FOORIR
Smart Counter Provider

Specification

3D People Counter

HX-CCD23 (Bus OD Version)

Version 2025-1.3

❖ Product Introduction

The 3D people counter HX-CCD23 (bus OD version) uses a binocular stereo vision AI sensor to acquire real-time 3D depth information. Using a head-and-shoulder feature algorithm, it identifies head and shoulder features in complex scenes. Using a human tracking algorithm, it accurately tracks passenger boarding and alighting.

It is mainly used in transportation vehicles such as buses, and can also be used in shopping malls, retail stores, public transportation vehicles, scenic spots, libraries, museums, restaurants, factories, supermarkets, parks, buildings, toilets, etc.

❖ Product Features

◆ **Performance:** The intelligent dual-core architecture achieves a 20% improvement in energy efficiency and supports simultaneous multimodal data processing.

◆ **Computing Power:** A 2 TOPS heterogeneous computing engine delivers real-time AI inference speeds of millisecond response.

◆ **Storage:** 1GB LPDDR4X intelligent caching technology improves data throughput by 50%.

◆ **Auto-focus:** Software-controlled auto-focus is supported, and the device supports an installation height range of 1.7-3 meters, adapting to diverse installation environments.

◆ **OD:** Leveraging the device's built-in AI computing power, an algorithm detects and tracks human figures to collect real-time passenger boarding and alighting data. Non-facial feature values of boarding and alighting passengers are simultaneously captured and stored as unique feature value data. After the doors close and the vehicle is in motion, the device proactively uses AI computing power to match the unique features of boarding and alighting passengers to generate OD data.

◆ **Data Upload Timeliness:** Customizable server upload times are available, including real-time, 1-minute, 5-minute, and 30-minute intervals.

◆ **Multi-protocol Support:** The device supports HTTP POST/HTTPS POST/FTP/SFTP/Modbus-RTU/ MQTT protocols for data transmission, supporting data integration for device development.

◆ **Rich Open Interfaces:** The device natively exposes a rich set of application interfaces and supports RS-485 expansion, enabling developers to flexibly and quickly integrate and develop.

◆ **Network Intelligent Device:** Supports local computing, eliminating the need for a local server, offline flash storage, resumable data transmission during network disconnection, PoE power supply, and wired/wireless connectivity.

◆ **Enhanced Environmental Adaptability:** Adapts to outdoor scenarios with strong sunlight, doorway lighting, dim lighting, and dark scenes.

◆ **Wide Area Coverage:** Coverage ranges from 1.1 to 7 meters, making it easily adaptable to various locations.

◆ **Privacy Compliance:** Complies with privacy protection standards and does not extract facial features or other attribute information, ensuring privacy.

◆ **High-Definition Image and Video Capture:** Equipped with a 2-megapixel imaging system, it can capture high-definition, color images and video data.

◆ **Scene Modes:** Wheelchair Mode, Limited Occupancy Mode, Child Mode, Control Mode, Data Display Mode, Channel Mode, and Standalone Mode.

❖ Product Pictures

• **Product Pictures**

Front   Back

- **Product Accessories**

Waterproof Cap	Screw	I/O and 485 Connectors	Power Connector
Instructions	Inner Hexagon Spanner	Bracket	Power Adapter

⚠ **If any of the above items are damaged or lost, please contact your supplier in time.**

❖ Product Parameters

Product Name	3D People Counter
Product Model	HX-CCD23
Sensor Parameters	
Image Sensor	1/3" Progressive Scan CMOS
Image Resolution	1920*1080
Pixel Size	2.7um*2.7um
Image Output Format	RAW RGB
Lens Focal Length	1mm (Fisheye Lens)
Visual Parameters	
Field of View	140° horizontal, 120° vertical
Frame Rate	25fps
Fill Light	White light, adjustable brightness
Functional Parameters	

Counting Accuracy	Up to 98%
Height Range	1.7m~3.0m
Coverage Range	1.1m~7.0m
Filtered Height	0.5m~1.2m
AI Function Parameters	
OD Function	80% accuracy
AI Function Expansion	On-demand assessment (gender, age, bicycle, wheelchair, etc.)
Technical Parameters	
Power	2.5-4W (LED off); 3.6-6W (LED open)
Dark Light Compensation	Automatic fill light on and off
Addressing	Static IP/DHCP
Offline Cache	90 days
Data Expansion Interface/Signal	1 485 port / 1 6V-24V IO input (CAN bus port/M12 port expansion available upon request)
Network	Category 5e Ethernet cable
Power Supply	POE（802.3af/at）/ DC-(9V-36V)
Data Upload Method	HTTP POST/HTTPS POST/FTP/SFTP/Modbus-RTU/ MQTT
Door Opening/Closing Signal	Accessible
Work Environment	
IP Rating	IP66
Operating Temperature	-25°C ~ 75°C
Operating Humidity	20%~80%
Storage Temperature	-40°C ~ 80°C
Storage Humidity	20% ~ 80%
Package	

Product Dimensions (mm)	143 x 70 x 40, Weight (Kg): 0.42/unit
Packaging Dimensions (mm)	240 x 110 x 100, Weight (Kg): 0.7/unit (including accessories)
Outer Carton Dimensions (mm)	500 x 500 x 250 (full case can hold 20 units); Weight (Kg): 14/carton
Installation	Ceiling/Ceiling/Recessed Mounting
Certificate	
Product Related Certificates	CE/FCC/ROHS/IP66 Waterproof Certificate/Quality Inspection Report /High and Low Temperature Test Report/Design Patent/Utility Model/ MTBF Report/BIS Certification/Shock and Vibration Test Report

❖ Regional Coverage

Installation Height (m)	Coverage Width (m)
1.7	1.1
2.1	2.2
2.5	4.4
2.7	5.49
3.0	7.0

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