BINOCULAR PEOPLE FLOW COUNTER TERMINAL
PRODUCT INSTRUCTIONS

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Contents

Chapter 1 Product Introduction..... 3
1.1 product description..... 3
1.2 Features..... 3
1.3 Passenger flow information definition..... 4
Chapter 2 Product Specifications.....5
2.1 Performance parameter..... 5
2.2 Passenger flow parameters..... 6
Chapter 3 Introduction to Applicable Scenarios..... 9
3.1 Lighting conditions.....9
3.2 Surroundings.....9
Chapter IV Product Working Requirements.....10
4.1 Power requirements.....10
4.2 Storage and working environment requirements..... 10
4.3 Camera connector.....10

Chapter 1 Product Introduction

1.1 product description

The binocular passenger flow statistics product obtains 3D depth information in real time through the binocular stereo vision AI sensor. Based on the head and shoulder feature algorithm, it recognizes the head and shoulder features in the complex scene, and realizes accurate passenger flow statistics through the human body tracking algorithm. It can be widely used in shopping malls, retail stores, libraries, buildings, public transportation and other scenes that require human flow statistics.

1.2 Features

1. High statistical accuracy:
• Based on leading binocular stereo vision technology, get rid of the limitation of traditional 2D passenger flow technology that is easily affected by light and scene;
• The accuracy rate can reach 95% when the street is exposed to direct sunlight;
• Normal indoor lighting environment, the accuracy rate exceeds 98%;
• A large number of acquisition and debugging to ensure that the product will not be miscounted in various scenarios.

2.Large coverage:
• The binocular passenger flow statistics equipment has a large field of view of 100°, and the coverage is wider;
• 3.7m installation height can cover 4.5m width;

3.Network intelligent equipment:
• The binocular passenger flow statistics device has edge computing capabilities, which can complete the passenger flow statistics calculation locally on the device and directly output the passenger flow data, with low network bandwidth requirements;
• Real-time output of passenger flow statistics to meet the needs of real-time collection and monitoring;
• Support flash offline storage, no need to worry about the occurrence of network disconnection;
• Support two modes of static IP and DHCP, which can be deployed flexibly;

4.Support wireless WI-FI connection
• Support wireless WI-FI connection, get rid of the difficulty of integrated wiring;

1.3 Passenger flow information definition

Enter:
In the statistical area, enter the detection area from the direction of entry, walk out of the detection area after crossing the detection line, and count as entering.
Go away:
In the statistical area, entering the detection area from the opposite direction of entering, and walking out of the detection area after crossing the detection line is counted as leaving.
Through :
In the statistical area, entering the detection area from the entering direction, not leaving the detecting area, leaving the detecting area from the entering direction area, is counted as passing.

Turn back:
In the statistical area, entering the detection area from the opposite direction of entering, not leaving the detection area, and leaving the detection area from the area entering the opposite direction is counted as a turnback.

Resident:
Refers to the number of people staying in the current passenger flow detection area in real time;

Length of stay:
The length of time each customer stays in the inspection area.

Chapter 2 Product Specifications

2.1 Performance parameter

The performance parameters of binocular passenger flow statistics products are shown in the following table 2-1:

Table 2- 1 product performance parameter table

Visual parameters	
Field of view	Horizontal 100°，Vertical 70°
Depth map resolution	640*400@0～3.5m；1280*800@3.5m～6m
Output frame rate	640*400@25fps
Function parameter	
Accuracy	≥98%
Height range	2.2~6.0m
Coverage	1.2~5.5m
Filter height	0.5~1.2m
Technical Parameters	
power	3.2W~3.6W
supply	POE（802.3af/at）/DC12V
Networking method	Wired network /WI-FI
Addressing	Static IP / DHCP
Offline cache	90DAY
Data upload method	HTTP POST
working environment	
Operating temperature	0°C~45 °C
Working humidity	20~80 %
Storage temperature	-20°C~50 °C
Storage humidity	20~80 %
Package	
Structure size（mm）	135mm x 65mm x 39.5mm
Weight(g)	300g
Installation method	Top-mounted installation/hoisting

2.2 Passenger flow parameters

The relationship between the coverage width of the passenger flow camera and the installation height is shown in Table 2-2.

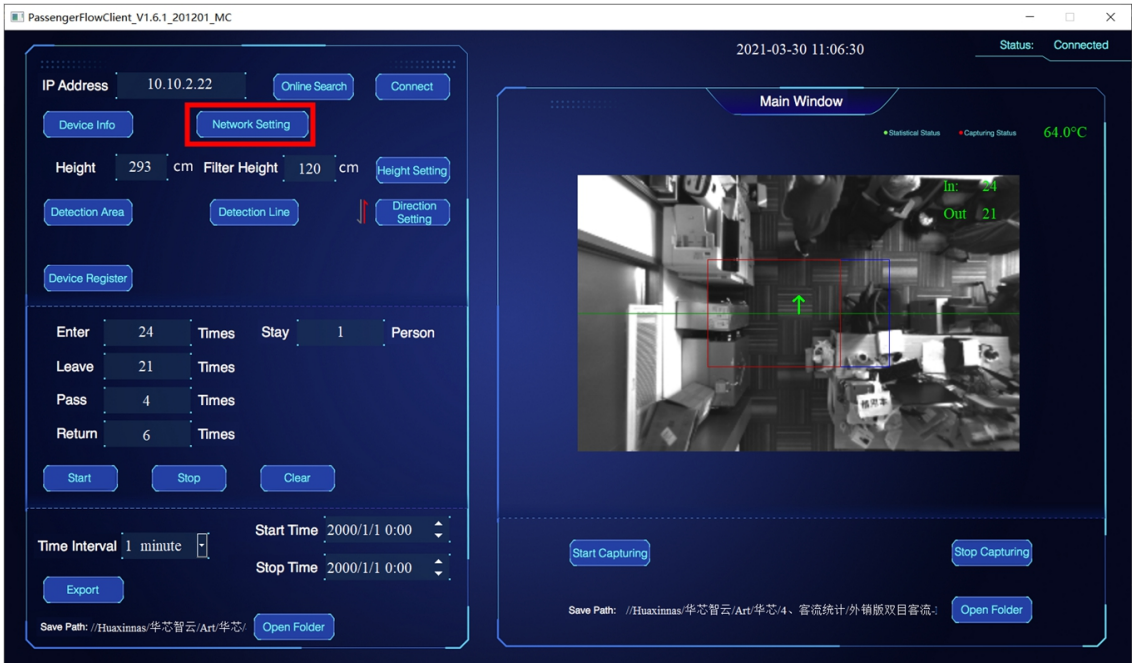
Table 2-2 Passenger flow parameters

Installation height	Cover width
2.2m	1.2m
2.5m	1.7m
3.0m	2.9m
3.5m	4.1m
4m~6m	5.5m

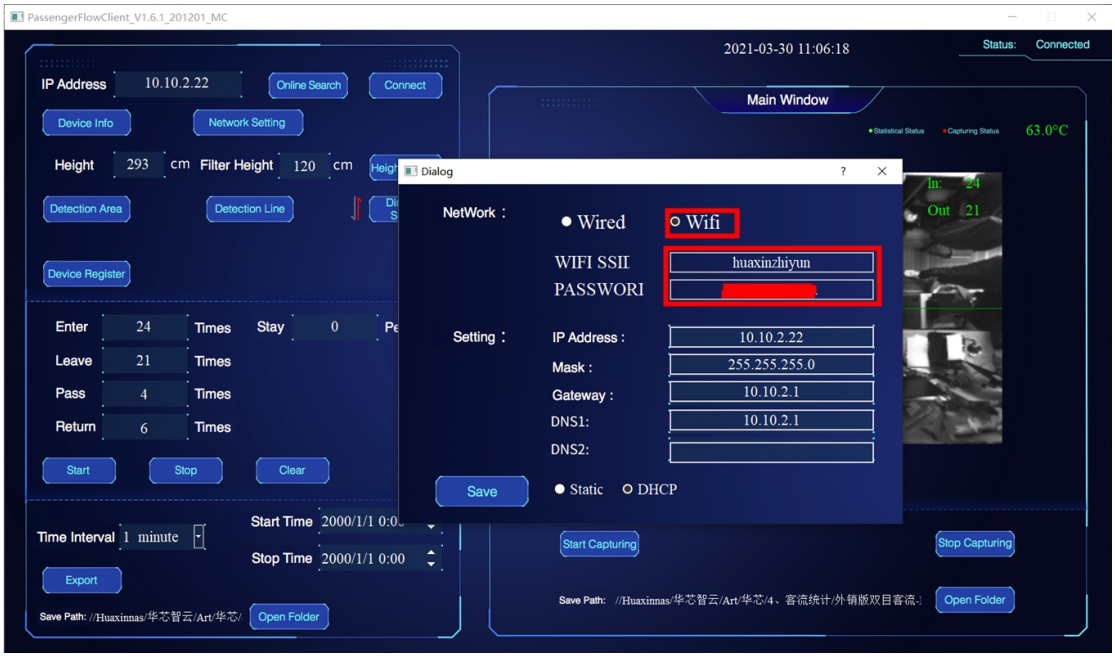
NOTE:
Please make sure that the product is normally connected to the wifi network during use, and the contact voltage is good during use. In order to have a good experience of using the product, please keep at least 20 cm.

2.3 Wi-Fi Mode Configuration Method

Configure Example
1. Refer to " 3D Binocular Passenger Flow Equipment Product Operation Manual" and connect the camera to the customer flow client via wire, as shown in the figure below:



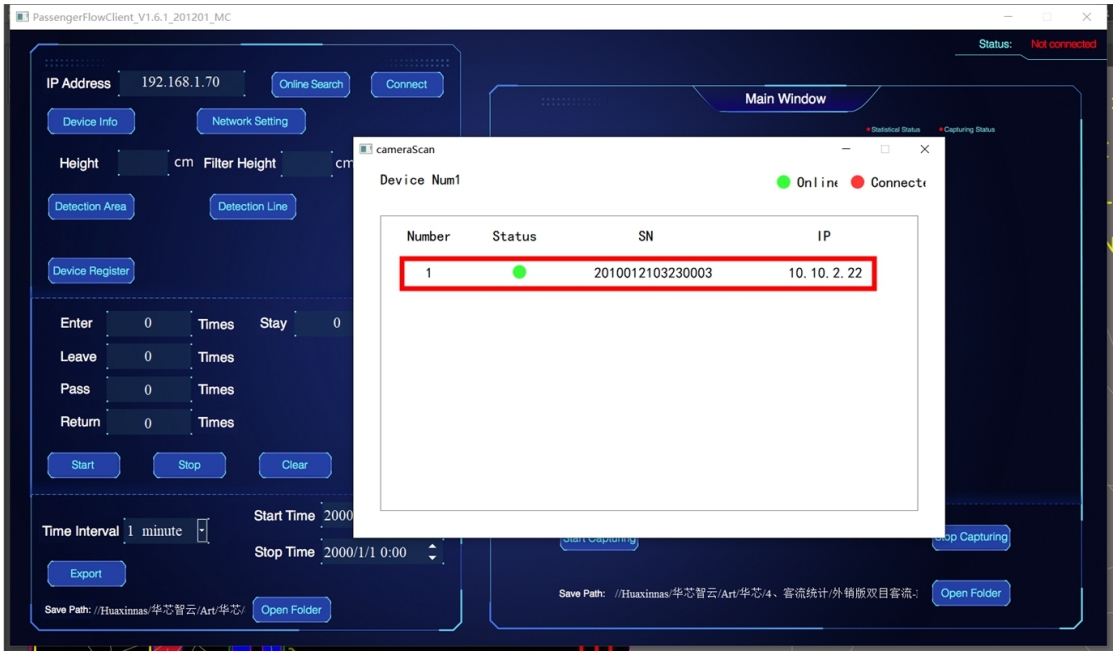
2. Click Modify Device Network Parameters, select Wi-Fi, enter Wi-Fi name and password, select IP address assignment method, select DHCP mode in this case, and click save settings.



3. After saving the Settings, the device will be restarted and the client will automatically disconnect the connection with the device. At this time, the camera will enter the wired debugging mode under "wireless working mode", and the status light (middle) will flash once a second (slow flash).At this point, first disconnect the cable network cable, manual power off and then power it on again.

4. After disconnecting the network cable, the camera enters the automatic wireless network connection state. During the connection process, the status light (middle) flashes twice per second (quick flash), the light will constant on once connected successfully,if failed connecting after 30 seconds, please return to configuration mode. The status light (middle) flashes once per second (slow flash), at which point you can plug in and wired device and re-enter the correct Wi-Fi name and password.

5. After successful connection, when the status light (in the middle) is always on, place the wireless network to be connected between the debugging computer and the device under the same network, scan the device and find that the device is connected and in normal use.As shown in the figure below:


PassengerFlowClient_V1.6.1_201201_MC
Status: Not connected
IP Address
192.168.1.70
Online Search
Connect
Device Info
Network Setting
Height
cm
Filter Height
Detection Area
Detection Line
Device Register
Enter
0
Times
Stay
0
Leave
0
Times
Pass
0
Times
Return
0
Times
Start
Stop
Clear
Time Interval
1 minute
Start Time
Stop Time
2000/1/1 0:00
Export
Save Path: //Huaxinnas/华芯智云/Art/华芯/
Open Folder
Main Window
cameraScan
Device Num1
Online
Connect
Number
Status
SN
IP
1
2010012103230003
10. 10. 2. 22
Save Path: //Huaxinnas/华芯智云/Art/华芯/4、客流统计/外销版双目客流
Open Folder

Chapter 3 Introduction to Applicable Scenarios

3.1 Lighting conditions

• Normal lighting: refers to the normal lighting environment in shopping malls/stores/restaurants, etc.;
• Half-sunlight on the street: refers to the scene where the sun directly enters the door on the street;
• Direct sunlight: refers to the outdoor scene of direct sunlight;
• Dim light: Refers to dimly lit scenes such as some parking lots/cinema/bars;

3.2 Surroundings

• Ground: suitable for ground environments of various materials/colors;

• Surroundings: suitable for scenes with walls/doors opening and closing all around;

Chapter IV Product Working Requirements

4.1 Power requirements

The camera can choose to use 12V/2A switching power adapter or POE power supply. The voltage parameters are shown in Table 4-1.

Table 4-1 Power supply voltage parameter

Voltage requirements	POWER
DC12V (±10%)	average value：7.0W Max：7.2W

note:
1. Using an incorrect power supply may damage the camera;
2. Do not use a power supply with a voltage greater than DC12V (±10%);
3. The camera only supports the following three working methods, and does not

support working scenarios where wired and wireless are used at the same time:
(1) WI-FI connection network and DC12V power supply mode;
(2) POE power supply and wired network connection;
(2) Wired network and DC12V power supply;

4.2 Storage and working environment requirements

Working temperature: 0°C~45°C;
Working humidity: 20~80%;
Storage temperature: -20°C~50°C;
Storage humidity: 20~80%;
Note: An effective heat dissipation method must be provided to maintain a stable indoor temperature. The following guidelines must be followed. In any case, monitor the indoor temperature and ensure that the temperature does not exceed 50 °C. Fans can be used for airflow heat dissipation.

4.3 Camera connector

The binocular passenger flow product leads out two connectors on the rear side, namely DC JACK and Ethernet. Among them, the Ethernet interface is the data transmission and POE power supply interface, and the DC JACK is the 12V power supply interface.

note:
1. Using a power supply higher than 12V (±10%) will damage the product;
2. It is recommended to use standard POE power supply equipment, non-standard POE power supply equipment will cause damage to the camera;

Warning:
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter