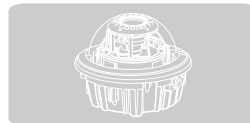
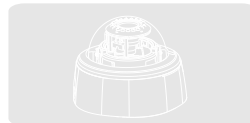
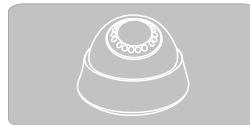


DIGITAL  
PIXEL<sup>®</sup>  
SYSTEM  
FROM PIXIM



**Ultra Wide Dynamic (IR Waterproof) Dome Camera  
User's Manual**

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## 1. Overview

SA series Ultra WDR cameras are new, CCTV cameras which adopt Pixim's innovative "SEAWOLF" image sensor chip based on Digital Pixel System ® technology. The resolution is up to 690TVL-E and the industry-leading wide dynamic range is up to 120dB. This WDR ensures brilliant image quality under any lighting environment. The image and color quality is also excellent in low illumination environments. This camera series is an ultra wide dynamic range camera in the real sense using digital sampling which can't be paralleled by average wide dynamic range cameras using older generation CCD imagers. The application of 3D digital noise reduction technology ensures higher S/N, which efficiently reduces the digital storage and transmission data saving system cost. Fashionable and professional exterior design and special all-in-one all directional bracket, makes round-the-clock surveillance easy and convenient.



A、B



C、D



E、F



G



H

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## 2. Notes

### 1. Use the Appropriate Power Supply

The input power will be DC12V or DC12V/AC24V dual-power. Be sure to connect it to the appropriate power. Wrong connection may cause malfunction and damage to the video camera.

### 2. Do not attempt to disassemble the camera.

To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Ask a qualified service person for servicing.

### 3. Handle the camera with care.

Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.

### 4. Do not use strong or abrasive detergents when cleaning the camera body.

Use a dry cloth to clean the camera when dirty. In case the dirt is hard to remove, use a mild detergent and wipe gently.

### 5. Do not put the camera in a place with interference.

When this camera is installed near the equipment like wireless communication device which emits strong electromagnetic field, some irregularity such as noise on monitor screen may happen.

### 3.Features

#### “SEAWOLF” Image Sensor

This camera adopts innovative DPS(Digital Pixel System) image sensor and image processing technology. The sensor picks up details from each pixel based on hundreds of samples per video frame. vs CCD's limited exposures, to ensure wider dynamic range than is possible with analog CCD. The image quality is even brilliant under extreme lighting conditions. changeable lighting condition.

#### Ultra Wide Dynamic Range

The captured wide dynamic range is 102dB typical and can reach 120dB maximum.

#### High Effective Resolution

Image resolution as high as 690TVL-E, offering enhanced horizontal and vertical resolution useable in existing as well as new CCTV systems.

#### 3D Noise Eliminating Technology

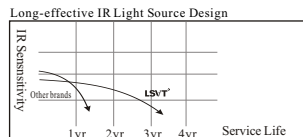
Adopts Pixim fully digitalized 3D noise reduction technology to minimize noise, extending DVR storage by 30%+.

#### Lower Illumination Working Capability

0.1Lux low illumination (IR OFF)

#### Long-life IR Light Source Design

Adopts high performance IR LED and heat balance design, effectively extends the service life of LED.



#### All directional bracket\*

All directional bracket, easy control.

#### OSD Menu

Powerful OSD menu operation function, allows for setting of various parameters and pre-sets.

#### IR-CUT\*

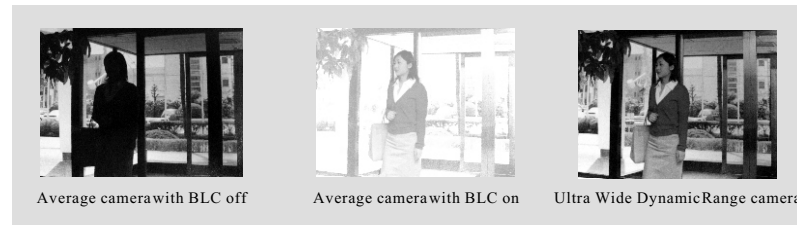
Built-in filter switch-over device, ensures the cameras work properly both in day and night.

#### DC12V/AC24V Dual Voltage\*

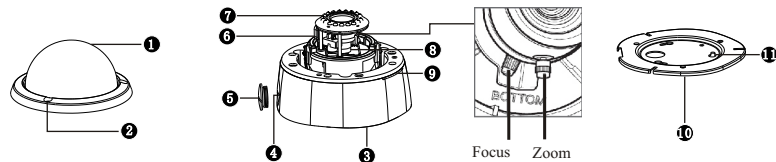
Compatible for DC12V and AC24V voltage. which can shift to the correct mode as per the power input.

Notice: the function with “\*” ,different type different function.

#### Comparison of Wide Dynamic Range camera and average camera



## 4.Parts instruction

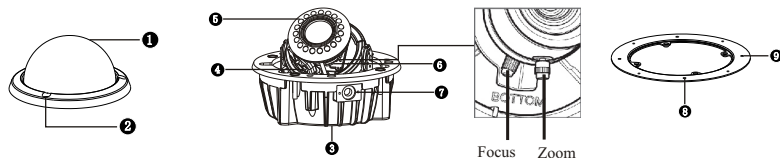


A、B

1. Dome Enclosure: to protect camera lens and body.
2. Glass cover screw hole
3. Base
4. Wire out hole

5. Stages of a screw the lid
6. OSD
7. IR LED
8. LENS

9. LED ALARM
10. Subpanel
11. Install screws hole



C、D

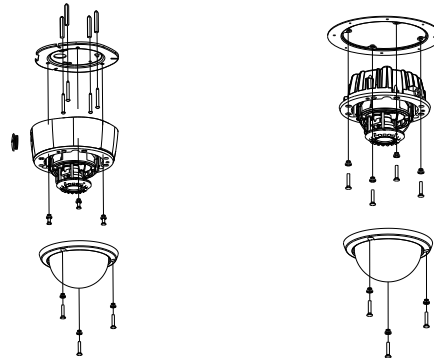
1. Dome Enclosure: to protect camera lens and body.
2. Glass cover screw hole
3. Base

4. OSD
5. IR LED
6. LENS

7. Subpanel
8. Install screws hole

## Camera installation

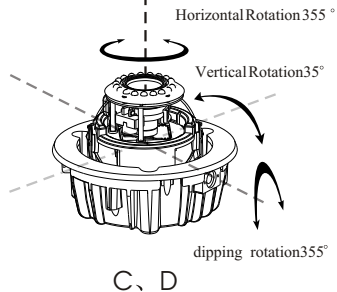
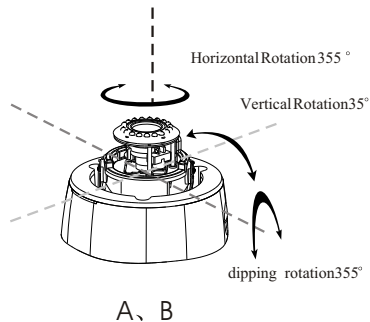
- 1、 loose the 3 glass cover screw by screwdriver ,take the glass cover out.
- 2、 loose the Installed setscrews, to separate the subpanel from camera body.
- 3、 Drill 3 holes in the position needed in accordance with the installation hole on the subpanel, push the Expansion Bolt inside then tighten the screws, make the installation hole aim at the three screws and fix it.
- 4、 Choose the way the wire out, if out from the ceiling, then need a hole on it, if from the side of the camera, then just need to loose the Stages of a screw the lid, get the wire out from it.



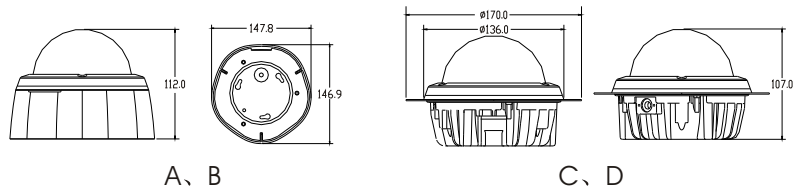
- 1、 loose the 3 glass cover screw by screwdriver ,take the glass cover out.
- 2、 loose the Installed setscrews, to separate the subpanel from camera body.
- 3、 Drill 3 holes in the position needed in accordance with the installation hole on the subpanel, push the Expansion Bolt inside then tighten the screws, make the installation hole aim at the three screws and fix it.
- 4、 Choose the way the wire out, if out from the ceiling, then need a hole on it, if from the side of the camera, then just need to loose the Stages of a screw the lid, get the wire out from it.

### Adjustment for camera direction

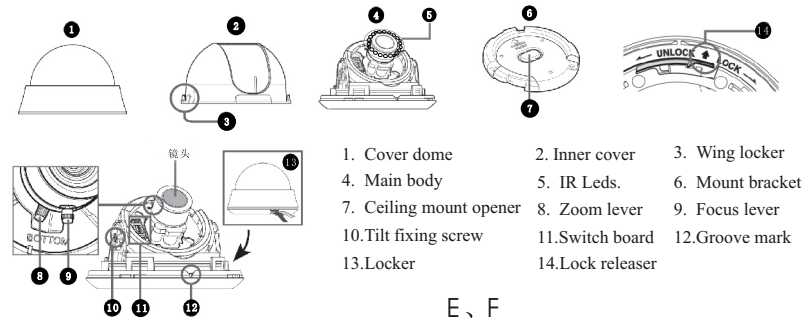
- When the camera fixed on the ceiling, you can adjust the angle by adjustment of the 3 axis bracket.  
Maximum 355° vertical rotation, 35° horizontal rotation, 35° dipping rotation.
- Adjust ZOOM to the position you need, then adjust FOCUS to get clearer image.
- Fix the glass cover on the camera body.



### 5. Dimensions

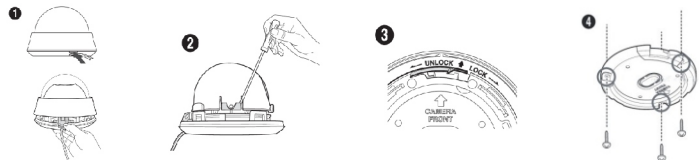


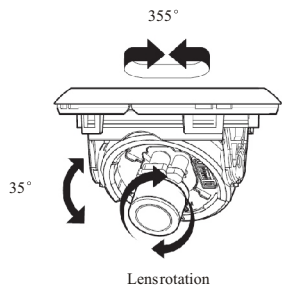
### Parts instruction



### To install your camera

- Press the Locker button on the bottom of your camera and remove the Cover dome from the Main body using the other hand. The Main body and Inner cover will be exposed to you.
- To install and adjust your camera, you have to first remove the Inner cover. To remove the Inner cover from the Main body, push a long thin screwdriver into the narrow spot of the Wing locker and press it outward to remove the cover.
- Remove the Mount bracket from the Main body by rotating the Main body in the UNLOCK direction while pushing the Lock releaser outward. If it is not easily done, rotate the Mount bracket in the LOCK direction while holding small holes on the Mount bracket.
- Fix the Mount bracket to the location (ceiling or wall) with supplied three screws.





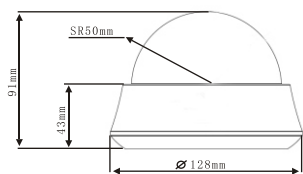
### Adjusting the camera direction

1、 When the camera is fixed on the ceiling, you can adjust the camera viewing angle. You can rotate your camera leftward or rightward (Panning), and can change the slope of your camera upward or downward (Tilting).

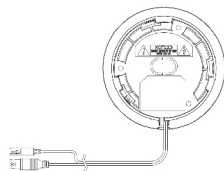
2、 In case of panning, the rotation limit of your camera is set to 355° degree (100° degree clockwise and 255° degree counterclockwise). The rotation is stopped by the Stopper inside of the camera. For panning control, first unfasten two screws located on the bottom and rotate in the direction you want, and then fasten them to fix the camera.

3、 In case of tilting, you can change the slope of your camera from zero to 90° degree. However if the slope angle is under 17 degree, you can encounter a partial image hide problem. To fix the location after adjusting the tilting angle, use the Tilt fixing screws. To adjust the focus and zoom of your camera, use the Zoom lever and Focus lever. When you install the camera on the inclined ceiling or wall, you can rotate the camera lens to see a correct direction image.

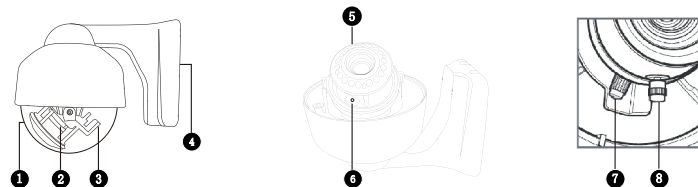
### Dimensions



E、 F



### Parts instruction

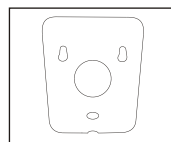


1. Dome Enclosure 2. Lens 3. Three-dimensional Bracket 4. Bracket 5. IR Transmitting Components  
6. DIP Switch 7. Zoom Adjusting Lever 8. Focus Adjusting Lever

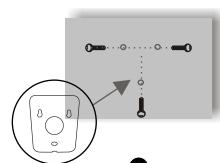
G

### Before Installation

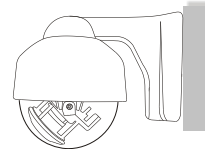
- 1、 Make sure the installation position can bear a weight 5 times heavier than the camera you are about to install.
- 2、 Do not have the cable in an improper place or broken, otherwise, these may cause a fire.
- 3、 When installing the camera, please properly install it.



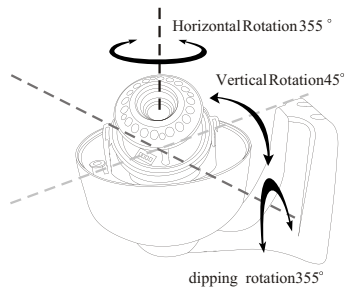
1



2



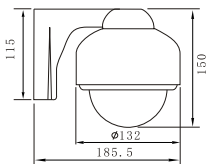
3



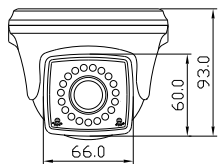
When your camera is fixed to the wall, you can adjust camera's three-dimensional bracket to the angle you need.

1. Horizontally rotating angle 355° (Bracket panel and main board installing panel can both be rotated.)
  2. Vertically rotating angle 45°
- Adjust the lens focal length to the position you need and adjust the lens focus again to get a clear picture.

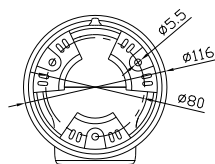
## Dimensions



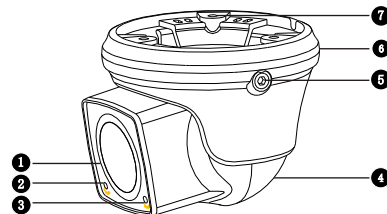
G



H



## Parts instruction

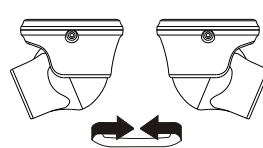


H

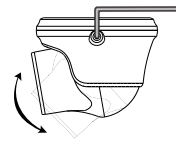
1. Lens
2. Zoom Screw
3. Focus Screw
4. Camera Mainbody
5. Angle Fixing Screw
6. Camera base
7. Base Installation Hole

## Camera Installation

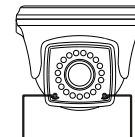
1. Set the camera installing location and fix the camera onto wall with screws.
2. Take the Allen wrench in tool bag and unscrew the angle fixing screw and adjust the camera to required vertical angle and then fix the screw.
3. Take the Allen wrench in tool bag and unscrew the angle fixing screw and adjust the camera to required horizontal angle and then fix the screw.
4. The focal length can be adjusted through zoom and focus bottom



camera horizontal angle adjustment



camera vertical angle adjustment

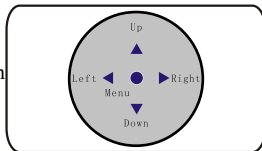


Zoom focus

## OSD Menu Setup

Menu button for choice

- ▲ ▼ : Move Up And Down By Up And Down Button
- ◀ ▶ : Move Horizontally Or Modify Parameter By Left And Right Button



## 6. OSD Menu Operation

<u>CAMERA SETUP</u>	
WDR CONTROL	MEDIUM (LOW/NORMAL/MEDIUM/HIGH)
BLC	OFF (OFF/ON)
WHITE BALANCE	ATW (ATW/AWB)
AGC	NORMAL (LOW/NORMAL/HIGH)
LENS SELECT	DC (MANUAL/DC)
FLUORESCENT	OFF (OFF/CRR/CRR2)
D/N CONTROL	AUTO (OFF/AUTO/GPIO)
LANGAGE SELECT	ENGLISH (ENGLISH/CHINESE)
SAVE	DEFAULT (CANCEL)

WDR ZONE SELECT:

### NORMAL METER PRESETS

PRESETS	WD NROMAL	WD NROMAL/SAFEAREA/ATM/LOW1/3
PRE	SAVE	CANCEL

\*Specialists press "Left, Right, Left, Right, Down" button enter superior menu.

## WDR Control:

Press Enter to show the menu, move the cursor to WDR Control, set MEDIUM, NORMAL, LOW, HIGH by left and right button; choose the setting for WDR in accordance with the lighting condition, set High in strong lighting contrast to realize higher quality image.

WDR ZONE SELECT: WD NROMAL/SAFEAREA/ATM/LOW1/3.

## BLC:

move to BLC by Up and Down button, set BLC by Left and Right button: On and Off.

## WHITE BALANCE:

Move to White Balance by Up and Down button, set White balance by Left and Right button: AWB: Auto White Balance; ATW: Auto Tracking White Balance. The color's temperature are different in different lighting condition, The color's temperature changes in different lighting condition, so the white color in video image changes if the lighting condition changes. AWB means cameras can compensate color temperature automatically. In some special environment, in order to keep the same color temperature, ATW setting can keep a fixed color temperature.

## AGC:

Move cursor to AGC by Up and Down button, set AGC by Left and Right Button as: NORMAL, LOW and HIGH. Setting AGC is better for cameras to work in wider lighting range, if the illumination is low, can set AGC high to rise the sensitivity of cameras.



**LENS SELECT:**

Move cursor to LENS SELECT, set LENS SELECT by Right and Left button as : MANUAL, DC:DC Automatically. MANUAL FOR MANUAL IRIS LENS, DC for AUTO IRIS LENS.

**FLUORESCENT:**

Move cursor to FLUORESCENT by Up and Down button, set by Left and Right button as: OFF, CRR2: Color Rolling Restrain. Camera's output color rolling image under fluorescent lamp, CRR can restrain color rolling, keep the image stable.

**LANGAGE SELECT:**

Move cursor to LANGAGE SELECT by Up and Down button, set by Left and Right button as : ENGLISH;CHINESE.

**D/N Control:**

Move cursor to D/N Control by Up and Down button, set D/N by Left and Right button as: OFF; Auto; GPIO: External Control; On. The illumination is very low at night, so we need to rise the sensitivity and improve imaging quality, then we can get better image quality. Set D/N in accordance with different actual need.

**SAVE&EXIT:**

Move cursor to SAVE&EXIT by Up and Down button, set by Left and Right button as : SAVE&EXIT;DEFAULT,CANCEL.

**7. Technical parameter:**

Model		A-1	A-2	A-3	A-4	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0.1Lux				
	S/N Ratio	>50dB (AGC OFF)				
Menu Control	WDR control	medium, normal, low, high				
	BLC	ON, OFF				
	AGC	normal, low, high				
	White Balance	Mode	Tracking White Balance, Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K <sup>o</sup>			
	D/N	OFF, External Control, Auto; ON				
SYNC Mode	INTERNAL					
Power	Voltage	DC12V	DC12V/AC24V	DC12V	DC12V/AC24V	
	current	<200mA	<250mA	<200mA	<250mA	
Lens		4-9mm	4-9mm Auto iris	2.8-12mm	2.8-12mm Auto iris	
IR Range		--				
IR CUT		--				
Working Temperature		-10 C <sup>o</sup> ~ 50 C <sup>o</sup>				
Size		148 $\varnothing$ ) * 112(H )				
Weight		850g				

\*Specification is subject to change without prior notice

## Technical parameter:

Model		B-1	B-2	B-3	B-4	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0Lux;(IR-ON )				
	S/N Ratio	>50dB (AGC OFF)				
Menu Control	WDR control	medium, normal, low,high				
	BLC	ON, OFF				
	AGC	normal, low, high				
	White Balance	Mode	Tracking White Balance,Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K <sup>o</sup>			
	D/N	OFF, External Control, Auto; ON				
SYNC Mode	INTERNAL					
Power	Voltage	DC12V	DC12V/AC24V	DC12V	DC12V/AC24V	
	current	<400mA	<450mA	<400mA	<450mA	
Lens	4-9mm	4-9mm Auto iris	2.8-12mm	2.8-12mm Auto iris		
IR Range	20 M					
IR CUT	--	Auto Switchover	--	Auto Switchover		
Working Temperature	-10 C° ~ 50 C°					
Size	148(∅)*112(H)					
Weight	850g					

\*Specification is subject to change without prior notice

## Technical parameter:

Model		C-1	C-2	C-3	C-4	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0Lux;(IR-ON )				
	S/N Ratio	>50dB (AGC OFF)				
Menu Control	WDR control	medium, normal, low,high				
	BLC	ON, OFF				
	AGC	normal, low, high				
	White Balance	Mode	Tracking White Balance,Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K <sup>o</sup>			
	D/N	OFF, External Control, Auto; ON				
SYNC Mode	INTERNAL					
Power	Voltage	DC12V	DC12V/AC24V	DC12V	DC12V/AC24V	
	current	<200mA	<250mA	<200mA	<250mA	
Lens	4-9mm	4-9mm Auto iris	2.8-12mm	2.8-12mm Auto iris		
IR Range	--					
IR CUT	--					
Working Temperature	-10 C° ~ 50 C°					
Size	136(∅)*112(H)					
Weight	700g					

\*Specification is subject to change without prior notice

## Technical parameter:

Model		D-1	D-2	D-3	D-4	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0Lux;(IR-ON )				
	S/N Ratio	>50dB (AGC OFF)				
	Menu Control	WDR control	medium, normal, low,high			
BLC		ON, OFF				
AGC		normal, low, high				
White Balance		Mode	Tracking White Balance,Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K <sup>o</sup>			
D/N		OFF, External Control, Auto; ON				
SYNC Mode		INTERNAL				
Power	Voltage	DC12V	DC12V/AC24V	DC12V	DC12V/AC24V	
	current	<400mA	<450mA	<400mA	<450mA	
Lens	4-9mm	4-9mm Auto iris	2.8-12mm	2.8-12mm Auto iris		
IR Range	20 M					
IR CUT	--	Auto Switchover	--	Auto Switchover		
Working Temperature	-10 C° ~50 C°					
Size	136(∅)*112(H)					
Weight	700g					

\*Specification is subject to change without prior notice

## Technical parameter:

Model		E-1	E-2	F-1	F-2	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0.1Lux		0Lux;(IR-ON )		
	S/N Ratio	>50dB (AGC OFF)				
	Menu Control	WDR control	medium, normal, low,high			
BLC		ON,OFF				
AGC		normal, low, high				
White Balance		Mode	Tracking White Balance,Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K <sup>o</sup>			
D/N		OFF, External Control, Auto; ON				
SYNC Mode		INTERNAL				
Power	Voltage	DC12V				
	Current	<200mA		<400mA		
Lens	4-9mm Fix iris	2.8-12mm Fix iris	4-9mm Fix iris	2.8-12mm Fix iris		
IR Range	--		20M			
IR CUT	--					
Working Temperature	-10 C° ~50 C°					
Size	128(∅)*91(H)					
Weight	550g					

\*Specification is subject to change without prior notice

**Technical parameter:**

Model		G-1	G-2	G-3	G-4	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0Lux;(IR-ON)				
	S/N Ratio	≥50dB (AGC OFF)				
Menu Control	WDR control	medium, normal, low,high				
	BLC	ON,OFF				
	AGC	normal, low, high				
	White Balance	Mode	Tracking White Balance,Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K°			
	D/N	OFF, External Control, Auto; ON				
	SYNC Mode	INTERNAL				
Power	Voltage	DC12V	DC12V/AC24V	DC12V	DC12V/AC24V	
	Current	<400mA	<450mA	<400mA	<450mA	
Lens	4-9mm Fix iris	4-9mm Auto iris	2.8-12mm Fix iris	2.8-12mm Auto iris		
IR Range	20M					
IR CUT	--	Auto Switchover	--	Auto Switchover		
Working Temperature	-10 C° ~50 C°					
Size	185∅)*150(H)					
Weight	1400g					

\*Specification is subject to change without prior notice

**Technical parameter:**

Model		H-1	H-2	H-3	H-4	
Sensor	Sensor	1/3" DPS Sensor				
	Video Format	PAL/NTSC				
	Resolution	690HTVL-E				
	Mini illumination	0Lux;IR-ON				
	S/N Ratio	≥50dB (AGC OFF)				
Menu Control	WDR control	medium, normal, low,high				
	BLC	ON,OFF				
	AGC	normal, low, high				
	White Balance	Mode	Tracking White Balance,Auto White Balance(ATW)			
		Automatic	(Auto White Balance) 2200~10000 K°			
	D/N	OFF, External Control, Auto; ON				
	SYNC Mode	INTERNAL				
Power	Voltage	DC12V	DC12V/AC24V	DC12V	DC12V/AC24V	
	Current	<350mA	<400mA	<350mA	<400mA	
Lens	4-9mmFix iris	4-9mmAuto iris	2.8-12mmFix iris	2.8-12mmAuto iris		
IR Range	20M					
IR CUT	--	Auto Switchover	--	Auto Switchover		
Working Temperature	-10 C° ~50 C°					
Size	116∅)*93(H)					
Weight	650g					

\*Specification is subject to change without prior notice