

**USB2.0 PTZ Camera User's Manual**  
**L Series | H Series | P Series**  
**(0x, 3x, 10x)**



**V042008**  
**(English Version)**

Please read this Manual before setting up camera, and stick to its requirement strictly.  
Suggest you keep this manual for further reference.

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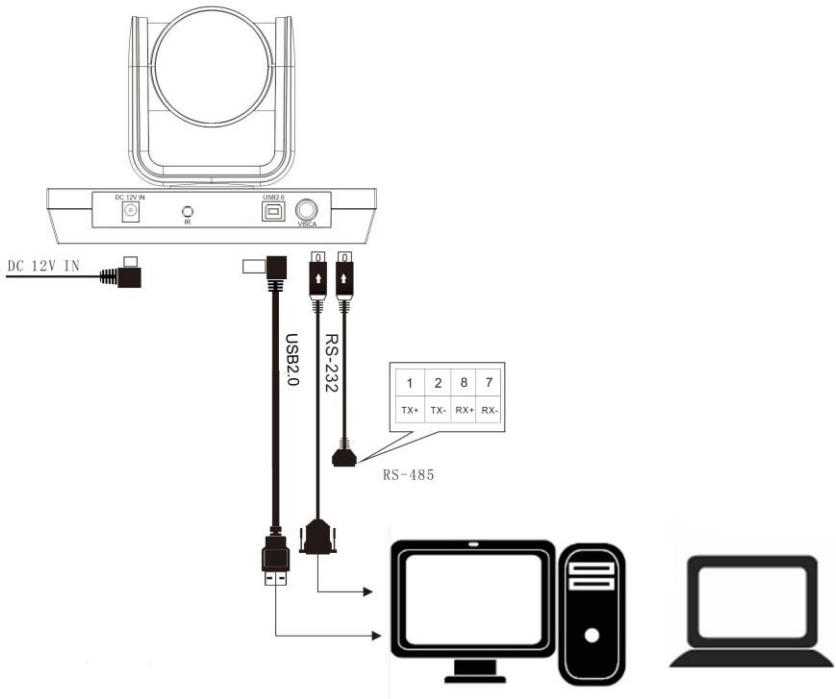
## Function Features

- ▶ Compact & Simple Design
- ▶ 2.1 Megapixel achieved 1080p resolution
- ▶ Equipped with smooth motors for Pan & Tilt movement
- ▶ Preset Accuracy
- ▶ Advanced video algorithm guarantee quality video
- ▶ Adopted Fixed, 3x, 10x optical zoom optional
- ▶ Compatible with VISCA, PELCO-D, UVC 1.5 protocol (L Series does not support UVC protocol)
- ▶ Compatible with most WebRTC Software and PTZ Control over USB Connection through UVC protocol or RS232 connection
- ▶ OSD Menu provided Address code, Baud rate and Protocol change options without Restart Camera (L Series no OSD Menu)
- ▶ Supplied with L type 5 Meters USB Cable with standard package, it's possible to extend over 10 meters USB Cable

## Standard Packing List

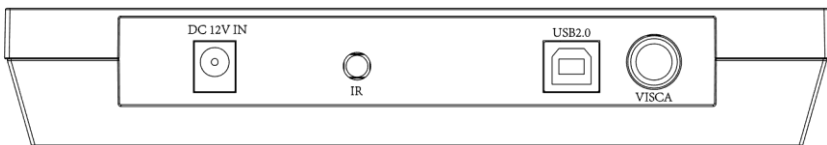
- ▶ USB2.0 HD PTZ Camera x 1 unit
- ▶ Manual's Book x 1 pc
- ▶ USB2.0 B Type 5 Meters L Type Data Cable x 1 pc
- ▶ Remote Controller (Without battery) x 1 pc
- ▶ L type Wall mount kits x 1 pc
- ▶ DC 12V 1A charger x 1 pc

## Connection



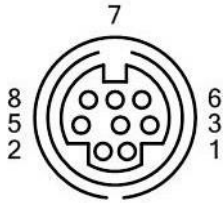
**Lens:** 0x, 3x, 10x optical zoom optional

### Interface:



- a) **DC 12V IN:** Power supply
- b) **IR:** IR Signal receiver of remote control
- c) **USB 2.0:** USB 2.0 Video output interface
- d) **VISCA:** RS-232, RS-485 control

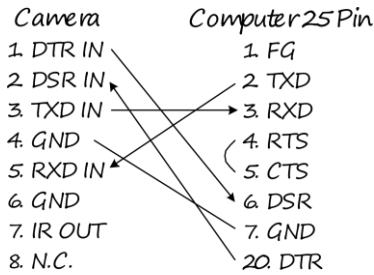
### ► VISCA INTERFACE



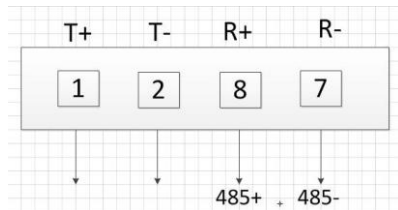
Pointer	Functions	
	RS 232	RS 485
1	DTR OUT	RS485_TX+
2	DSR OUT	RS485_TX-
3	TXD OUT	NC
4	GND	GND
5	RXD OUT	NC
6	GND	GND
7	NC	RS485_RX-
8	NC	RS485_RX+

Camera

- 1. DTR IN
- 2. DSR IN
- 3. TXD IN
- 4. GND
- 5. RXD IN
- 6. GND
- 7. IR OUT
- 8. N.C.



**RS-485 connection**

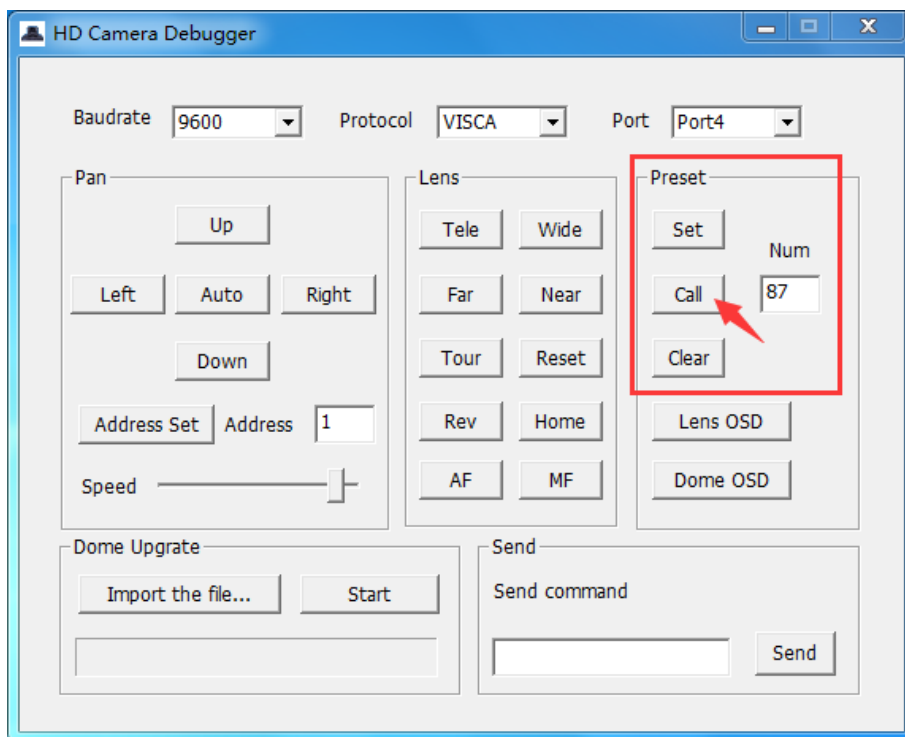


## OSD Menu Introduction

### L Series

► **L Series models don't have OSD MENU**, you can call Special Presets to modify the address code and other parameters through "HD Camera Debugger" software.

Please see Page 12 "**Special Preset Instruction**" for more preset position numbers information.

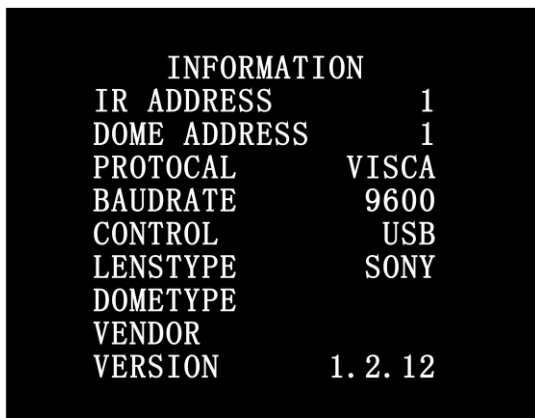


## H Series

### Self-Testing Menu

The Self-testing menu display current camera info, and you can press “DOME OSD” on remote control to adjust parameter.

Self-testing menu on screen after power on, and it will disappear once completed self-testing movement.



- ▶ **IR ADDRESS:** Display current IR Address controlled by remote control
- ▶ **DOME ADDRESS:** Display current address code
- ▶ **PROTOCOL:** Display current control protocol
- ▶ **BUADRATE:** Display current baud rate
- ▶ **CONTROL:** Display control type
- ▶ **LENS TYPE:** Camera lens type
- ▶ **DOMETYPE:** Camera model info
- ▶ **VENDER:** Manufacturer
- ▶ **VERSION:** Firmware version info

### DOME OSD

Press the “DOME OSD” button on the remote control to log in DOME OSD as follow.

Press again same button to log-off OSD Menu.





&BL	OFF
SATURATION	9
SHARPNESS	3
NR	OFF
WB	AUTO
RGAIN	76
BGAIN	82
AE	AUTO
SHUTTER	1/180
IRIS	FIXED
BRIGHT	8

### LENS OSD Menu

- ▶ **BL:** Backlight, optional OFF / ON, effective immediately.
- ▶ **SATURATION:** Saturability, optional range 0-15, effective immediately.
- ▶ **SHARPNESS:** Acutance, optional range 0-15, effective immediately.
- ▶ **NR:** Noise reduction, optional OFF / AUTO / 1-4, effective immediately.
- ▶ **WB:** White balance, optional AUTO/INDOOR/OUTDOOR/ONEPUSH/ATW/MANUAL.
  - RGAIN:** Red signal, optional 0-255, WB only takes effect under MANUAL mode.
  - BGAIN:** Blue signal, optional 0-255, WB only takes effect under MANUAL mode.
- ▶ **AE:** Exposure, optional AUTO/ MANUAL, effective immediately.
  - SHUTTER:** Shutter speed, optional 1/10000-1/60, AE only takes effect under MANUAL mode.
  - IRIS:** Iris, default FIXED, non-adjustable.
  - BRIGHT:** luminance, optional 0-15, effective immediately.

### Notes:

1. No Pan/Tilt movement function while OSD Menu on screen.
2. Address code, protocol, baud rate, preset freezing, preset memory function does not changes after Reset of remote control.
3. SHUTTER can only be adjusted if it is selected as MANUAL in the AE menu.
4. RGAIN, BGAIN can only be adjusted when selected as MANUAL in the WB menu.



Preset Resume: Preset memory function, optional Off/30/60/90

Back: Back to previous menu

► **Information**

Version: Firmware version info

Model: Camera model info

Date: Firmware version date

► **Language**

Choose OSD menu language, optional English/Chinese, effective immediately.

► **Exit**

Log-off OSD Menu.

## LENS OSD

Press the “LENS OSD” button on the remote control to log in LENS OSD as follow.

Press again same button to log-off OSD Menu.



### LENS OSD Menu

► **Exposure**

Brightness: Optional 0-255, effective immediately.

Backlight: Optional Off / On, effective immediately.

AE: Exposure, optional Auto/ Shutter, effective immediately.

Shutter: Shutter speed, optional 1/10000-1/25, AE only takes effect under MANUAL mode.

Flicker: Anti-flicker adjustment, optional 50 Hz / 60 Hz, effective immediately.

Back: Back to previous menu

#### ► **Color**

Hue: Optional 0-100, effective immediately.

Saturation: Optional 0-100, effective immediately.

Sharpness: Optional 0-127, effective immediately.

WB: White balance, optional Auto/Manual.

Color Temp: Optional 1500-15000, effective immediately.

Back: Back to previous menu

#### ► **Image**

Image Flip: Optional Off/All/Flip/Mirror

Frame: Optional 30/25

Image Mode: Optional Normal/Clear/Bright/Beauty

Back: Back to previous menu

#### ► **Information**

Version: Firmware version info

Model: Camera model info

Date: Firmware version date

#### ► **Language**

Choose OSD menu language, optional English/Chinese, effective immediately.

#### ► **Exit**

Log-off OSD Menu.

## **Notes:**

1. No Pan/Tilt movement function while OSD Menu on screen.
2. Address code, protocol, baud rate, preset freezing, preset memory function does not changes after Reset of remote control.
3. SHUTTER can only be adjusted if it is selected as MANUAL in the AE menu.
4. RGAIN, BGAIN can only be adjusted when selected as MANUAL in the WB menu.

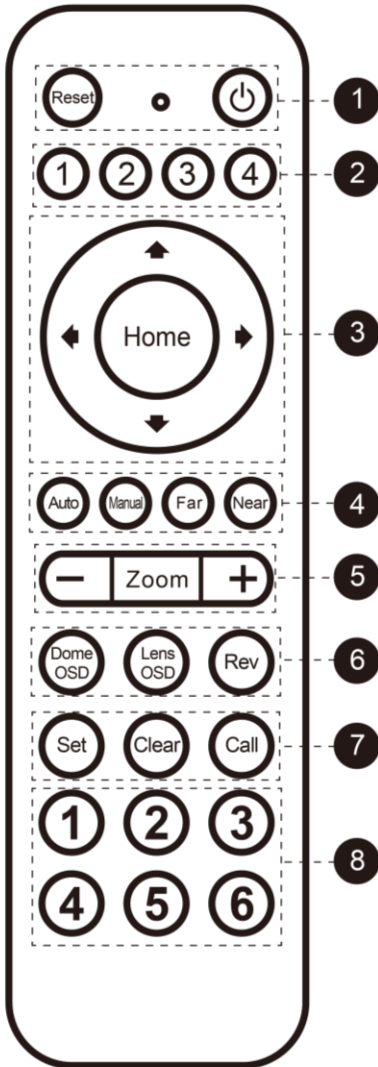
## Special Preset Instruction

Preset Position	Functions
76	Enter stand-by status
84	Starting up 30s/60s/90s save preset bits, call each time, switch once. Low end models only support 30s calls, no 60s and 90s function.
87	Switch the remote controller address code 1(default value) 2, 3, once a call, switch once.
88	Switch control protocol VISCA (default), Pelco-D, once a call, switch once.
89	Switch baud rate 9600bps(default), 38400bps, once a call, switch once.
90	Image flip / mirror image
94	Restart camera and return default settings
















Special Preset, the user can only call to realize its function and cannot set them up. In addition, it can not be called through the remote control, can only be called through control software (e.g. HD Camera Debugger), effective immediately after the call is completed.





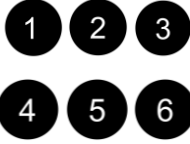
# Remote Control

## Function Description:



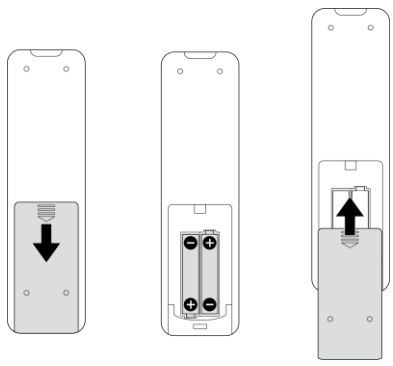
- 1) Reset / Power
- 2) Address code selection key:  
camera address code and remote control address code corresponding, can realize control. (No.4 key is reserved)
- 3) PTZ control key: control PTZ movement and return to the original position.
- 4) Focus control key: Auto / manual switch. The focal length is adjusted by manual focusing.
- 5) Zoom control key: control optical zoom lens stretch.
- 6) Menu control key: it is divided into camera menu and lens menu, and sets the parameters of camera and lens respectively.  
Rev: flip control key, control the camera flip and mirror image.
- 7) Preset position function area: after pressing the preset address, then press the control key to take effect, and it can be set, cleared and called.
- 8) Numbers key area: Preset address function

S/N	Regional	Keynote	Functions
1	Reset		Restart camera and back to default factory settings.
	Power ON/OFF		Power ON/OFF
2	Camera ID Choose		Choose camera according to your remote control ("4" is reserved key)
3	Pan/Tilt control		Move camera up-side
			Move camera down-side
			Move camera go left
			Move camera go right
			Return to the original position
4	Lens Focus adjustments		Auto focus automatically
			Manual focus
			Lens zoom in far end
			Lens zoom in Near end
5	ZOOM Control		Zoom out / in
6	OSD Menu		Login Dome OSD Menu (Press again to log-off OSD.)
			Login Lens OSD Menu (Press again to log-off OSD.)

	<b>Rev</b>		Control the camera flip and mirror image
<b>7</b>	<b>Preset position Function Area</b>		To “Set” as preset position
			To “Clear” preset position
			To “Call” preset position
<b>8</b>	<b>Numbers key area</b>		Numbers key 1 to 6 used for Presets.

**Notes:**

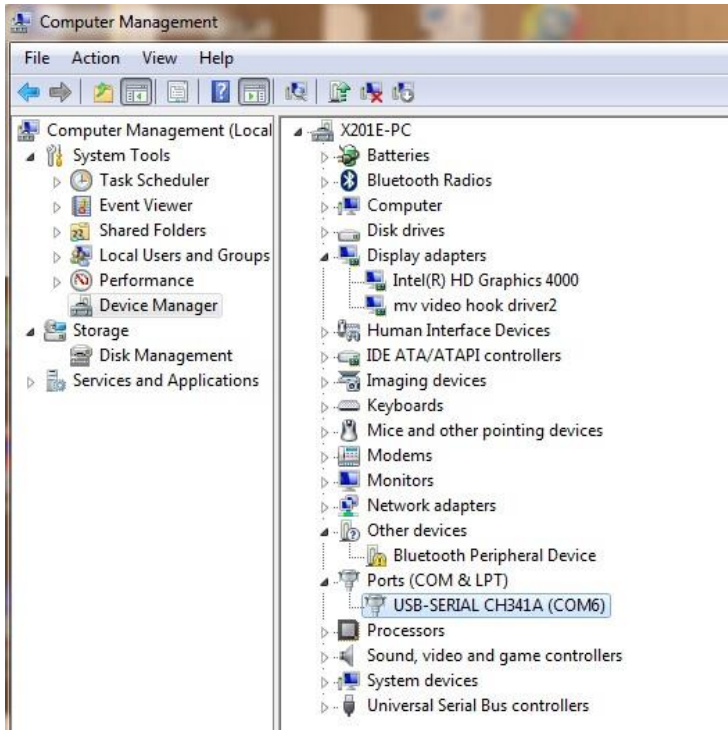
1. Fixed focus models does not support focus and zoom control.
2. If the remote control indicator is not flashing or the light is dim, please replace the remote control battery in time ( AAA\*2pcs).





## USB to RS232 Control

Install the USB to RS232 driver downloaded from the official website. After the completion, the corresponding serial port will appear. Use any control software through this serial port without RS232 cable, the user can control the camera in various control protocols, baud rate.



E.g. Computer Management->Device Manager->Ports (COM&LPT)->USB-SERIAL CH341A(COM6), COM6 is USB COM port;choose the corresponding COM port can realize USB Control to the camera.

### Notes:

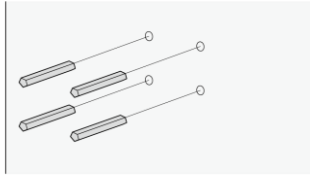
1. Check whether the USB Serial Port driver is installed in the device manager of the computer. If it is installed, users can select the corresponding serial port to control camera in the software.
2. If the control software does not support this COM port, please adjust COM port.

# Installation Instruction

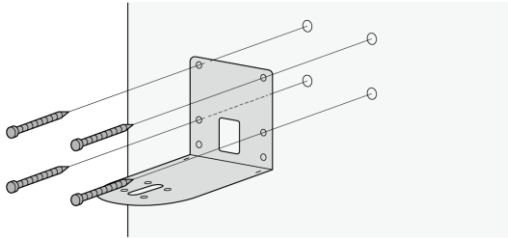
## Wall Mount kits Installation

Installation mount kits provided with camera in the package.

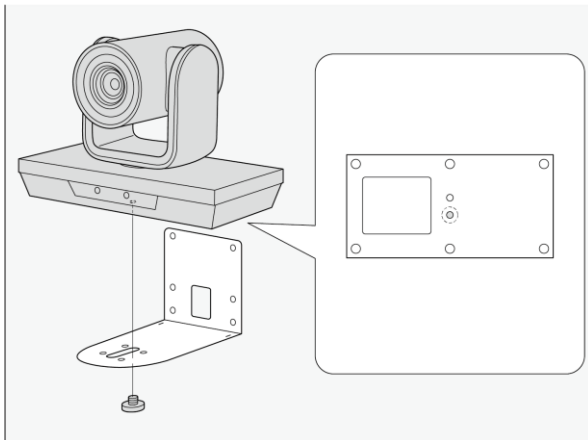
1. Position mounting holes on the wall.



2. Screw the L-bracket.



3. Screw the camera on the L-bracket.



# Specification Sheet

## L Series | H Series

Model		L Series 0x	L Series 3x	H Series 3x	H Series 10x
Image Sensor	Sensor	1/2.7" HD color CMOS		1/2.9" SONY CMOS	
	Effective Pixel	2.1 Megapixel		2.1 Megapixel	
	Min. Illumination	0.5Lux at F2.0		0.1Lux at F1.6	
	White balance	Auto		Auto/Manual/Indoor/Outdoor/ATW	
	Gain control	Auto		Auto	
	Back light	Not Support		Support	
	Electronic Shutter	Not Support		Support	
	S/N ratio	>50db		>50db	
Lens	Focus	4/6mm	f=3-10mm	f=3.3-10mm	f=4.7-47mm
	Iris	Fixed		F1.7-F3.0	F1.6-F2.5
	Zoom	Fixed	3x Optical zoom	3x Optical zoom	10x Optical zoom
	HOV	4mm: 72.5°	73°	84°	54°
6mm: 56.2°					
Video Output Interface		USB2.0 Type B			
Video Output Format		MJPEG: 1080P25, 720P30/25, 640*480, 640*360		MJPEG: 1080P30/25, 720P30/25, 640*480, 640*360	
Communication Interface		USB		USB	
Control Protocol		VISCA, PELCO-D		VISCA, PELCO-D, UVC	
Baud Rate		9600bps/38400bps			
Preset Position		64			
Speed Match		The speed can be determined according to the magnification of the lens			
OSD Menu		Not Support		Support	
Image Flip		Support		Support mirrors image, flipping	
Pan Movement Speed		1-40°/S			

<b>Tilt Movement Speed</b>	1-40°/S	
<b>Pan Rotation Angle</b>	330°	
<b>Tilt Rotation Angle</b>	Up: 30°, Down: 30°	
<b>Remote controller</b>	IR Wireless Remote controller P/T/Z	
<b>Power supply</b>	DC 12V 1A	
<b>Working Temperature</b>	0-50℃	
<b>Environment Humidity</b>	0-95% RH	
<b>LxWxH</b>	180mm×112mm×129mm	
<b>Weight</b>	500g	550g

## P Series

<b>Model</b>		<b>P Series 3x</b>	<b>P Series 10x</b>
<b>Image Sensor</b>	<b>Sensor</b>	1/2.8" SONY CMOS	
	<b>Effective Pixel</b>	2.1 Megapixel	
	<b>White Balance</b>	Auto/Manual	
	<b>Backlight Compensation</b>	Support	
	<b>Focal Length</b>	f=3.3-10mm	f=4.7-47mm
<b>Lens</b>	<b>Focus</b>	Auto Focusing	
	<b>Iris</b>	F1.7-F3.0	F1.6-F2.5
	<b>Zoom</b>	3x Optical	10x Optical
	<b>HOV</b>	84°	62°
	<b>Video Output Interface</b>	USB 2.0 Type B	
<b>Power Supply</b>	Single USB2.0 Cable Power supply or DC 12V Charger optional		
<b>Video Output Format</b>	MJPEG:1080P@30/25fps, 720P@30/25fps, 800*600, 640*360 H264:1080P@30/25fps, 720P@30/25fps, 800*600, 640*360 YUY2: 720P@10fps,360P@30fps		
<b>Communication Protocol</b>	VISCA, PELCO-D, UVC1.5		
<b>Macro Focus</b>	Support, minimum distance 12cm	N/A	

<b>Baud Rate</b>	2400bps/4800bps/9600bps/38400bps	
<b>Preset Position</b>	64	
<b>Touring Line</b>	4 cruise Sequence	
<b>OSD Menu</b>	Support	
<b>Image Flip</b>	Support Image Flip/Mirror	
<b>Pan Movement Speed</b>	330°, 1-24°/s	
<b>Tilt Movement Speed</b>	-30°~ +30°, 1-24°/s	
<b>Remote Controller</b>	IR Wireless Remote Controller P/T/Z	
<b>Work Temperature</b>	0-50°C	
<b>Work Humidity</b>	0-95%RH	
<b>Dimension</b>	180mm*112mm*129mm	
<b>Weight</b>	520g	550g

## Troubleshooting

Before bringing in your camera for service, check the following as a guide to troubleshoot the problem. If the problem cannot be corrected, please consult with your dealer.

Symptom	Cause	Solutions
The power indicator of the camera is not on.	The supplied DC 12V charger is not connected to the power socket firmly.	Reconnect the charger.
Can not recognize the USB.	The USB cable interface is not connected properly.	Reconnect the USB cable.
	Use the too long/low quality extension cable.	Use our tested USB extension cable.
Can not control the pan, tilt and zoom.	It shows the OSD menu on the screen.	Press the “Dome OSD” or “Lens OSD” to exit the OSD menu.
	Protocol or baud rate do not match.	Double check the protocol and baud rate.
The remote control does not work.	The address on the remote control does not match the IR address of the camera	Press the address 1-3 to match the corresponding IR address of the camera
	Used out of battery	Change new batteries.(AAA x 2)
	Strong IR signal interference in the use environment.	Change the use environment or turn off the IR signal interference source.
Can not control the camera by VISCA on the computer.	The parameters of the computer do not match the camera’s.	Double check the protocol and baud rate.