

# People Counter

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Chapter One Product introduction

1.1 Product Overview

Binocular passenger flow statistics products obtain 3D depth information in real time through binocular stereo vision AI sensors, identify head-and-shoulder features in complex scenes based on head-and-shoulder feature algorithms, and realize accurate passenger flow statistics through human body tracking algorithms. It can be widely used in shopping centers, retail stores, libraries, buildings, public transportation and other needs

Traffic statistics scenario.

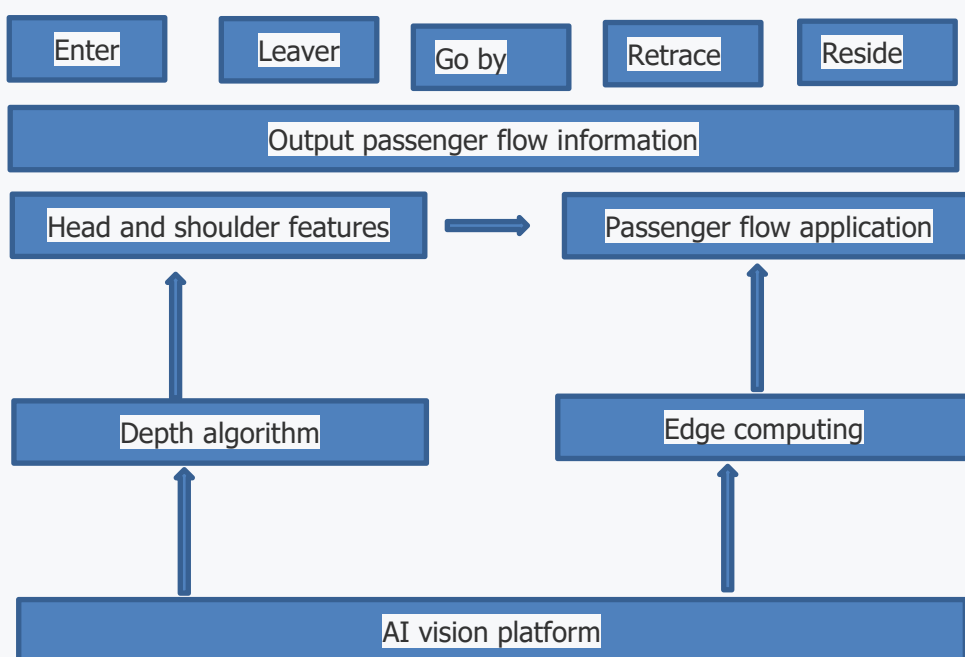


Figure 1-1 Basic principle of binocular passenger flow statistics

1.2 Product Features

High statistical accuracy:

Based on the leading binocular stereo vision technology, it gets rid of the traditional 2D passenger flow technology is vulnerable to light and field

The limits of sound;

In the scene of direct sunlight on the street, the accuracy can reach 95%;

Indoor normal lighting environment, accuracy of more than 98%;

A large number of collection and debugging, to ensure that the product in various scenarios will not appear miscounting.

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Large coverage:

Binocular passenger flow statistics equipment with 100 ° large field of view Angle, wider coverage;

3.7m installation height can cover 4.5m width;

Network intelligent devices:

Binocular passenger flow statistics equipment has edge computing capability, and can complete passenger flow statistics and calculation locally

Output passenger flow data, low network bandwidth requirements;

Real-time output of passenger flow statistics to meet real-time collection and monitoring requirements;

Support flash offline storage, do not worry about the occurrence of network interruption;

Support static IP and DHCP modes, can be flexibly deployed;

Wireless WI-FI connection is supported

Support wireless WI-FI connection, get rid of the limitations of comprehensive cabling difficulties;

### 1.3 Passenger flow information definition

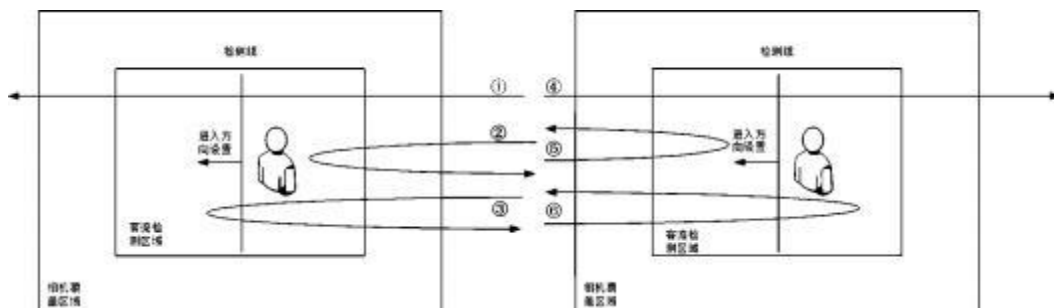


Figure 2-1 Latitude diagram of binocular passenger flow statistics

Enter:

In the statistical area, it enters the detection area from the entry direction and exits the detection area after crossing the detection line

On in. Figure action ①;

Leave:

In the statistical area, enter the detection area from the opposite direction, and exit the detection area after crossing the detection line

Leave. Figure action ④;

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### History:

In the statistical area, enter the detection area from the entry direction, do not go out of the detection area, leave from the entry direction area

The detection area is counted as passing. Figure action ②③;

### Back:

In the statistical area, enter the detection area from the opposite direction, do not go out of the detection area, enter the opposite direction area

When leaving the detection area, it is counted as reentry. See action ⑤⑥;

### Resident:

Refers to the number of people residing in the current passenger flow detection area in real time;

### Duration:

How long each customer stays in the testing area.

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### Chapter II Product specification parameters

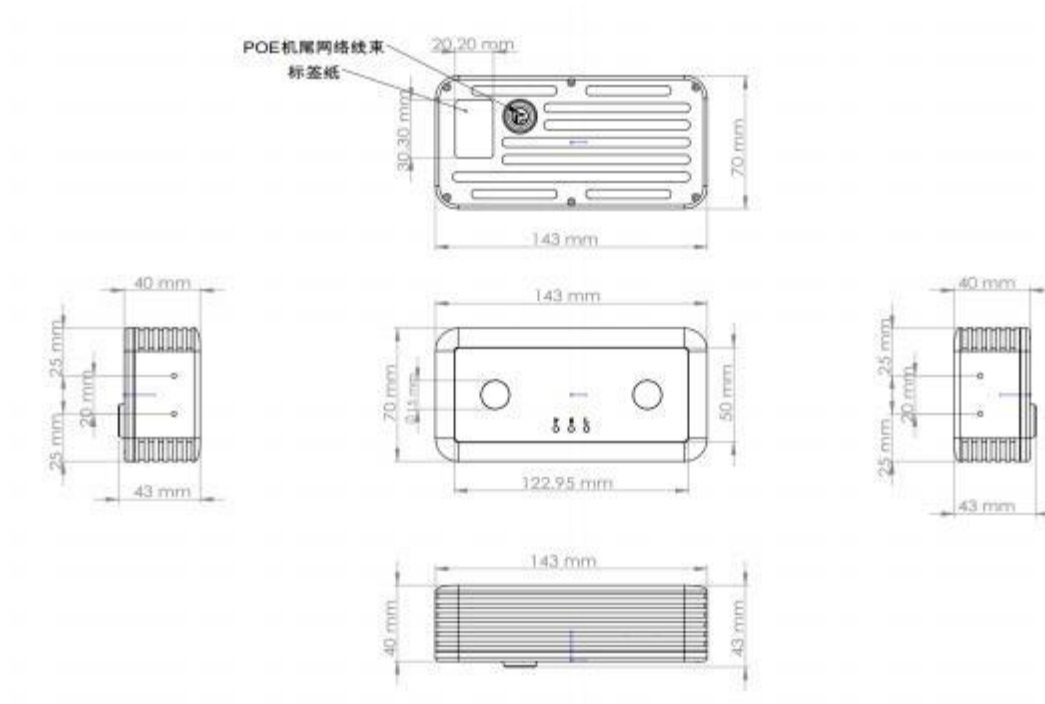
#### 2.1 Performance Parameters

Table 2-1 shows the product performance parameters of binocular passenger flow statistics:

Table 2-1 Product performance parameters of binocular passenger flow statistics

Visual parameter	
Field Angle	Horizontal 100°, Vertical 70°
Depth map resolution	640*400@0~3.5m; 1280*800@3.5m~6m
Output frame rate	640*400@25fps
Functional parameter	
Accuracy rate	≥98%
Altitude range	2.2~6.0m
Coverage area	1.2~5.5m
Filter height	0.5~1.2m
Technical parameter	
power	3.2W~3.6W
Power supply mode	POE (802.3af/at) /DC12V
Net cable	Category 5
Networking mode	Wired network/WI-FI
addressing	static IP / DHCP
Offline cache	90 day
Data upload mode	HTTP POST/HTTPS POST
Data upload mode	485 x 1 / 6V~24V input IO x1
Working environment	
Operating temperature	0°C~45 °C
Operating temperature	20~80 %
Storage temperature	-20°C~50 °C
Storage humidity	20~80 %
防护等级	IP65
package	
Structural dimension (mm)	143mmx 70mmx 40mm
weight(g)	1KG
Installation mode	Top mounting/lifting
Single package size: 21*20.5*10cm, single package gross weight: 800g	
Outer box size: 55x45x45cm (20 sets), gross weight: 17kg	

## 2.2 Mechanical Parameters



## 2.3 Passenger flow parameters

Table 2-2 shows the relationship between the coverage width and installation height of the passenger camera.

Table 2-2 Passenger flow parameters

Installation height	Covering width
2.2m	1.2m
2.5m	1.9m
2.6m	2.1m
2.7m	2.3m
2.8m	2.6m
2.9m	2.8m
3.0m	2.9m
3.1m	3.3m
3.2m	3.5m
3.3m	3.8m
3.4m	4.0m
3.5m	4.3m
4m~6m	5.5m

## Chapter three introduces the application scenarios

### 3.1 Lighting Conditions

Normal lighting: refers to the normal lighting environment in shopping centers/stores/restaurants;

Street half sun: refers to the scene of direct sunlight on the street into the door;

Direct sunlight: refers to the outdoor scene of direct sunlight;

Dim light: refers to a dim scene in some parking lots/cinemas/bars, etc.

### 3.2 Surrounding Environment

Ground: suitable for various materials/colors of the ground environment;

Around: suitable for scenes with walls around/opening and closing doors;



## Chapter IV product work requirements

### 4.1 Power Supply Requirements

The camera can use a 12V/2A switching power adapter or POE power supply. Table 4-1 lists the voltage parameters

As shown.

Table 4-1 Power supply voltage parameters

Voltage requirement	power
DC12V ( $\pm 10\%$ )	Average value: 7.0W Maximum value: 7.2W

Attention:

1. Using incorrect power supply may damage the camera;
2. Do not use power supply with voltage greater than DC12V ( $\pm 10\%$ );
3. The camera only supports the following three working modes, and does not support both wired and wireless working scenarios:
  - (1) WI-FI connection network and DC12V power supply;
  - (2) POE power supply and wired network connection;
  - (2) Wired network and DC12V power supply;

### 4.2 Storage and working environment requirements

Operating temperature: 0°C~45 °C;

Working humidity: 20~ 80%;

Storage temperature: -20°C~50 °C;

Storage humidity: 20~ 80%;

Note: An effective means of heat dissipation must be provided to maintain a stable indoor temperature, the following guidelines must be followed, and in all cases, the indoor temperature must be monitored and ensured that the temperature does not exceed 50 °C

Heat down.

### 4.3 Camera Connector

The binocular passenger flow product leads to two connectors on the rear side, namely D C JACK and Ethernet. Ethernet among them

The ports are used for data transmission and POE power supply, and the DC JACK ports are used for 12V power supply.

Attention:

1. Using power supply higher than 12V ( $\pm 10\%$ ) will damage the product;
2. It is recommended to use standard POE power supply devices, non-standard POE power supply devices will cause damage to the camera;

## FCC Statement

Note: 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 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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.