



IPSC-01

EVERY LITTLE LIGHT FOR SAFETY
Intelligent Pedestrian System Camera

Contents

Contents.....	2
1 Scope.....	3
2 Products Description.....	3
2.1 Brief Description.....	3
2.2 Features.....	3
2.3 Specifications-camera.....	3
3 Installation.....	4
4 Operations.....	7
4.1 Tools.....	7
4.2 Preparation.....	7
4.3 Adjust Camera Quality.....	8
4.4 Adjust Camera Configuration.....	9
4.5 Intelligent Pedestrian System Operation Test.....	13
5 Q&A.....	13

1 Scope

This specification covers the detailed Specification and Performance for the following products listed at below:

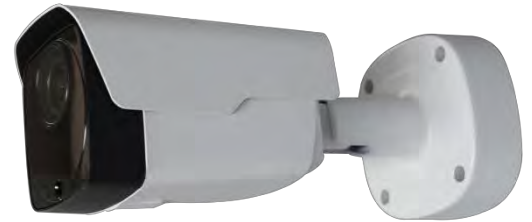
2 Products Description

2.1 Brief Description

- The intelligent pedestrian system camera of ELLUMIN can monitor the status of pedestrians who are crossing the zebra cross, and record at the same time.
- Recommend use with the ELLUMIN intelligent pedestrian system for comprehensive monitor and targeted warning.

2.2 Features

- 2.2.1 Avoid mistakenly alarm caused by non-set target.
- 2.2.2 Avoid mistakenly alarm caused by changes of environment.
- 2.2.3 Avoid mistakenly alarm caused by black/white modes switch.
- 2.2.4 Support up to 4 monitoring area.



2.3 Specifications-camera

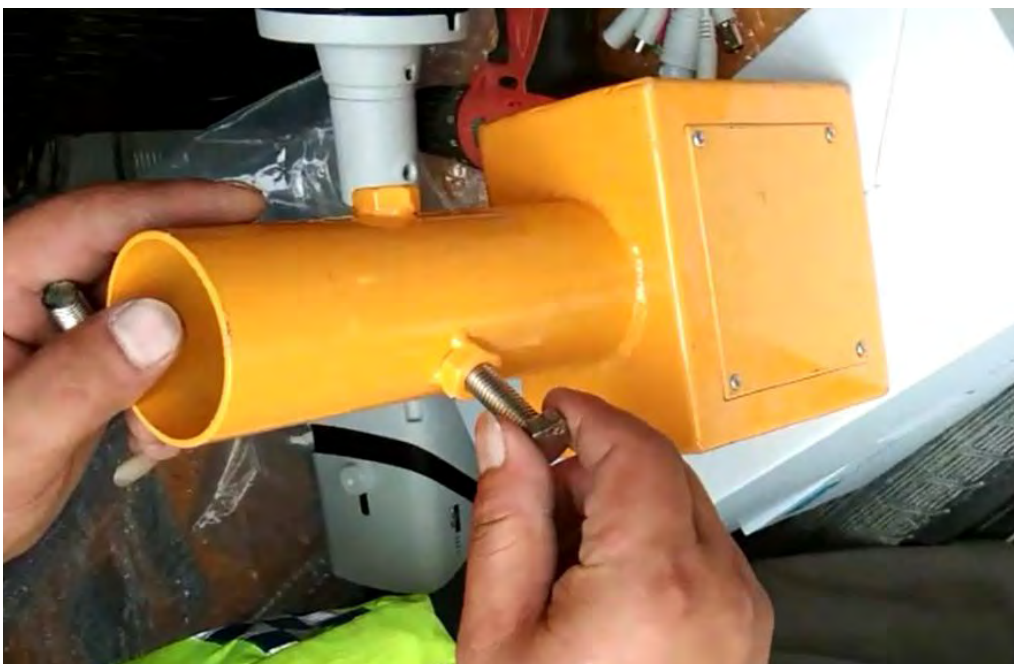
Name:	Intelligent Pedestrian System Camera IPSC-01
Algorithm:	Smart zebra cross algo
Resolution:	8MP 3840(H)×2160(V)
Sensor:	1/2.5" Progressive CMOS
Min. Illumination:	Color 0.01lux @ F1.2(AGC ON) ; B/W 0 lux @ IR ON
Shutter:	1/5 ~ 1/20000s
Slow shutter:	Support
Lens:	3.3 ~ 12mm (Motorized) H.FOV: 114 ~ 36°
F No:	F 1.4 ~ 2.8 ±5%
Day & Night:	IR cut filter with auto switch (Day/Night/Auto/Schedule)
WDR:	Digital
Video Compression:	H.265/H.264
Video bit rate:	8Kbps~8Mbps
Triple Stream:	yes
	Mainstream (1~15fps) : 8MP (3840x2160) ; 4MP(2592x1520) ; 3MP(2304x1296) ; 1080P(1920x1080) ; 720P(1280x720)
Resolution:	Substream : 1080P(1920x1080) ; 720P(1280x720) ; VGA(640x480) ; QVGA(320x240)
	Mobilestream : VGA(640x480) ; QVGA (320x240)
Image Settings:	Rotate mode, Saturation, Brightness, Contrast, Hue, Sharpness adjustable
BLC:	Support

PRODUCT SPECIFICATION

ROI:	Support
Privacy Mask:	Support
Protocols:	TCP/IP,HTTP,DHCP,DNS,DDNS,RTP/RTSP,PPPoE,SMTP,NTP,UPnP,SNMP,HTTPS,FTP
System Compatibility:	ONVIF(Ver2.6)
Interface:	RJ45 10M / 100M Ethernet interface x1
LED:	40 pcs(SMD)
IR Range:	Up to 45m
SD storage:	Support
Alarm Trigger:	Support
Audio:	Support
Video Output:	Support
Reset Button:	Support
PoE:	Support
IP Grade:	IP66
Power Supply:	DC12V/POE
Consumption:	≤9W
Dimension:	Ø88 x 242mm
Weight:	appr. 881g
Storage Temperature:	-30 ~ +60°C
Operating Temperature:	-30 ~ +55°C

3 Installation

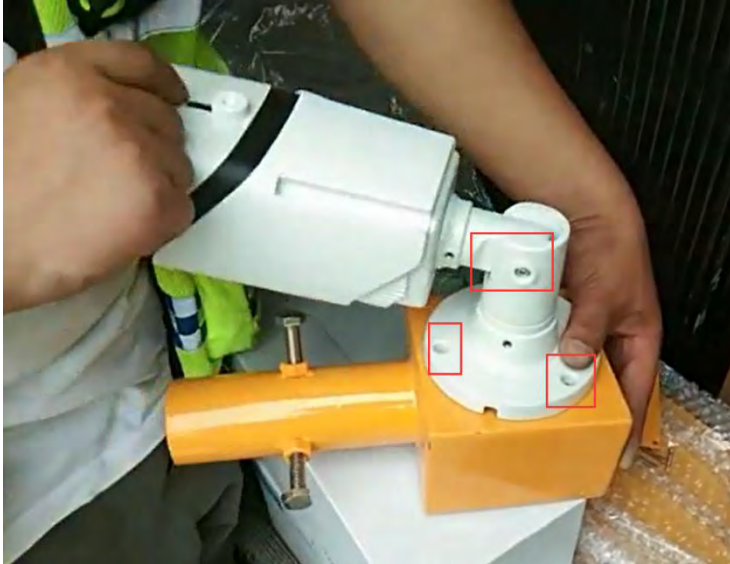
3.1 Fix four bolts to the camera box(Note: Do not tighten the bolts for adjusting the horizontal direction of the camera)



3.2 Use the screwdriver to twist off the screws. Then removing the back plate of camera box.



3.3 Place the camera wire inner to the camera box, then use the small allen key to loose the components of camera. Install the camera vertically on the camera box and secure it with four bolts.

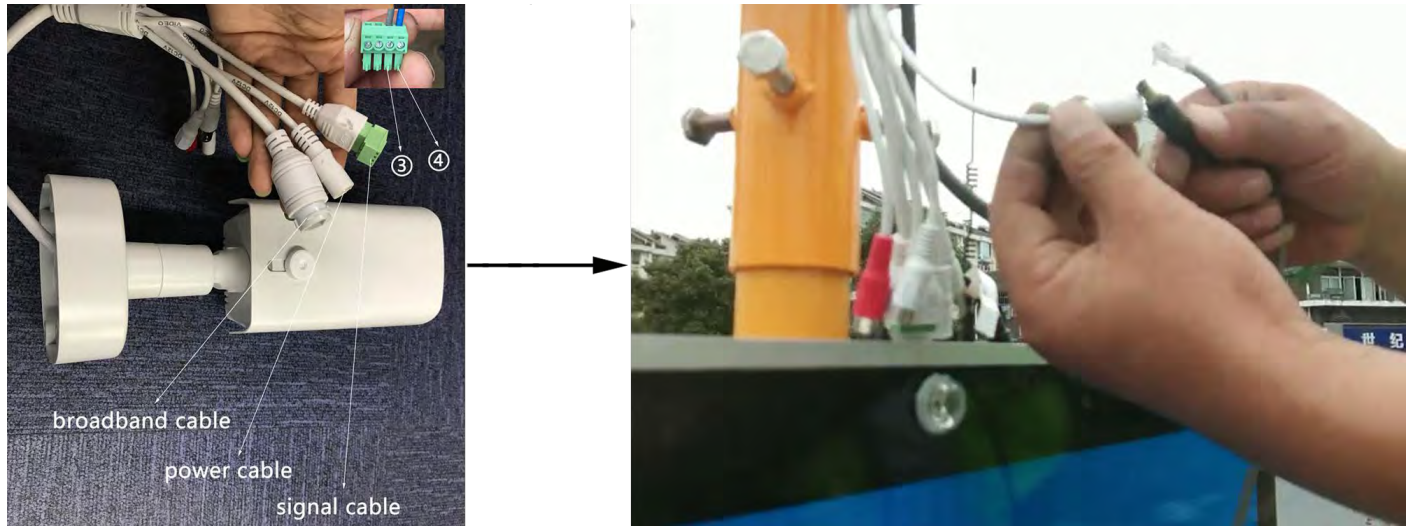


3.4 Pass the wire of pedestrian intelligent integrated bollard through the pipe of camera box and arrange it, then place the camera box on the pedestrian intelligent integrated bollard and secure it with four bolts after adjusting the camera toward the zebra crossing.



PRODUCT SPECIFICATION

3.5 Connect the power cable and signal cable of the pedestrian intelligent integrated bollard to the power cable and signal cable interface ③④ of the camera as shown below:



3.6 Connect the camera and computer by a broadband cable, then use a computer to adjust camera quality and camera configuration.

(Note: Check whether the camera shooting area on the screen covers the entire zebra crossing and conforms to the algorithm configuration condition. If the above conditions are not met, the camera needs to adjust horizontally and vertically.)



3.7 After the test is completed, unplug the broadband cable, then secure the camera box's back plate with four screws to finish the installation.



4 Operations

Notice: The results of algorithm are based on the tools and methods mentioned in this document. Other tools and methods, like inner web page algorithms, cannot get proper result.

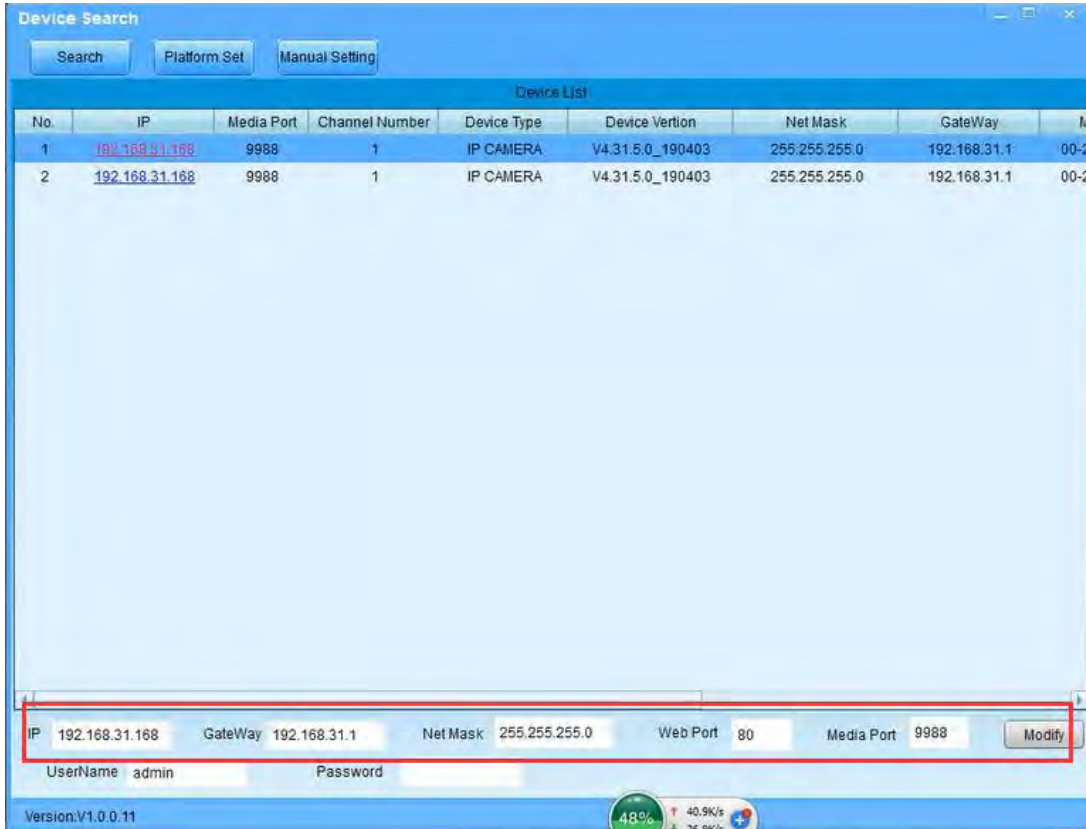
4.1 Tools

Computer. Modify the IP address according with your network.
Software. LiveSettingTool, DeviceSearch, SurveillancePlugin

4.2 Preparation

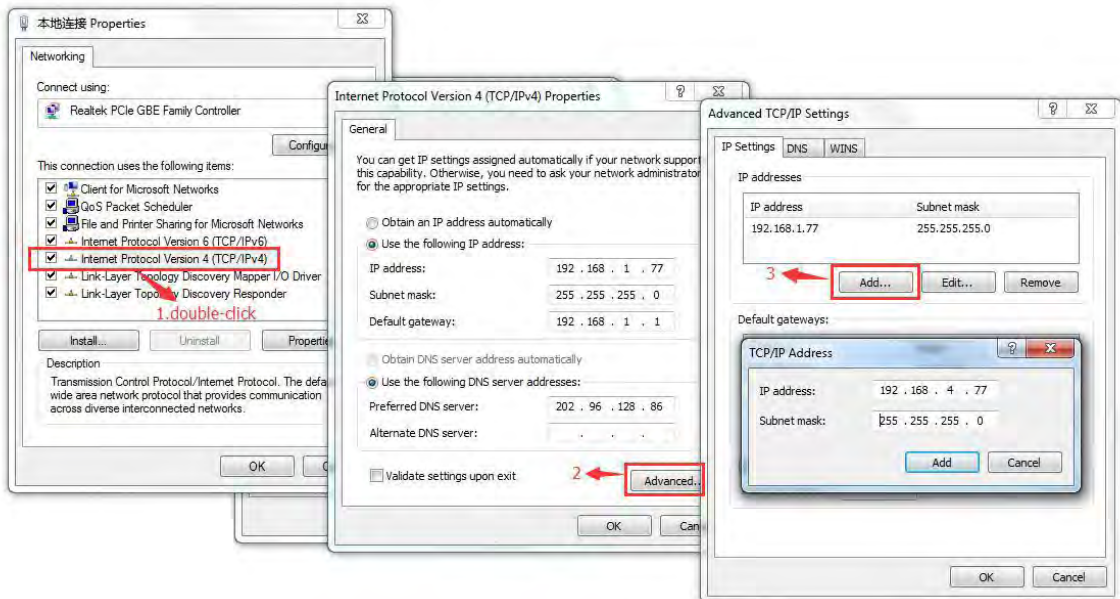
4.2.1 Connect the camera to the computer with a broadband cable

4.2.2 Use DeviceSearch to determine the camera IP address



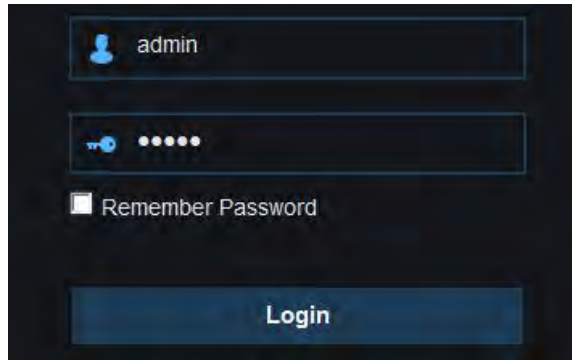
4.2.3 Modify the computer IP address and camera IP address to the same LAN segment

(Note: the computer default gateway, the subnet mask should be consistent with the camera; the last segment of the IP address of the computer and the camera should be different)



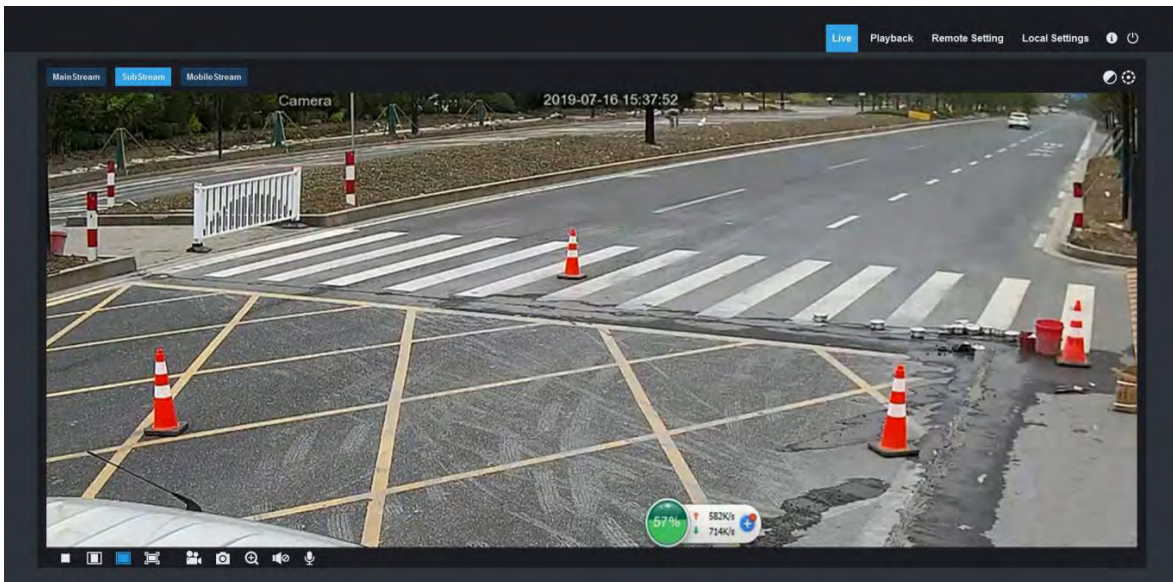
4.3 Adjust Camera Quality

- ① Before using IE (Internet Explorer) browser to access the IP camera for the first time, related SurveillancePlugin plug-in components must be installed.
- ② Operate IE and enter the IP address of the camera to open a login box as shown below (your user name & password is admin by default) (Note : You can modify your user name & password by DeviceSearch tool)

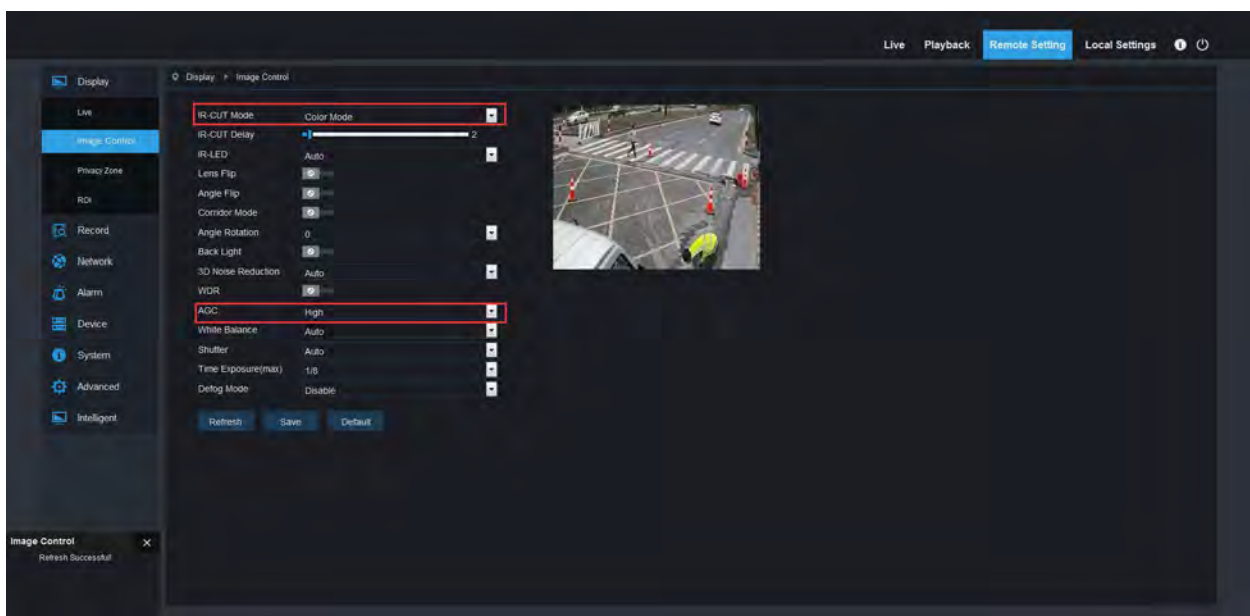


- 4.3.2 ① Open a preview frame as shown below, check whether the camera shooting area on the screen covers the entire zebra crossing and conforms to the algorithm configuration condition. If the above conditions are not met, the camera needs to adjust horizontally and vertically

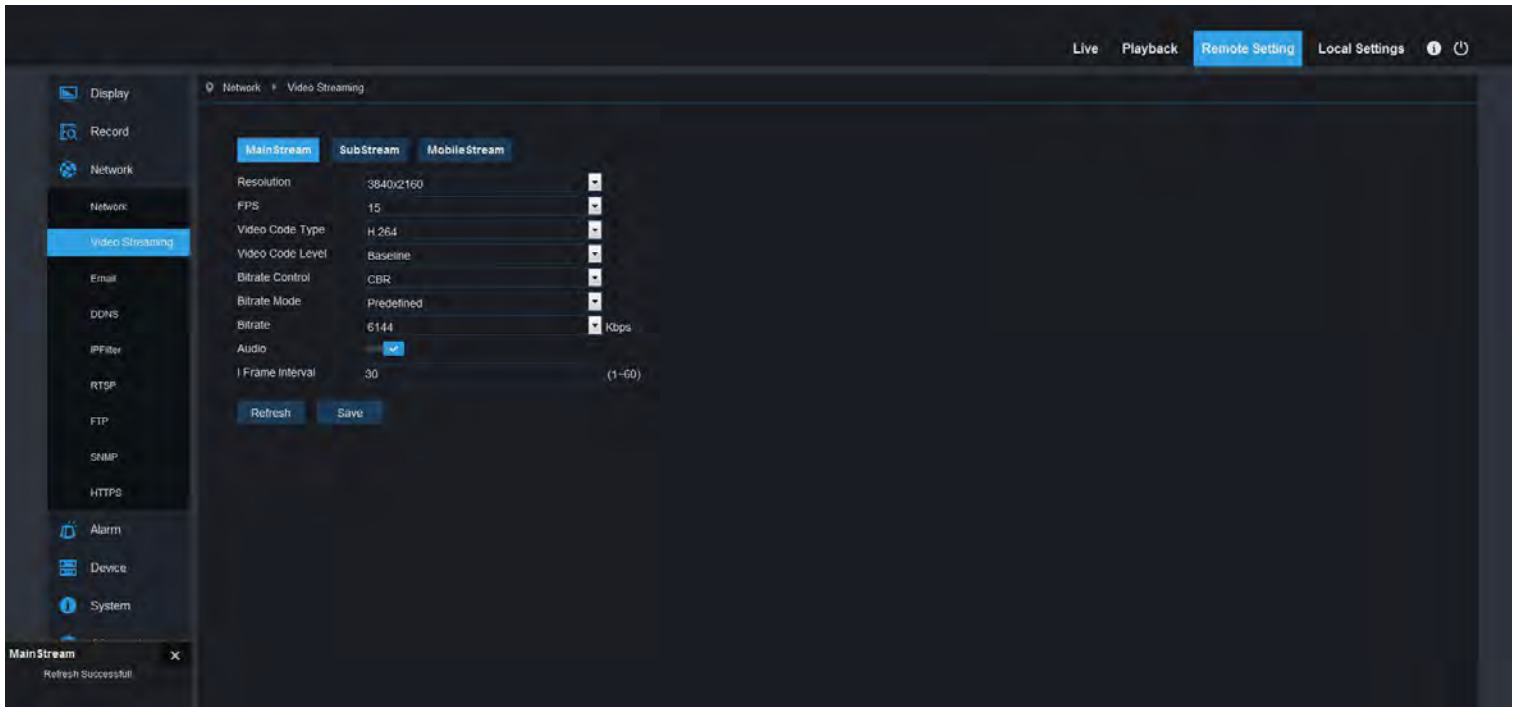
- ② Start adjusting camera quality after meeting the condition



- Click Remote Setting-Display-Image Control- Ensuring the IR-CUT mode is “color mode”, the AGC is High

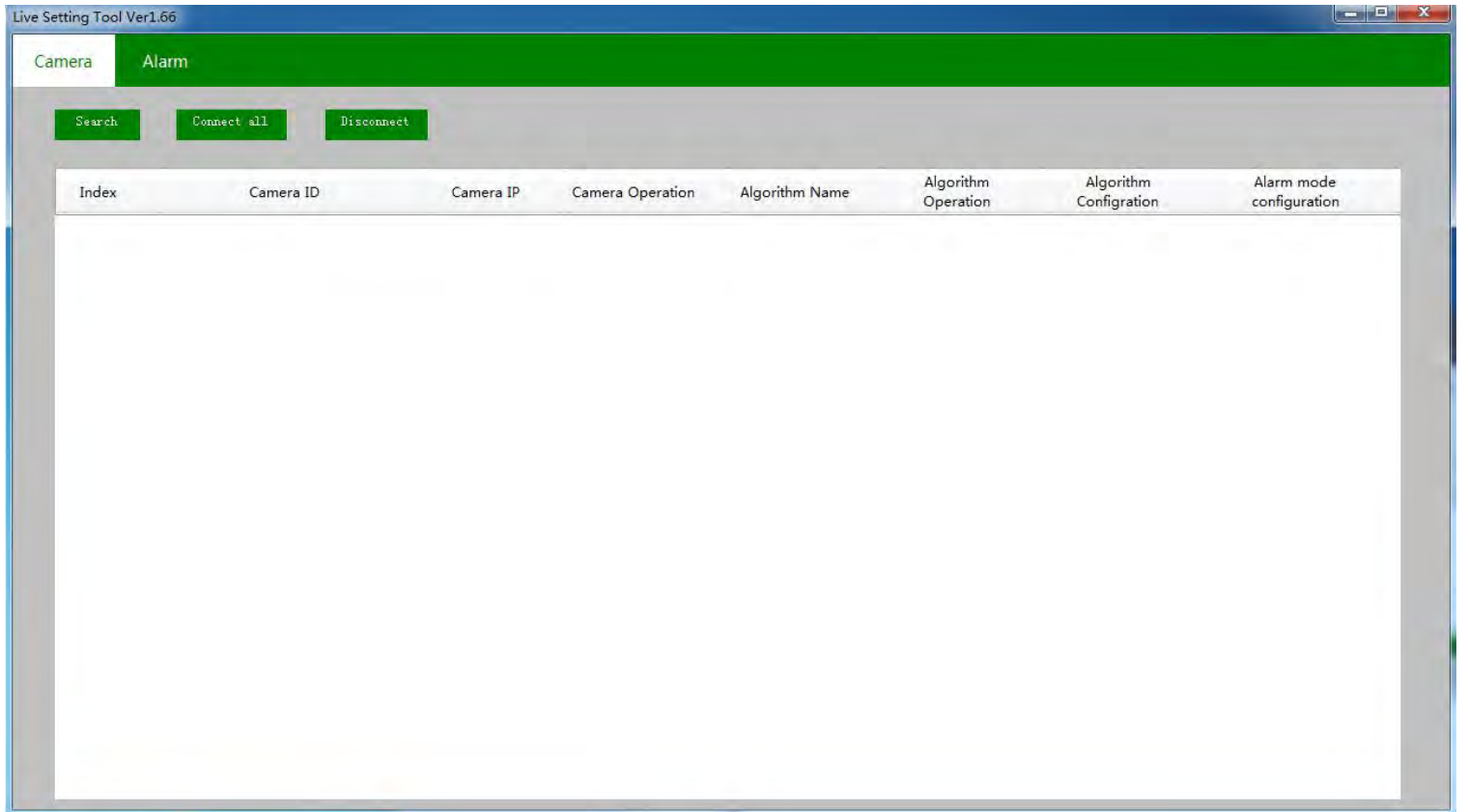


- Click Remote Setting-Network-Video Streaming-modify the Video Code Type as H.264



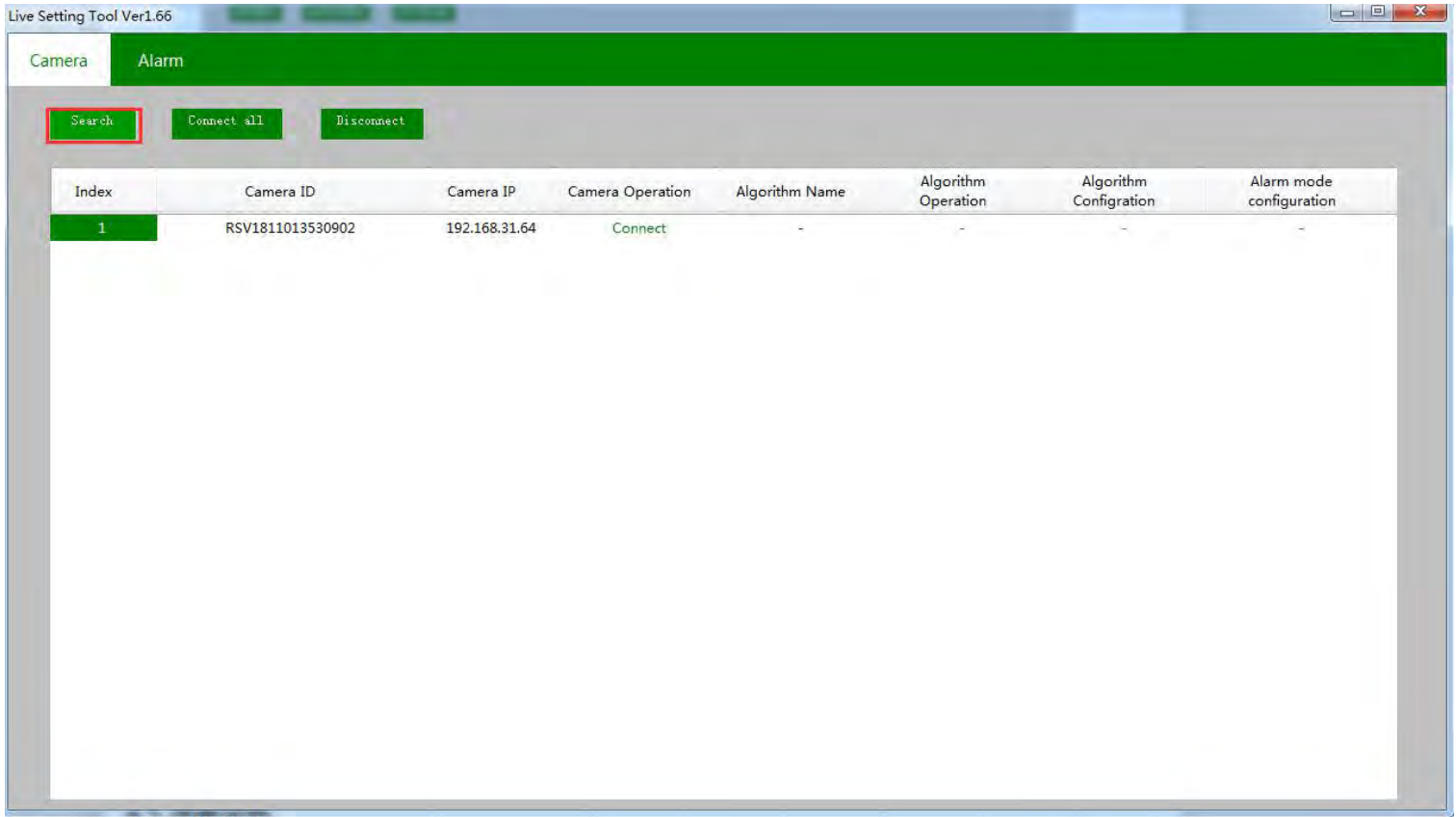
4.4 Adjust Camera Configuration

4.4.1 Run the Livesettingtool. The livesettingtool is the only software which can configuring and testing the algo.

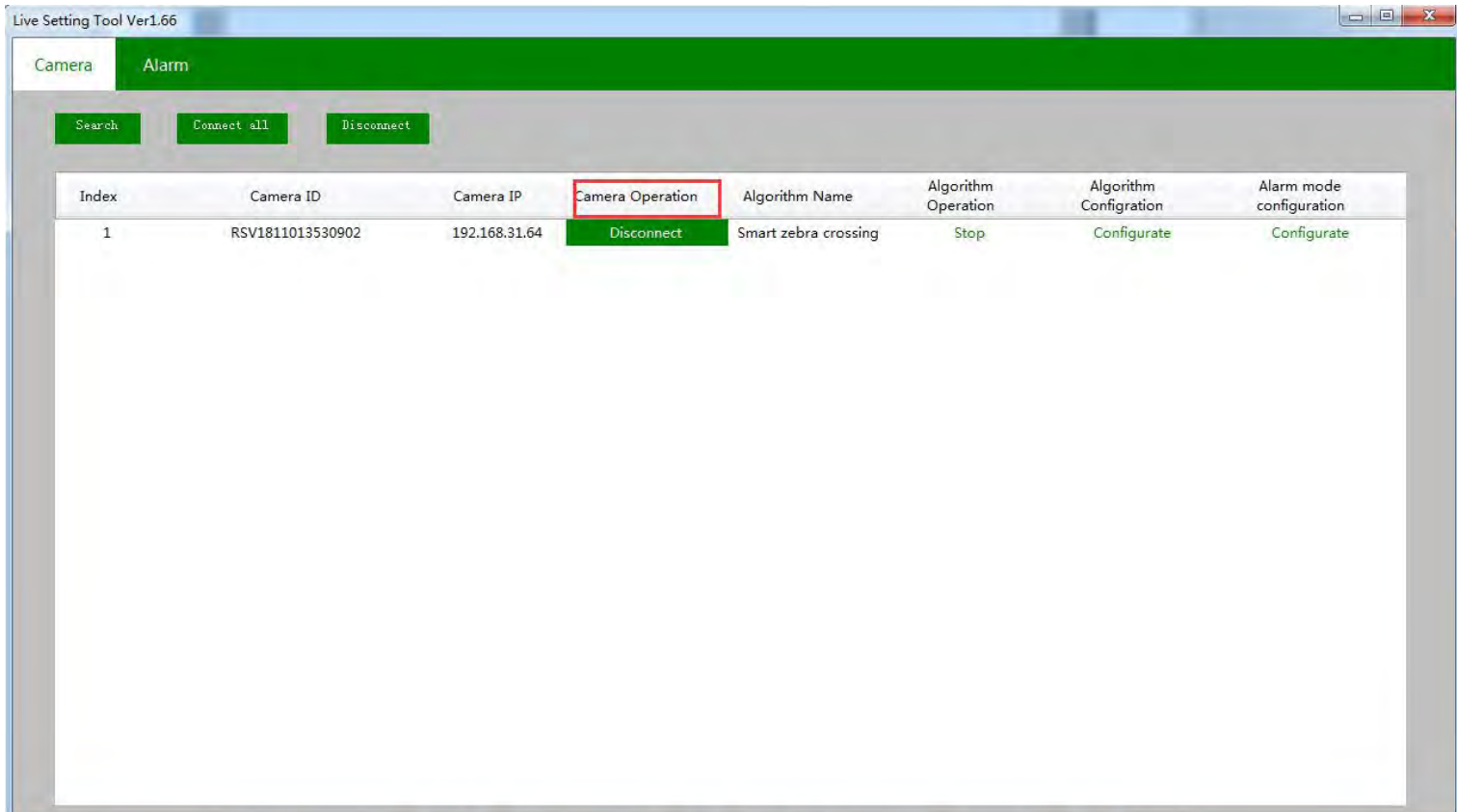


PRODUCT SPECIFICATION

4.4.2 Click search button to find the camera. The camera will be listed in the windows.



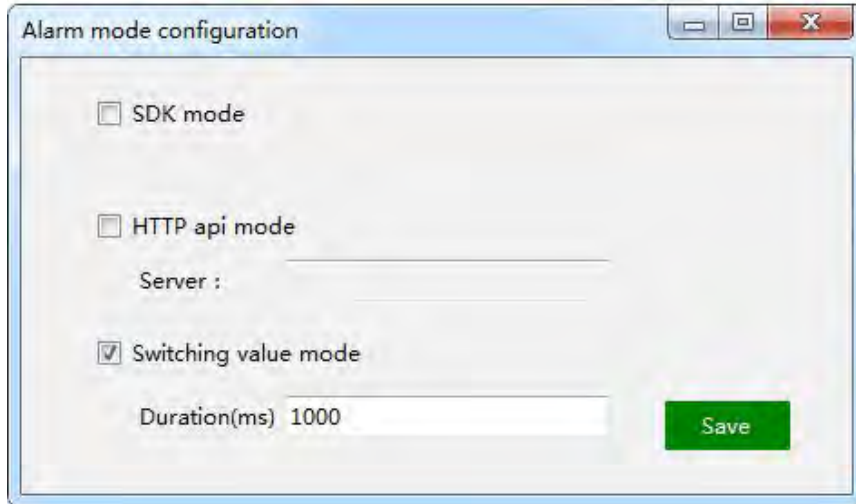
4.4.3 Click the connect all button or connect button in the row of camera list to connect the camera.



4.4.4 Alarm mode configuration

Select the switching value mode for triggering the warning equipment when the intelligent pedestrian system is activated.

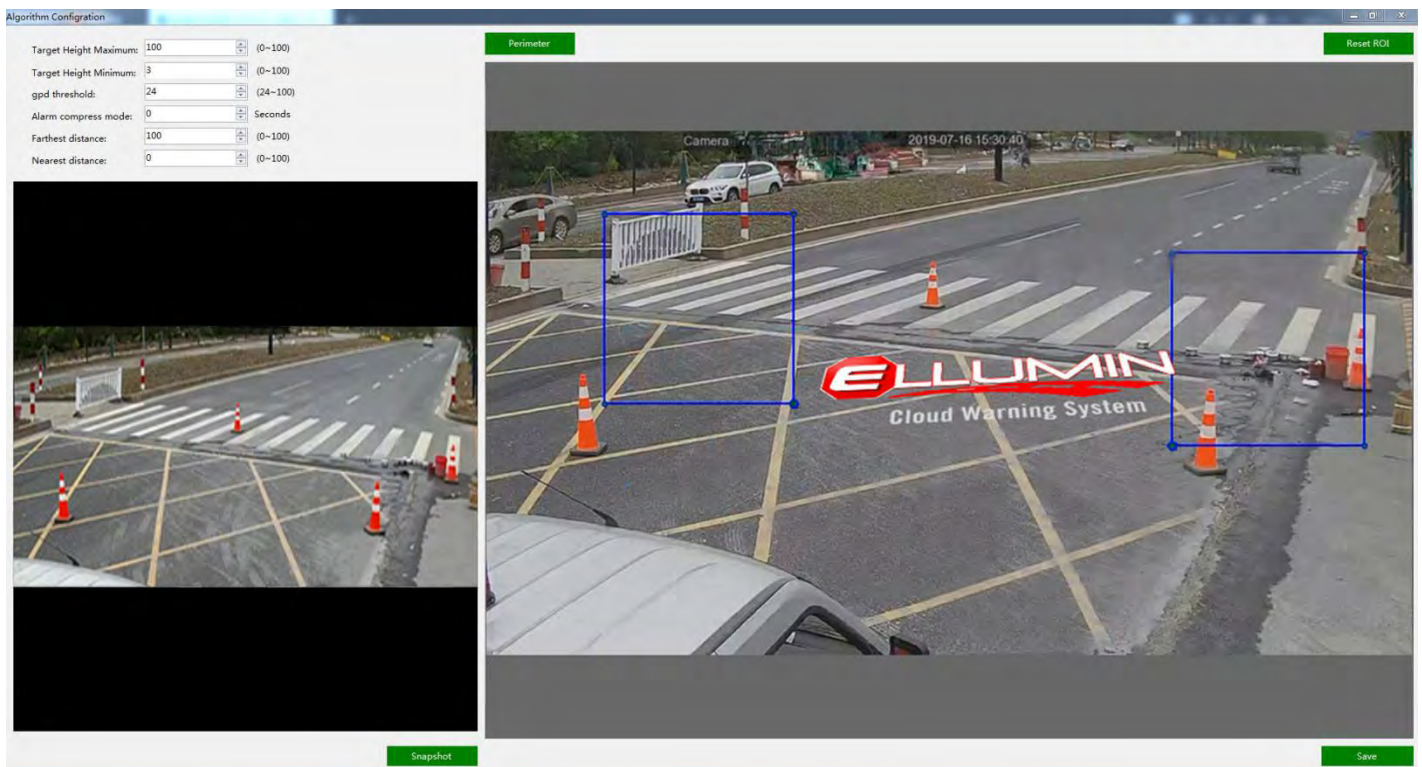
- ① Please double-click the "Configuration" of the corresponding camera under the "Alarm Mode Configuration" field to do alarm mode configuration.
- ② Please select switching value mode.
- ③ The duration of switching value can adjust to any value, and the default is 1000ms.



4.4.5 Algorithm configuration

The customer can set the effective detection area (set ROI) through the algorithm configuration, for activating the intelligent pedestrian system in real time when a pedestrian enters the detection area.

- ① Double-click the "Configuration" of the corresponding camera under the "Algorithm Configuration" field to configure the intelligent pedestrian system camera.
 - ② In the "Algorithm Configuration" window you can set the detection area (Set ROI) at the entrance and exit of the zebra crossing for monitoring the pedestrians who will cross the crosswalk.
 - ③ After completing the set, click the "Save" button to save the algorithm.
- (Note: the default parameters in the upper left corner do not need to be modified)



- Set Detection Area(Set ROI)

This parameter is used to set the detection area.

Notice: the number of ROI will increase the time consumption of algorithm, so please use as few ROI cover the real detection area as possible

- Before framing the detection area, please confirm that the real-time video on the left side is normal, then click the "Snapshot" button to generate a snapshot of the current scene in the right window.

- For the first snapshot, a square ROI appears in the right window. If the user wants to generate more ROIs, you need to double-click the left mouse button in the right window to add. (Support up to 4 Square ROIs.)

- Click the right mouse button to delete the ROI

- Support adjusting the size and the location of the ROI.

-Set Target

(Note:There is no need to modify the below 7 default parameters,unlesee there is a lot mistaken warning)

①Type of setting targets

This algorithm can detect person, motorcycle and bike on default and cannot be changed.

②Target height upper limit

This parameter is for filtering some false alarm caused by very high objects. This parameter is defined by percentage of the height of target outer rectangle in the height of overall scenario. For example, if there is a false alarm caused by a very high object in the scene, the height of this object about 90% or higher, you can set this parameter lower than 90%, then the false alarm caused by this object will be filtered. You need to adjust this parameter onsite, but a very small value is not recommended, because a very small value may filter some real target.

Default 100%, scope 0-100%.

③Target height lower limit

This parameter is for filtering some false alarm caused by very low objects. This parameter is defined by percentage of the height of target outer rectangle in the height of overall scenario. For example, if there is a false alarm caused by a very low object in the scene, the height of this object about 10% or lower, you can set this parameter higher than 10%, then the false alarm caused by this object will be filtered. You need to adjust this parameter onsite, but a very big value is not recommended, because a very big value may filter some real target.

Default 3%, scope 0-100%.

④GPD threshold

This parameter is for filtering some false alarm caused by very low degree of confidence objects. This parameter is defined by percentage of the similarity of target to the algorithm. For example, if there is a false alarm caused by a road pile in the scene, the degree of confidence of this object about 0.345(34.5%), you can set this parameter higher than 0.345(34.5%), then the false alarm caused by this object will be filtered. You need to adjust this parameter onsite, but a very big value is not recommended, because a very big value may filter some real target.

Default 24%, scope 24-100%.

⑤Alarm compress mode

The compress mode means that:

- When the value of text input box is 0,the camera will continuously generate alarms from target appearing to target disappearing.

- When the value of text input box is not 0, the camera will generate only one alarm during the interval when find target and will generate another alarm after the interval if the target still exists.

⑥Far-side distance

This parameter is for filtering some false alarm caused by some person enters the ROI in the far-side occasionally. It is defined by percentage of the distance between lower side of outer rectangle of target and lower side of ROI in the height of ROI.

Default 100%, scope 0-100%.

⑦Near-side distance

This parameter is for filtering some false alarm caused by some person enters the ROI in the near-side occasionally. It is defined by percentage of the distance between top side of outer rectangle of target and lower side of ROI in the height of ROI.

Default 0%, scope 0-100%.

4.5 Intelligent Pedestrian System Operation Test

- ①After all the algorithm configuration adjustments are completed, we should simulate the condition of pedestrians crossing the crosswalk to determine the effective operation of the intelligent pedestrian system.
- ②After the test is completed,unplug the broadband cable,then secure the camera box's back plate with four screws to finish the installation.

5 Q&A

Serial	Q	A
1	Cannot log in web page	1.Check the camera IP 2.Install plug-in correctly 3.Use correct web browser, support IE kernel browser, like IE,QQ,360, etc or lower edition of firefox and chrome.
2	No Switching value output	1.Confirm wiring properly, pin 3 and4 are for output 2.Select hardware alarm mode
3	Cannot find camera with LivesettingTool	1.Make sure that the network segment of pc and camera are same. 2.Connect camera with cable, not wifi. 3.Disable all other network CARDS except wired ones, including virtual ones. 4.Please make sure the camera can connect to internet to obtain license from our cloud server, the DNS should be correct.