Binocular people flow counter terminal

Product Description

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Chapter 1 Product Introduction

1.1 product description

Binocular people flow counter terminal The 3D depth information is obtained in real time through the binocular stereo vision AI sensor, based on the head and shoulders feature algorithm, the head and shoulders features in complex scenes are identified, and the human body tracking algorithm is used to achieve accurate passenger flow statistics. Can be widely used in shopping malls, retail stores, libraries, buildings, public transportation and other scenarios that require traffic statistics

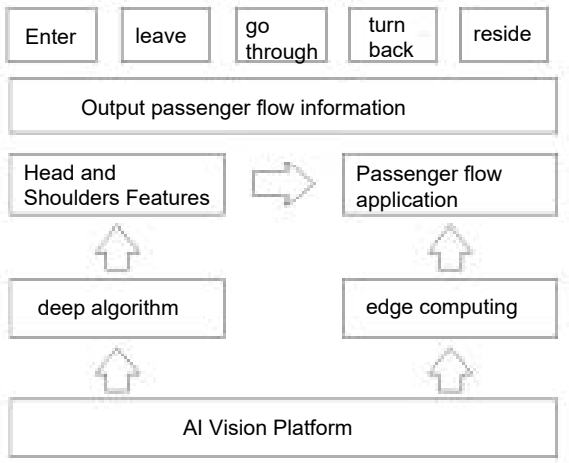


Figure 1-1 Basic principle of the product

1.2 Features

High statistical accuracy:

- Based on the leading binocular stereo vision technology, it gets rid of the traditional 2D passenger flow technology that is susceptible to light and scene shadows

  the limitation of sound;
- The accuracy rate can reach 95% in the scene of direct sunlight on the street;
- Indoor normal lighting environment, the accuracy rate exceeds 98%;
- A large number of collection and debugging ensure that the product will not have false counts in various scenarios

Great coverage:

- The binocular passenger flow counting device has a large field of view of 100° and covers a wider range;
- 3.7m installation height can cover 4.5m width;

Network smart devices:

- The binocular passenger flow statistics device has edge computing capabilities, and the passenger flow statistics calculation is completed locally on the device, directly Output passenger flow data, 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, don't worry about network disconnection;
- Support static IP and DHCP modes for flexible deployment;

Support wireless WI-FI connection

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

1.3 Definition of passenger flow information

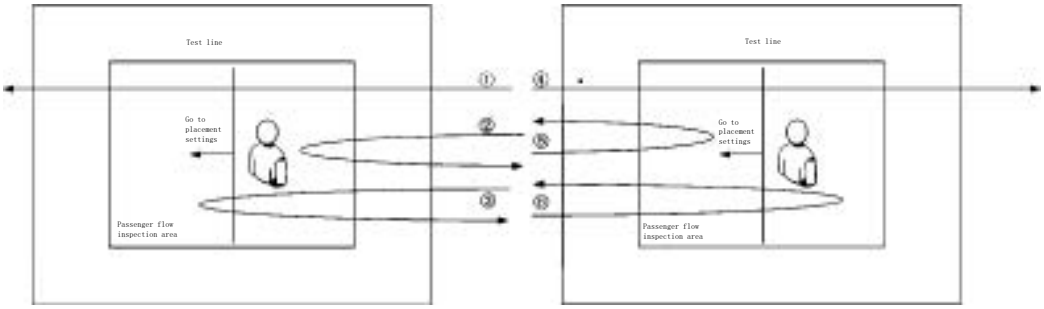


Figure 2-1 Schematic diagram of latitude

Enter:

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

leave:

In the statistical area, enter the detection area in the opposite direction from entering, and go out of the detection area after crossing the detection line, which is counted as leaving. Action ④ as shown in the figure;

go through:

In the statistical area, entering the detection area from the entering direction, but not leaving the detection area, leaving the detection area from the entering direction area is counted as passing. Action ②③ as shown in the figure;

Return:

In the statistical area, entering the detection area from the opposite direction of entry, but not leaving the detection area, and leaving the detection area from the opposite direction of entry is counted as a return. Action ⑤⑥ as shown in the figure;

Residency:

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

Residence time:

The length of time each customer stays in the testing area.

Chapter 2 Product Specifications

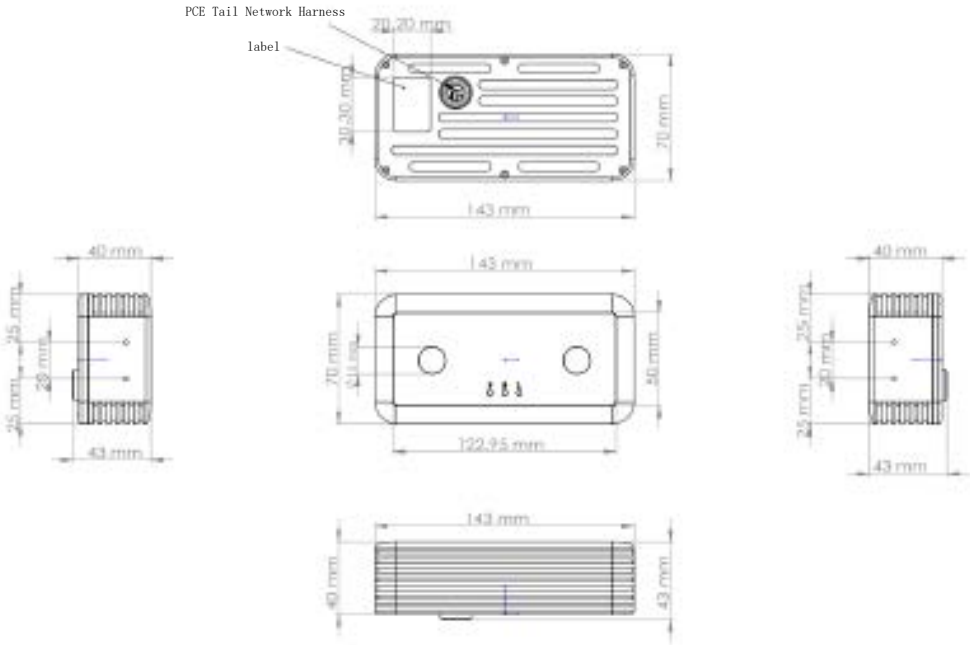
2.1 Performance parameters

Product performance parameters are shown in Table 2-1 below:

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 parameter	
power	3.2W~3.6W
Power supply	POE（802.3af/at）/DC12V
cable	Category 5
Networking	wired network/WI-FI
addressing	static IP / DHCP
Offline cache	90 days
Data upload method	HTTP POST/HTTPS POST
Interface extension	485 x 1 / 6V～24V Input IO x1
working environment	
Operating temperature	0°C~45 °C
Working humidity	20~80 %
Storage temperature	-20°C~50 °C
Storage humidity	20~80 %
Protection class	IP65
Package	
Structure size (mm)	143mm x 70mm x 40mm
weight(g)	1KG
Installation method	Ceiling installation/hoisting
Single package size: 21*20.5*10cm, single package gross weight: 800g outer box size: 55x45x45cm (20 sets), outer box gross weight: 17kg	

2.2 Mechanical parameters



2.3 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 parameter table

installation height	Cover 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 3 Introduction to Applicable Scenarios

3.1 Lighting conditions

- Normal lighting: refers to the normal lighting environment in shopping malls/stores/restaurants;
- Half-sunshine on the street: refers to the scene where the sunlight directly enters the door on the street;
- Direct sunlight: refers to outdoor scenes with direct sunlight;
- Dim light: refers to dim scenes in some parking lots/cinemas/ bars;

3.2 Surroundings

- Ground: suitable for ground environments of various materials/ colors;
- Surrounding: suitable for scenes with walls/opening and closing doors around;

Chapter 4 Product Work 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 table

Voltage requirem	power
DC12V (±10%)	Average: 7.0W Maximum: 7.2W

Notice:

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 modes, and does not support working scenarios where both 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 cooling 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 cooling.

4.3 Camera Connector

The binocular passenger flow product leads out two connectors on the rear side, which are 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.

Notice:

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.

FCC Statement:
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.

The equipment complies with FCC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.