

## Content

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## 1 Product introduction

### 1.1 Product Overview

The binocular people 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 people 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.

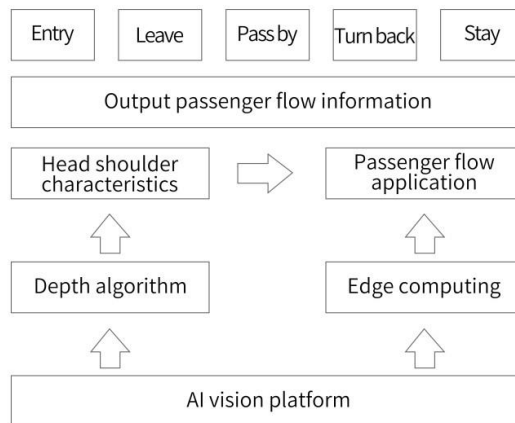


Figure 1-1 basic principle of binocular people flow statistics product

### 1.2 Product Features

High statistical accuracy:

- Based on the leading binocular stereo vision technology, it gets rid of the limitation that the traditional 2D people flow technology is vulnerable to the influence of light and scene;

The accuracy can reach 95% in the scene of direct sunlight on the street;

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

- A large number of acquisition and debugging ensure that the product will not be counted incorrectly in various scenarios.
- The binocular people flow statistics device has a large field of view angle of 140 ° and a wider coverage;
- The installation height of 3.7m can cover the width of 4.5m;

Network intelligent device:

- The binocular people flow statistics device has edge computing capability, completes the people flow statistics and calculation locally, and directly outputs the people flow data, with low network bandwidth requirements;
- Real time output of people flow statistics to meet the needs of real-time collection and monitoring;
- Support flash offline storage, don't worry about network disconnection;
- It supports static IP and DHCP modes and can be deployed flexibly;

Support wireless Wi-Fi connection

- Support wireless Wi-Fi connection and get rid of the limitation of generic cabling ;

### 1.3 People flow information definition

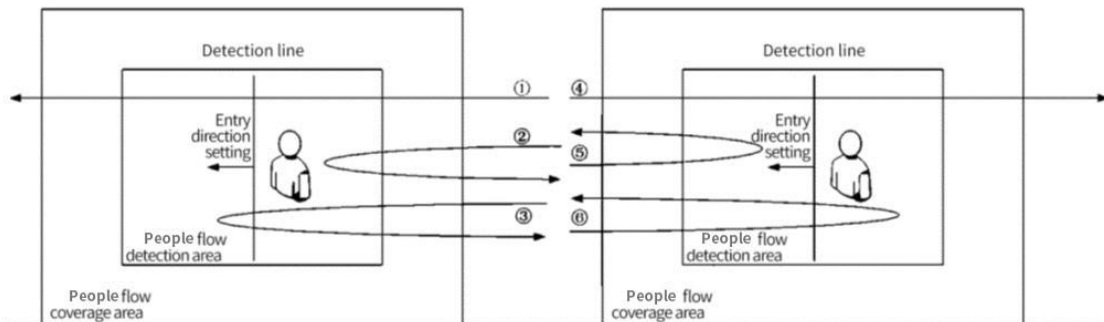


Figure 2-1 schematic diagram of statistical information latitude of binocular people flow

#### Enter:

In the statistical area, entering the detection area from the entry direction and walking out of the detection area after crossing the detection line is counted as entering. Action ① as shown in the figure;

#### Leave:

In the statistical area, entering the detection area from the opposite direction, crossing the detection line and leaving the detection area is considered as leaving. Action 4 as shown in the figure;

**Pass:**

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. Action as shown in ②③;

**Turn back:**

In the statistical area, entering the detection area from the opposite direction of entry, without leaving the detection area, and leaving the detection area from the area entering the opposite direction, is counted as a turnback. As shown in the figure ⑤ and ⑥;

**Resident:**

It refers to the number of people staying in the current people flow detection area in real time;;

**Dwell time:**

The residence time of each customer in the test area.

## 2. Product specification parameters

### 2.1 Performance parameter

The performance parameters of binocular people flow statistical products are shown in table 2-1 below:

Table 2-1 performance parameters of binocular people flow statistical

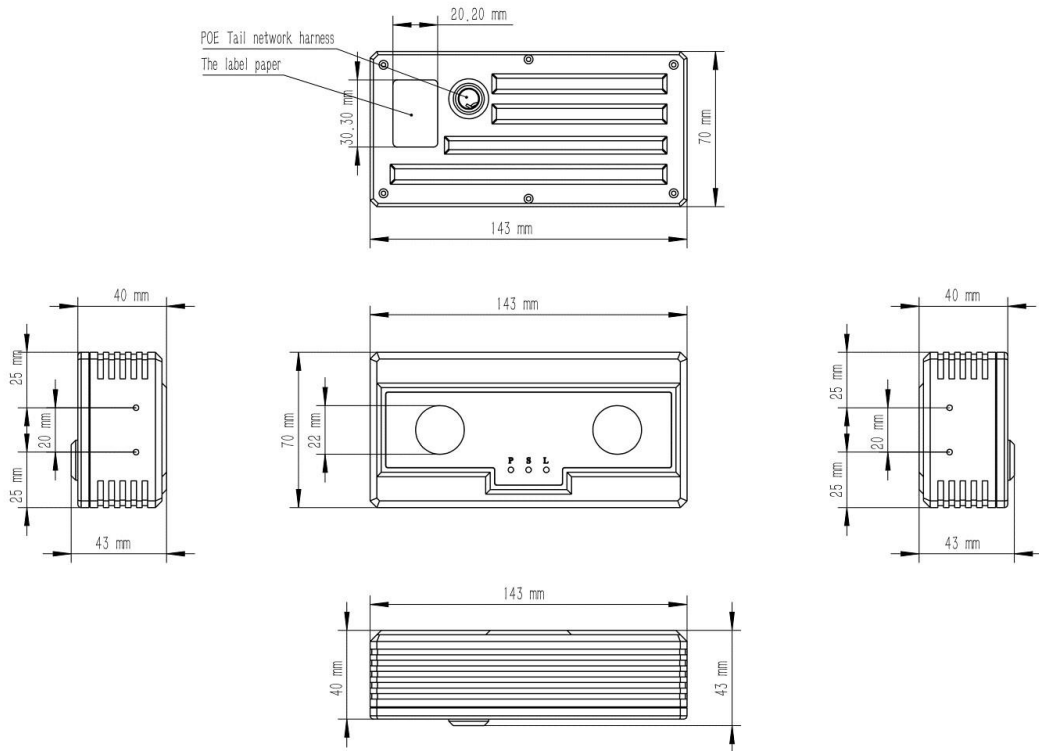
Visual parameters	
View angle	Horizontal 100°, Vertical 70°
Depth map resolution	640*400@0~3.5m; 1280*800@3.5m~6m
Output frame rate	640*400@25fps
Function parameters	
Accuracy	≥98%
Height range	2.2~6.0m
Coverage area	1.2~5.5m
Filter height	0.5~1.2m
Technical parameters	
Power	3.2W~3.6W
Power supply	POE (802.3af/at) /DC12V
Ethernet cable	5 class



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Networking mode	Wired network/WI-FI
Addressing	Static IP / DHCP
Offline caching	90 days
Data upload mode	HTTP POST/HTTPS POST
Interface extension	485 x 1 / 6V~24V input IO x 1
<b>Work environment</b>	
Working temperature	0°C~45 °C
Working humidity	20~80 %
Storage temperature	-20°C~50 °C
Storage humidity	20~80 %
<b>Package</b>	
size (mm)	143mm x 70mm x 40mm
weight(g)	370g
Installation	Top mounting/hoisting

## 2.2 Mechanical parameter



## 2.3 People flow parameter

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

Table 2-2 people flow parameters

Installation height	Coverage 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

## 2.4 Description of device status light

light	Name	Status and description
P	Power	On: the power supply is normal; Off: no power supply
S	Status	<ol style="list-style-type: none"> <li>on: the device works normally; The public network connection is normal;</li> <li>The light is on for 3 seconds and off for 1 second means the device works normally; Abnormal public network connection;;</li> <li>flash (flash twice and off for one second) : connecting Wi-Fi;</li> <li>slow flash (flash once and off for one second) : Wi-Fi mode network cable connection device enters debugging mode; Network cable not connected: connection timeout in Wi-Fi mode</li> </ol>

L	Wired network connection indicator (Link)	Flashing / on: the wired network cable is connected normally; off: the network cable is not connected correctly
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## 3. Applicable scene introduction

### 3.1 Light condition

- Normal light: refers to the normal indoor light environment in shopping centers / stores / restaurants;
- Half sunshine on the street: refers to the scene where the sun shines directly into the door on the street;
- Direct sunlight: refers to the scene with direct sunlight outdoors;
- Dim light: refers to dark scenes in some parking lots / cinemas / bars;

### 3.2 Surrounding environment

- Ground: applicable to the ground environment of various materials / colors;
- Surrounding: applicable to scenes with walls / open and close doors around;

## 4. Product work requirements

### 4.1 Power supply requirements

The camera can be powered by 12V / 2A switching power adapter or POE. The voltage parameters are shown in table 4-1.

Table 4-1 power supply voltage parameters

Voltage requirements	power
DC12V ( $\pm 10\%$ )	average value: 7.0W Max value: 7.2W

Note:

1. Using an 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 the working scene 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: effective heat dissipation must be provided to maintain a stable indoor temperature. The following guidelines must be observed. 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 people flow product leads out two connectors at the rear, namely DC jack and Ethernet. 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 ( $\pm 10\%$ ) 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.