hue of the image.
SATURATION	Click the current value to manually adjust the saturation of the image. The higher the value, the more saturated the image.
DISPLAY ZOOM RATIO	Select to display the zoom ratio on the screen or not.
VIDEO FORMAT	Select the video format: NTSC / PAL .
WHITE BALANCE	Process the current image to retain color balance over a color temperature range. The options are: Auto, 2500K, 3200K, 4200K, 5800K & 9500K . 9500K = Partially cloudy; 5800K = Mid summer; 4200K = White fluorescent; 3200K = Halogen light bulb; 2500K = Halogen light bulb.
SHARPNESS	Sharpness enhances the clarity of image detail by adjusting the aperture and sharpening the edges in the pictures. Click the current value to manually adjust the sharpness of the image. The higher the value, the sharper the image.
SLOW SHUTTER	Slow shutter is used to increase the exposure time to get clearer image, for example, at night. It's enabled only in the dark environment. The options are: AUTO, 1/15 and 1/6 .
MIRROR	Select ON to turn the images horizontally based on your installation situation when necessary.
FLIP	Select ON to flip the image 180° when necessary.
3D DENOISE	Click and drag the slider to adjust the level from 0 ~ 5 to decrease the noise shown in the dark environment. 3D denoise analyzes successive pictures to decrease the noise dramatically, but the moving objects might be shown as blurred.
2D DENOISE	Click and drag the slider to adjust the level from 0 ~ 5 to decrease the noise shown in the dark environment. 2D denoise analyzes only a single picture to decrease the noise. The moving objects can remain smooth edges, but the effect might be limited.
EXPOSURE VALUE	Drag the slider to adjust the exposure level from 0 ~ 4 . The higher the value, the brighter the image.
WIDE DYNAMIC RANGE	Wide Dynamic Range (WDR) is used when users need to increase image recognizability in an environment where very bright and dark areas exist simultaneously. The options are: LOW / MIDDLE / HIGH / OFF . The more extreme the bright and dark areas exist simultaneously in an environment, the higher the value should choose to get clear images.
FIXED SHUTTER	Shutter Speed is a function that can adjust the duration of the electronic shutter to produce optimum image quality. Select the shutter speed suitable for your environment. The options are: OFF, FIX 1/15, FIX 1/25, FIX 1/30, FIX 1/50, FIX 1/60, FIX 1/100, FIX 1/120, FIX 1/250, FIX 1/500, FIX 1/1000, FIX 1/2000, FIX 1/5000, FIX 1/10000 .

Item	Description
FOCUS MODE	Select the default focus mode when you're adjusting the focal length and focus as described in the previous section of "FOCAL LENGTH & FOCUS ADJUSTMENT". Choose AUTO to always automatically adjust the focus first when the focal length is changed; choose MANUAL to allow manually focus adjustment first when the focal length is changed.
DEFOG	Select ON to enable the defog function in poor weather conditions such as fog, smog or smoke. The captured image can be improved.
ANGLE OF VIEW	This function is used to slightly calibrate the viewing angle when the focal length and focus adjustment is completed. Select DOWN if your camera lens is facing down; select UP if your camera lens is facing up.
IR CONTROL	Select AUTO to automatically enable IR LEDs at night or in the dark environment, or OFF to disable this function.
ENHANCE IR	This function is used to enhance IR LEDs performance for longer projection distance. <i>Note: It's not recommended to enable this function for a long time as it might impair the lifetime of IR LEDs</i>
IR TURN ON LEVEL	Select the level for IR light to activate. 0 ~ 20 . The higher the value, the more sensitive the IR light to activate.
IR DELAY TIME	Set the delay time from 1 ~ 60 in second after which the day and night switch is made, or select 0 to disable this function. This is used for the environment where the light condition may change suddenly and usually last for a short time, for example, the entrance of a parking lot. It may cause the day & night mode switching constantly and damage the camera. With this function, the camera will delay the mode switch at night since the light change is temporary and unnecessary to pay attention.
RESET DEFAULT	Click to reset all camera settings to their default values. The camera will reboot to complete the reset process.
REBOOT THE SYSTEM	Click to reboot the camera if necessary.