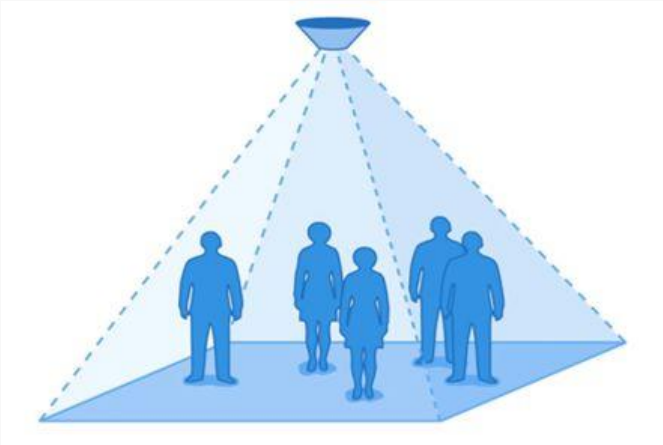
Dahua | People Counting AI Network Camera

1. Product Launch Objectives / Portfolio Positioning
2. Product Introduction
   - Product Overview
   - Key Features & Benefits
   - Mounting Tips
3. Vertical / Solution Overview
4. Market Deliverables

Product Release Objective

- DeepSense series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua DeepSense series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc.

The Dahua People Counting camera uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals' entrance and exit with a high counting accuracy.



People Counting AI Network Camera

NEW

DH-IPC-HDBW8241E-Z/Z5
DH-IPC-HFW8241E-Z/Z5
DH-IPC-HF8241F

NEW

DH-IPC-HD4140X-3D

DH-IPC-HDW8341X-3

1. Product Launch Objectives / Portfolio Positioning
2. Product Introduction
   - Product Overview
   - Key Features & Benefits
   - Mounting Tips
3. Vertical / Solution Overview
4. Market Deliverables

Product Overview

DH-IPC-HDW8241E-Z

NEW

- 1/2.8” 2Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080P(1920×1080)
- WDR(140dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 2.7mm ~13.5mm motorized lens
- Micro SD card 128GB, PoE , IP67, IK10
- Max. IR LEDs Length 50m
- People Counting: Support line crossing people counting, regional people counting

Product Overview

DH-IPC-HDW8241E-Z5

NEW

- 1/2.8” 2Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080P(1920×1080)
- WDR(140dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 7mm ~35mm motorized lens
- Micro SD card 128GB, PoE , IP67, IK10
- Max. IR LEDs Length 100m
- People Counting: Support line crossing people counting, regional people counting

Product Overview

DH-IPC-HFW8241E-Z

NEW

- 1/2.8” 2Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080P(1920×1080)
- WDR(140dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 2.7mm ~13.5mm motorized lens
- Micro SD card 128GB, PoE, IP67, IK10
- Max. IR LEDs Length 50m
- People Counting: Support line crossing people counting, regional people counting

Product Overview

DH-IPC-HFW8241E-Z5

NEW

- 1/2.8” 2Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080P(1920×1080)
- WDR(140dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 7mm ~35mm motorized lens
- Micro SD card 128GB, PoE, IP67, IK10
- Max. IR LEDs Length 100m
- People Counting: Support line crossing people counting, regional people counting

Product Overview

DH-IPC-HF8241F

NEW

- 1/2.8” 2Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 50/60fps@1080P(1920×1080)
- WDR(140dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- Auto back focus(ABF)
- Micro SD card 128GB, PoE
- People Counting: Support line crossing people counting, regional people counting

Product Overview

DH-IPC-HDW4140X-3D

NEW

- Two 1/3” 1.3Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 25/30fps@1.3MP(1280×960)
- DWDR, Day/Night(Electronic), 3DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 2.1mm fixed lens (2.8mm optional)
- Micro SD card 128G, IP54, PoE
- People Counting: Support line crossing people counting, regional people counting

Product Overview

DH-IPC-HDW8341X-3D

- Two 1/2.8” 3Megapixel progressive scan CMOS
- H.265&H.264 triple-stream encoding
- 25/30fps@3MP(2048×1536)
- DWDR, Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS(DSS/PSS) & DMSS
- 2.8mm fixed lens (3.6mm optional)
- Max. IR LEDs Length 10m
- Micro SD card 128G, IP67, PoE
- People Counting: Support line crossing people counting, regional people counting

Key Features –Multiple Angles Scenario People Counting

Ceiling Mounting

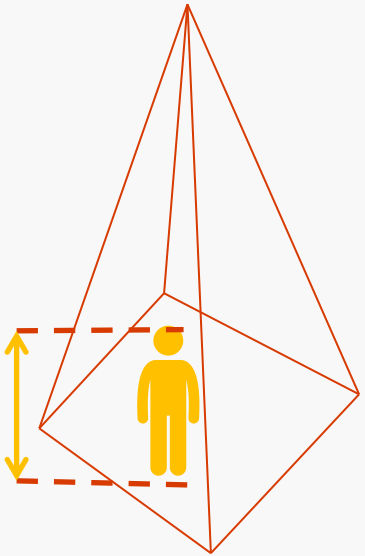
Tilt Mounting

Side Mounting

	NEW DH-IPC-HDBW8241E-Z/Z5		NEW DH-IPC-HFW8241E-Z/Z5		NEW DH-IPC-HF8241F		NEW DH-IPC-HD4140X-3D		IPC-HDW8341X-3D	
Ceiling Mounting	√	95%	√	95%	√	95%	√	95%	√	98%
Tilt Mounting	√	95%	√	95%	√	95%	√	90%	√	90%
Side Mounting	√	90%	√	90%	√	90%	--	--	--	--

Key Features –3D Depth Technology

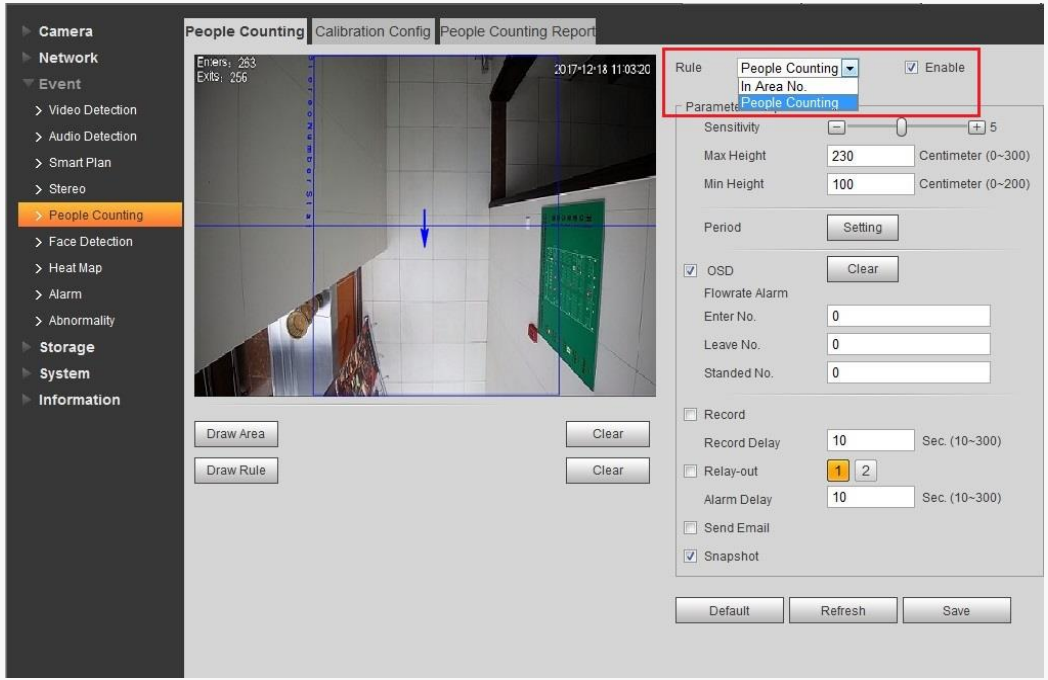
The dual lens design and 3D depth technology helps the camera to get depth information from the picture, which enables the camera to distinguish stereo objects from plane objects. The dual lens 3D camera can filter the interference of 2D plane images to achieve high accuracy of people counting.



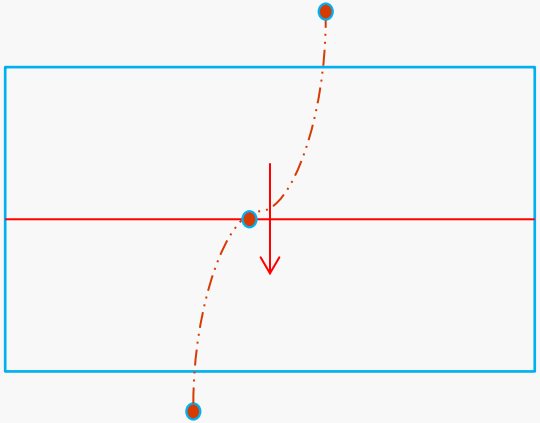
Key Features – Line Crossing People Counting

- ✓ People counting function enables the camera to count number of people passing by;

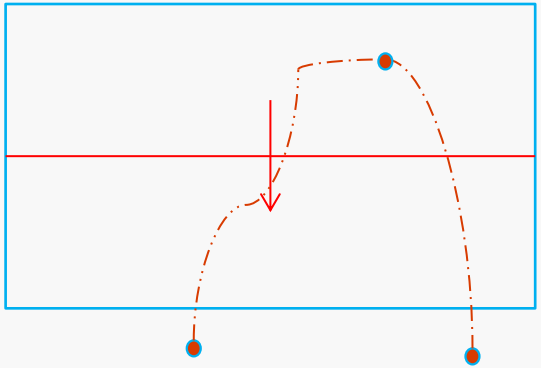
- ✓ The description of key configure parameters is shown as follows:
- Sensitivity: It is the sensitivity degree of the object detection, the bigger the value is, the more sensitive it becomes, the higher the detection rate is, meanwhile false alarm rate increases as well;
- Max/Min detection height: The objects will not be counted if its height is taller/lower than the value;



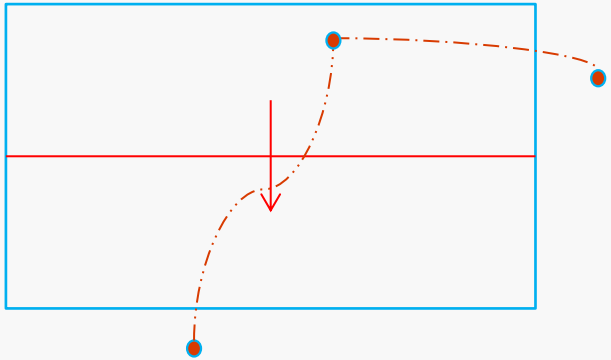
Key Features – Counting Rule



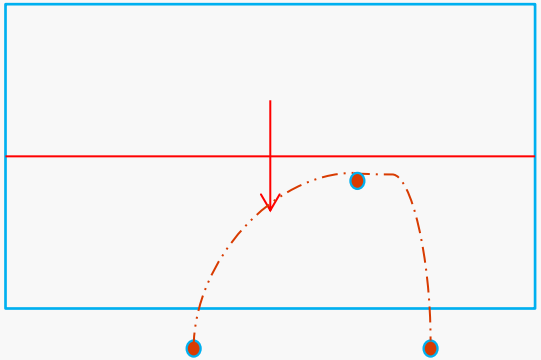
Count +1



Count 0



Count +1



Count 0

Key Features – Regional People Counting

- ✓ Regional people counting function enables the camera to count number of people in the specified area;
- ✓ The number of regional people counting is limited to 30;

Key Features – H.265+

- Smart codec, Lower bit rate, Less storage
- Saves up to 90% of bandwidth and storage when compared with standard H.264

Smart H.265+

Outdoor

Indoor

Darkroom Color

Darkroom Black

	H.264	H.265	Smart H.265+	H.264	H.265	Smart H.265+	H.264	H.265	Smart H.265+	H.264	H.265	Smart H.265+
Record size	43.5GB	22GB	4.94GB	43.8GB	21.46GB	4.38GB	36.8GB	20.7GB	0.97GB	34.4GB	20.7GB	0.7GB
Average bitrate	4135Kbps	2092Kbps	470Kbps	4260Kbps	2087Kbps	426Kbps	3575Kbps	2011Kbps	94Kbps	3342Kbps	2012Kbps	68Kbps
Saving percentage (vs H.264)	0	49.4%	88.6%	0	51%	90%	0	43.75%	97.3%	0	39.8%	98%

24 Hour continue recording (1080P@25fps)

**The above figures are based on real test conditions and the bit rate reduction may vary depending on the light and movement conditions and details of the scene.*

Competitive Analysis

Brand	Dahua		Hikvision	
Appearance				
Model	DH-IPC-HDW4140X-3D	IPC-HDW8341X-3D	iDS-2CD6810F-IV/C	iDS-2CD6810F/C
Video Compression	H.265/H.264H	H.265/H.264H	H.264	H.264
Resolution	1.3M(1280*960)	3M (2048*1536)	640*960	640*960
IR	/	Support IR, Max IR distance 10m	Support IR, Max IR distance 5m	/
Protection	IP54	IP67	/	/
Statistic Model	Line crossing, Regional	Line crossing, Regional	Line crossing	Line crossing
Counting Accuracy	95% (the same scene)	98% (the same scene)	98% (the same scene)	98% (the same scene)

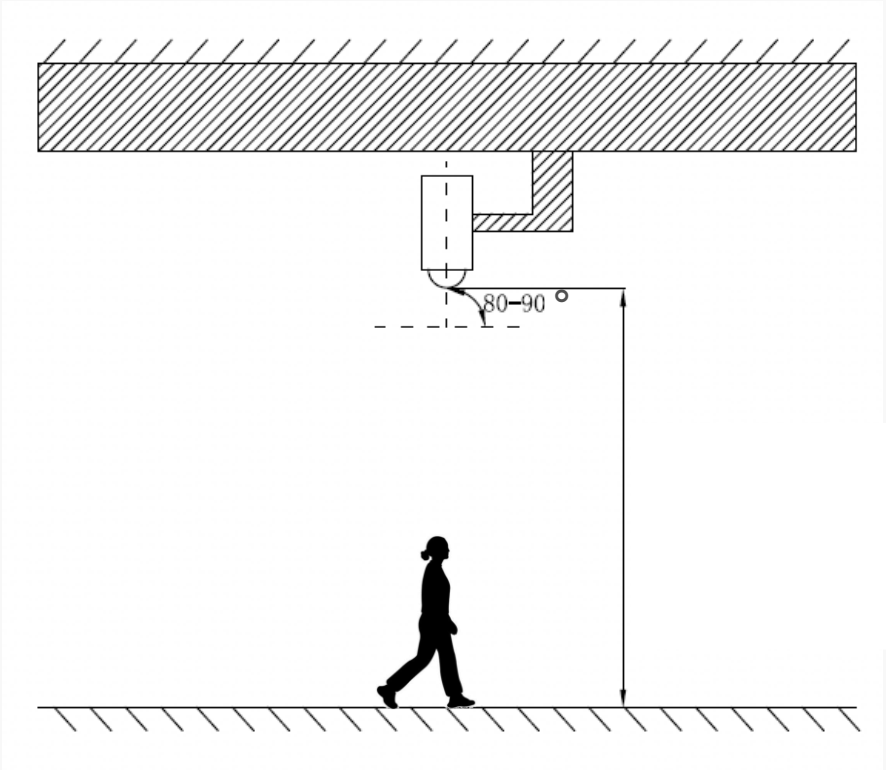
User Guide - Calibration

- ✓ Before using the people counting function of the camera, it needs to be calibrated first. The calibration function allows the camera to automatically detect the height and angle.

User Guide – Mounting

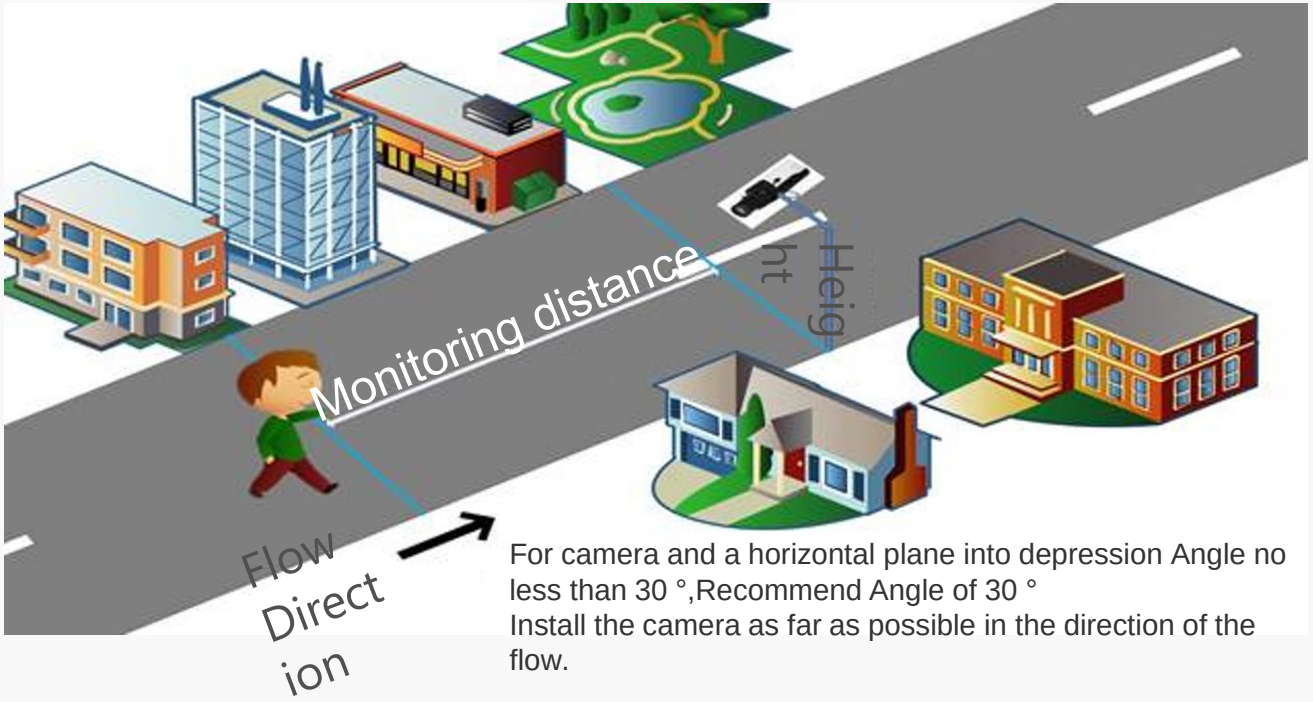
Ceiling Mounting

Model	Focal Length	Installation Height (m)
DH-IPC-HDBW8241E-Z/Z5 ***DH-IPC-HFW8241E-Z/Z5*** ***DH-IPC-HF8241F***	2.7~13.5mm	2.2~17m
	7~35mm	2.2~50m
DH-IPC-HD4140X-3D	2.1mm	2.2~3.3m
	2.8mm	2.5~3.8m
DH-IPC-HDW8341X-3D	2.8mm	2.2~3m
	3.6mm	3.1~4.5m



User Guide – Mounting

Tilt Mounting

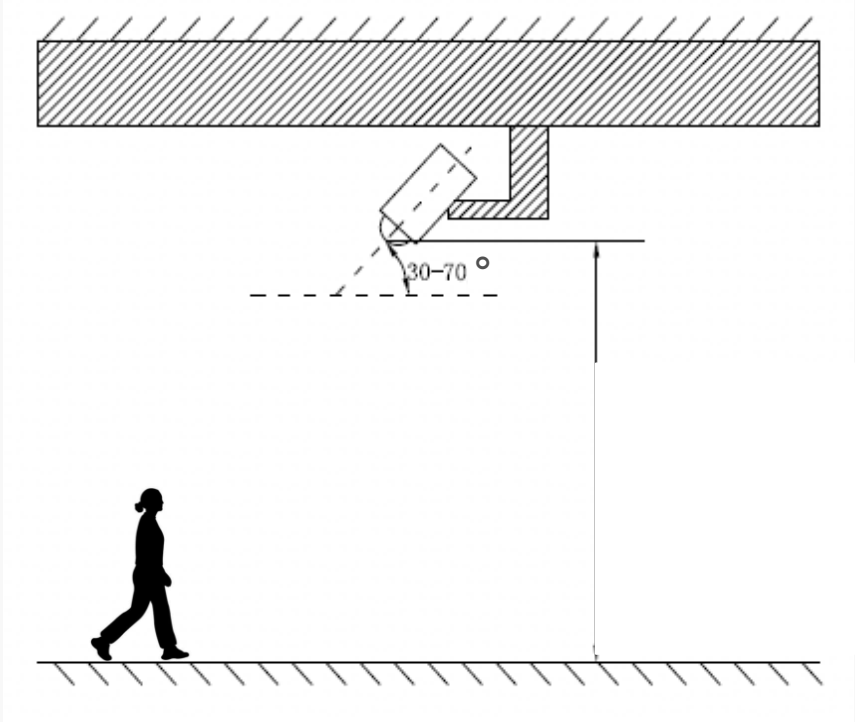


For camera and a horizontal plane into depression Angle no less than 30 °,Recommend Angle of 30 °
Install the camera as far as possible in the direction of the flow.

User Guide – Mounting

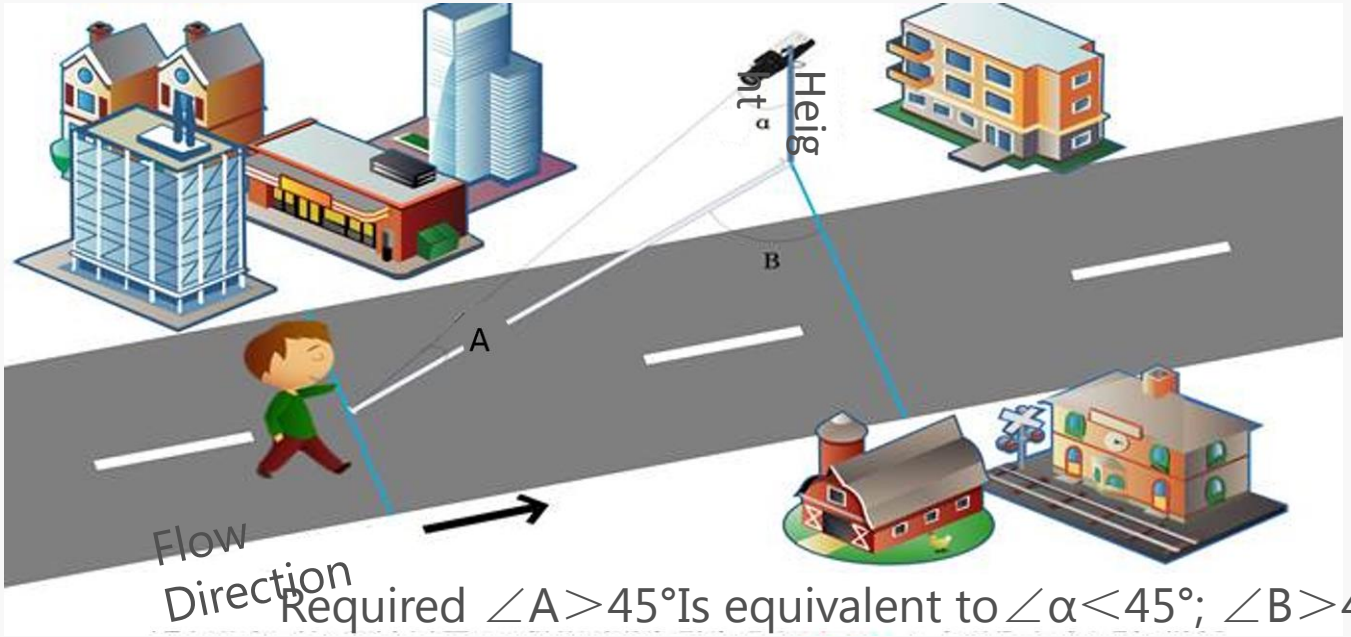
Tilt Mounting

Model	Focal Length	Installation Height (m)
DH-IPC-HDBW8241E-Z/Z5 ***DH-IPC-HFW8241E-Z/Z5*** ***DH-IPC-HF8241F***	2.7~13.5mm	2.2~10m
	7~35mm	2.2~20m（30°） 2.2~30m（45°）
DH-IPC-HD4140X-3D	2.1mm	2.2~3.3m
	2.8mm	2.5~3.8m
DH-IPC-HDW8341X-3D	2.8mm	2.2~3.5m
	3.6mm	2.5~5m



User Guide – Mounting

Side Mounting

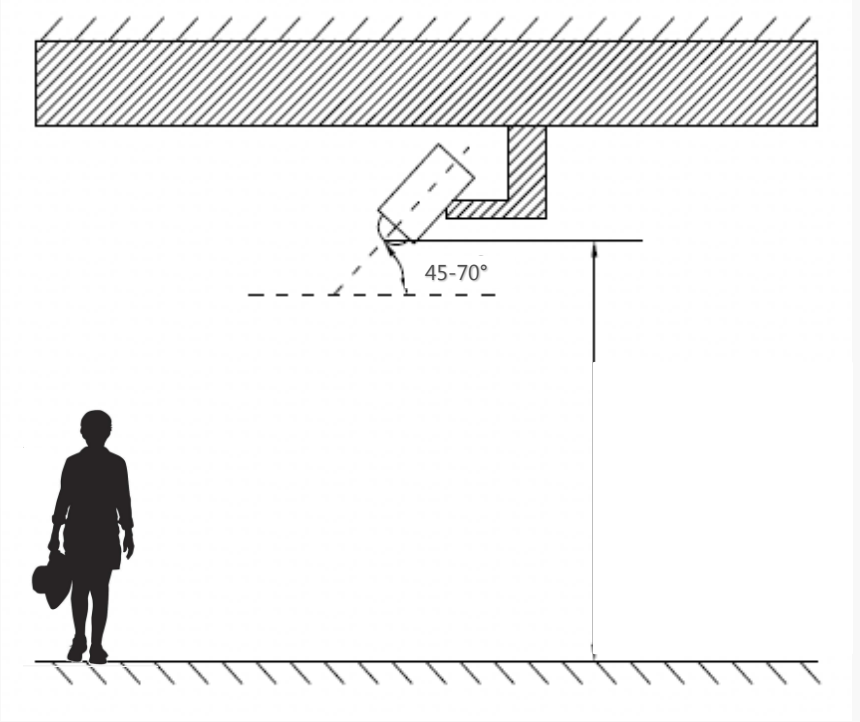


Required ∠A＞45°Is equivalent to∠α＜45°; ∠B＞45°.
To reduce the number of people covered

User Guide – Mounting

Side Mounting

Model	Focal Length	Installation Height (m)
DH-IPC-HDBW8241E-Z/Z5 ***DH-IPC-HFW8241E-Z/Z5*** ***DH-IPC-HF8241F***	2.7~13.5mm	3~10m（50°）
	7~35mm	3~30m（45°）



User Guide - Reference Data

Product	Installation	Angel	Installation Height (m)	Focal Length (mm)	Detection Width(W/m)	Detection Length (L/m)
	Ceiling Mounting	90°	2	3	2.7	3
			3		3	5.5
			4		4.1	7.4
	Tilt Mounting	30°	2	6	2.7~7.7	2~8
			3		4~8.8	3~9
			4		5.3~9.2	4~9
	Side Mounting	45°	3	5	3~8	5.5~9.9
			4	7	4~11.2	4.5~9.46
			5	7	5~10	5.6~8.9

The detection width is calculated with a height of 1.8m, which is an effective detectable width value

The monitoring width W is the effective detection width corresponding to the camera center axis, and the detection width of the farthest end or the nearest end of the camera.

User Guide - Reference Data

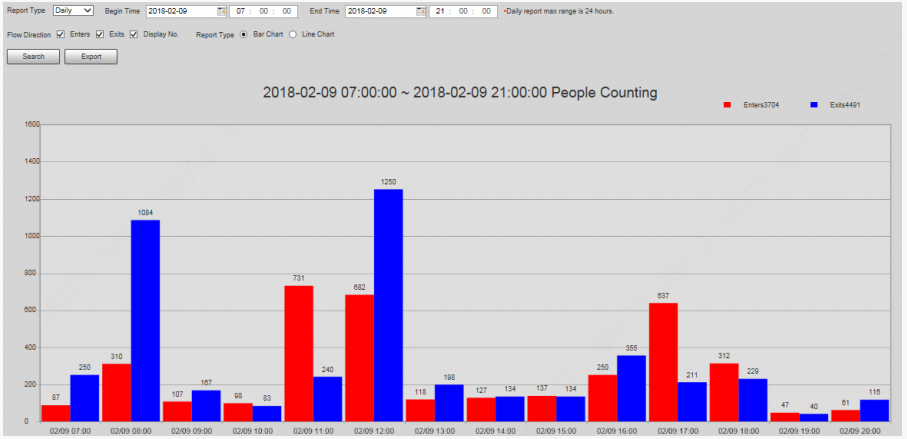
	Installation	Angel	Focal Length (mm)	Installation Height (m)	Detection Width (m)	Detection Length (m)
	Ceiling Mount	90°	2.1	2.2	1.2	0.8
				2.75	3	1.85
			2.8	2.5	1.4	1.89
				3.2	2.8	3.78
			3.6	3.2	1.18	2.61
				3.8	1.69	3.73
	Tilt Mounting	45°	2.1	2.2	1.7	3.3
				2.75	4.25	3.2
			2.8	2.5	2	3.2
				3.2	4.1	3.2
			3.6	2.75	3.3	5.9
				3.5	5.91	7.6

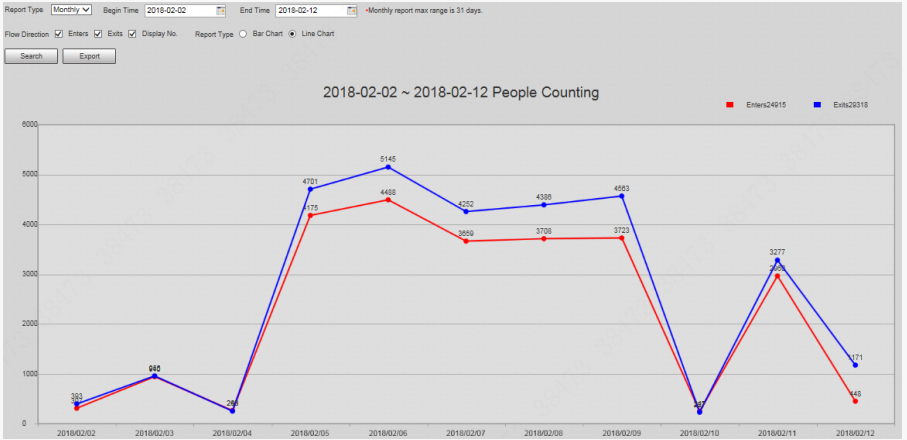
The detection width is calculated with a height of 1.8m, which is an effective detectable width value

The monitoring width W is the effective detection width corresponding to the camera center axis, and the detection width of the farthest end or the nearest end of the camera.

User Guide - Statistical Reports

- ✓ Support people counting statistical reports by day/month/year;
- ✓ Support bar chart and line chart;
- ✓ Supportable export file format includes image files(.bmp) and spreadsheet file(.csv)

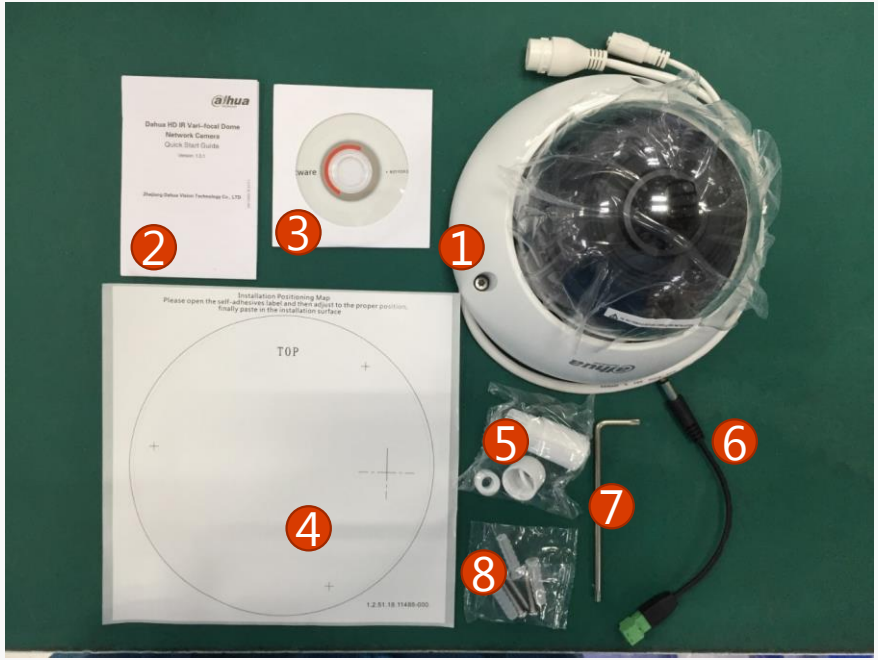




What's in the box?

NEW

DH-IPC-HDW8241E-Z
DH-IPC-HDW8241E-Z5



① 1x Camera
② 1x Quick Start Guide
③ 1x Drivers CD
④ 1x Installation Sticker
⑤ 1x Waterproof Connector Kit
⑥ 1x Power Adapter
⑦ 1x Allen Wrench
⑧ 1x Screw Package

What's in the box?

NEW

DH-IPC-HFW8241E-Z

DH-IPC-HFW8241E-Z5

① 1x Camera
② 1x Quick Start Guide
③ 1x Drivers CD
④ 1x Installation Sticker
⑤ 1x Waterproof Connector Kit
⑥ 1x Power Adapter
⑦ 1x Allen Wrench
⑧ 1x Screw Kit

What's in the box?

NEW

DH-IPC-HF8241F

① 1x Camera

② 1x Quick Start Guide

③ 1x CS/C Adapter

④ 1x CD

What’s in the box

DH-IPC-HD4140X-3D

NEW

① 1x Camera

② 1x Quick Start Guide

③ 1x Mounting Plate

④ 1x Screw Package

⑤ 1x Positioning Map

⑥ 1x CD

What's in the box

DH-IPC-HDW8341X-3D

① 1x Camera

② 1x Quick Start Guide

③ 1x CD

④ 1x Quick Mounting Board

⑤ 1x Waterproof Kit

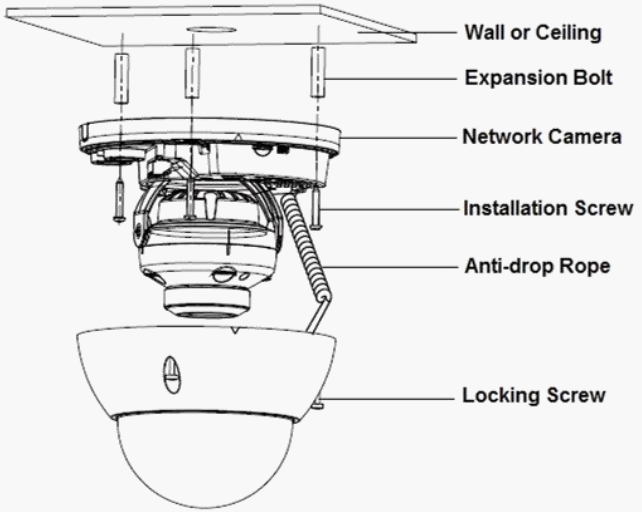
⑥ 1x Wrench

⑦ 1x Screw Kit

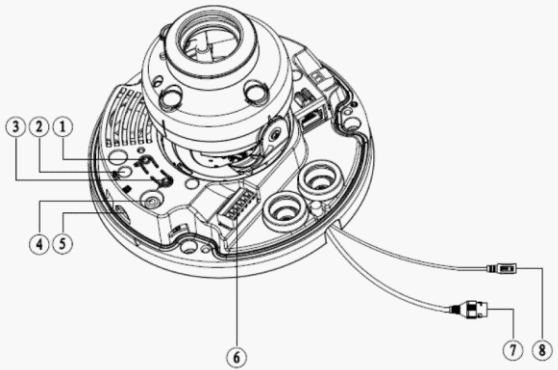
Installation

NEW

DH-IPC-HDW8241E-Z/Z5



Interfaces-DH-IPC-HDW8241E-Z/Z5

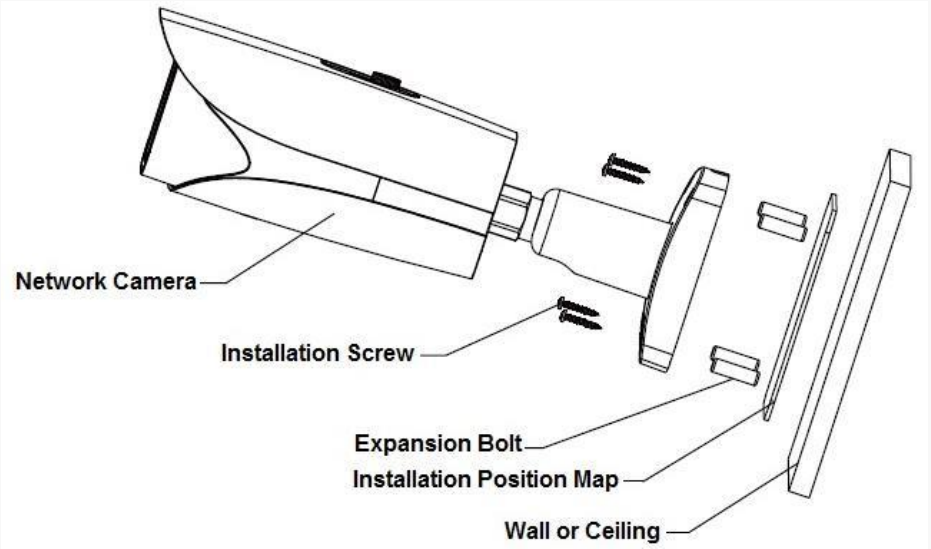


SN	Port	Port Name	Function Description
1	Zoom W	-	Adjust lens to wide angle end (image min zoom rate)
2	RESET	Reset button	Reset button, restore device factory default.
3	Zoom T	-	Adjust lens to telephoto end (image max zoom rate)
4	VIDEO_OUT	-	Output analog video signal, able to connect to TV monitor to view image.
5	Micro SD	Micro SD slot	Connect Micro SD for local storage
6	I/O	I/O port	Include alarm input, output and audio input, output.
7	POWER	Power input port	Power port, input DC12V or AC24V. Note: ● Please connect the default DC5.5 round port to 2-pin converter cable when you are using AC 24V power. ● Actual use in accordance with device label instruction.
8	LAN	Network port	● Connect to standard Ethernet ● Support PoE function

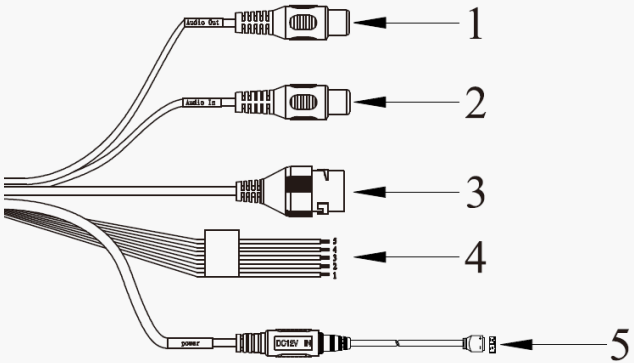
Installation

NEW

DH-IPC-HFW8241E-Z/Z5



Interfaces-DH-IPC-HFW8241E-Z/Z5

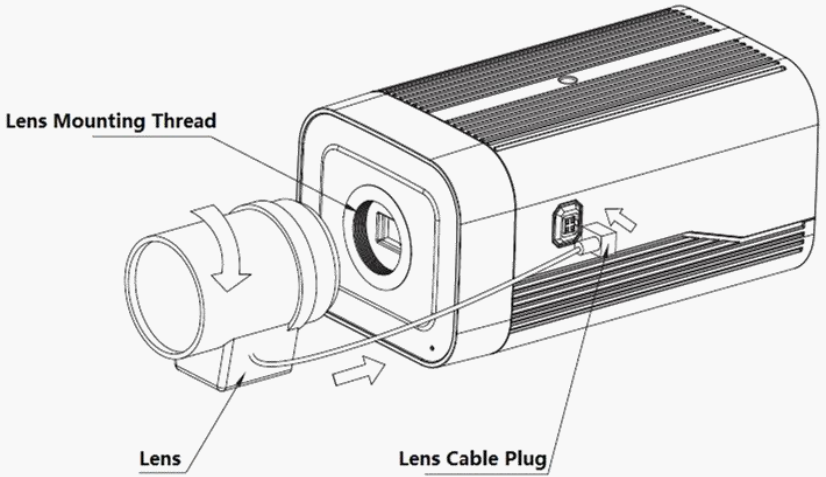


SN	Port	Port Name	Connector	Note
1	AUDIO OUT	Audio output port	RCA	Output audio signal to sound box and etc.
2	AUDIO IN	Audio input port	RCA	Input audio signal, receive analog audio signal from sound pick-up and etc.
3	LAN	Network port	Ethernet Port	Connect to standard Ethernet cable. Note: Some series don't support PoE.
4	I/O	I/O port	-	Alarm signal input/output.
5	Power	Power input port		Power port. Input DC 12V or AC 24V power. Note: Please connect the DC5.5 round port to 2-pin converter cable when you are using AC 24V power. Please use according to device tag

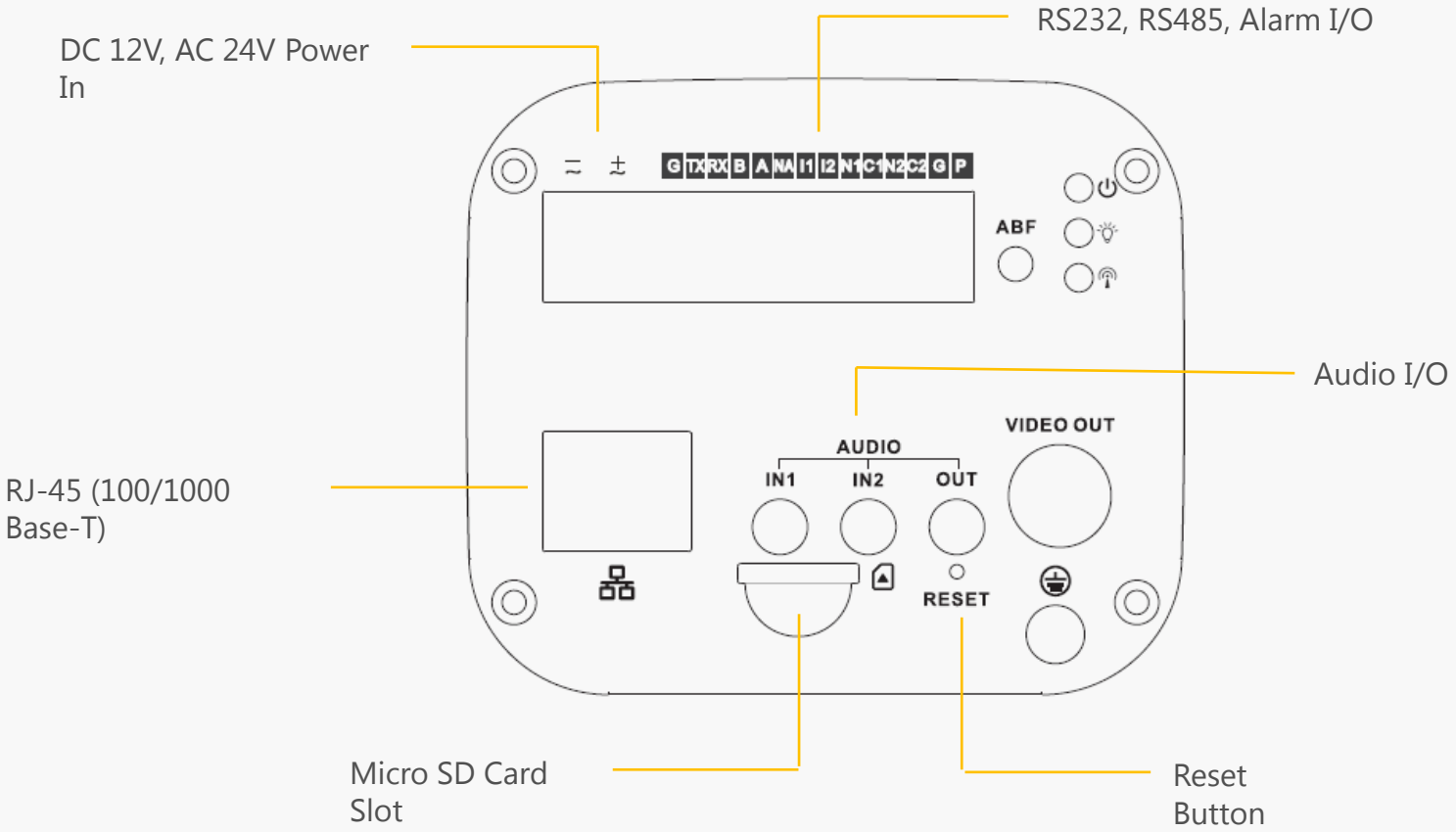
Installation

NEW

DH-IPC-HF8241F

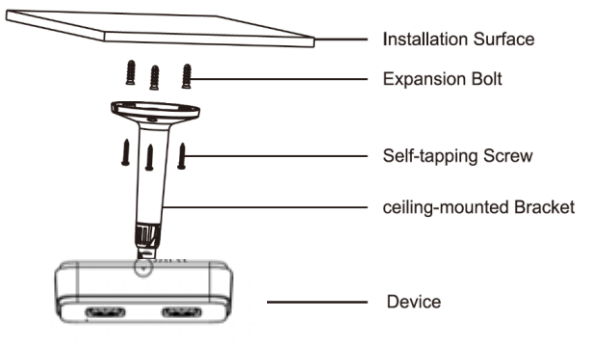


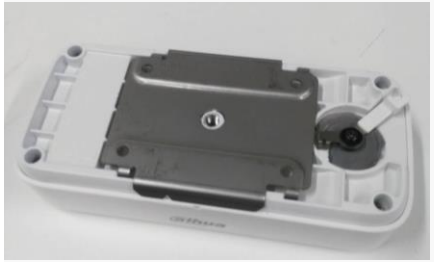
Interfaces-DH-IPC-HF8241F



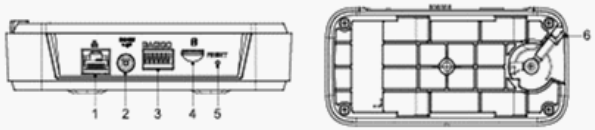
Installation

NEW **DH-IPC-HD4140X-3D**





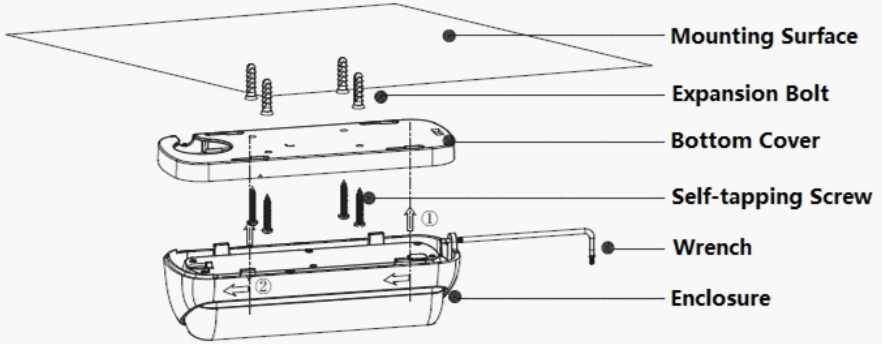
Interfaces-DH-IPC-HD4140X-3D



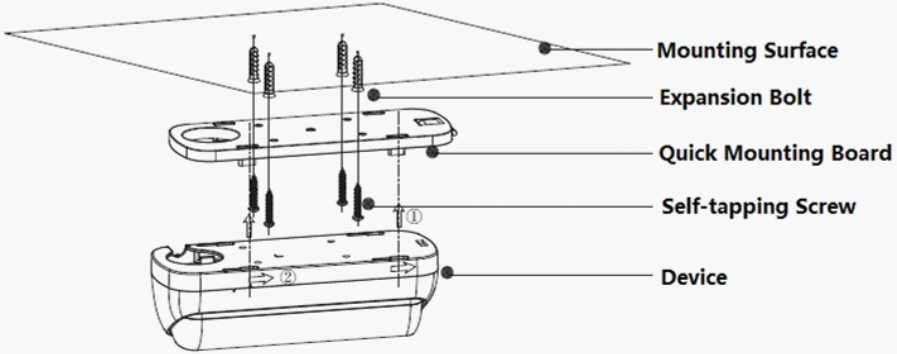
SN	Port Name	Note
1	Ethernet port	Connects to network with network cable Provides power to the device with PoE NOTE: PoE is available on select model.
2	12V DC power input	Inputs 12V DC power. Please be sure to power as instructed in the Guide. CAUTION: Device abnormity or damage could occur if power is not supplied correctly.
3	B	RS-485_B, controls external devices, such as PTZ.
	A	RS-485_A, controls external devices, such as PTZ.
	G	Ground connection.
	I	Receives the switch signal of external alarm source.
	O	Outputs alarm signal to alarm device.
4	SD card slot	Insert SD card to save files
5	Reset button	Press the button for 10s to reset the device to the factory settings
6	Locking lever	Lock the device to mounting plate after installation. The lever is at locking position by default, please turn it clockwise to unlock it before installation; and lock it back afterwards

Installation

DH-IPC-HDW8341X-3D

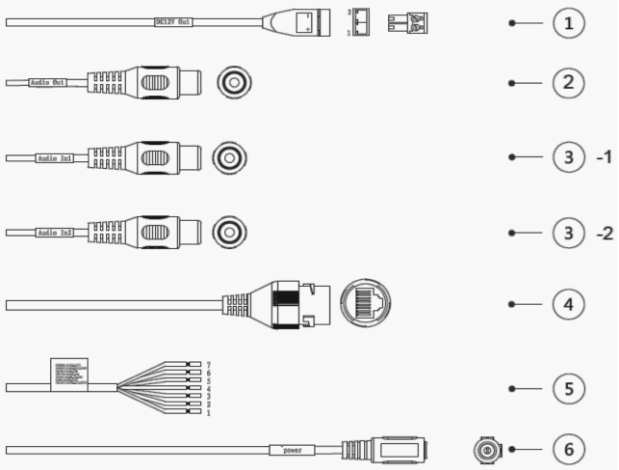


Install Device Directly



Install Device via Quick Mounting Board

Interfaces-DH-IPC-HDW8341X-3D



SN	Port	Port Name	Connector	Note
1	DC 12V OUT	Power reverse output port	-	Output DC 12V power, used to supply power to sound pick-up and other devices.
2	AUDIO OUT	Audio output port	RCA	Output audio signal to the speaker and other devices.
3	AUDIO IN	Audio input port	RCA	Input audio signal, receive analog audio signal from audio pick-up and other devices.
4	LAN	Network port	Ethernet port	Connect to standard Ethernet cable, provide PoE power supply function. Note: Some devices don't support PoE power supply.
5	I/O	I/O port	-	Include alarm signal input, output, and please refer to Table 1-2 for more details.
6	Power	Power input port		It is to input DC 12V, please conform to the device label instruction when powering device. Caution: It may cause damage to device if it fails to conform to device label instruction during power supply

Corollary Equipment

Product	Device Type	Program version
NVR	NVR5832-4KS2	Customer_NVR5XXX-4KS2_Eng_DH_StereoNumber_V3.215.0012001.0.T.20180508.zip
	NVR5864-16P-4KS2E	
	NVR5432-16P-4KS2	
DSS	DSS-pro	General_DSS_PROFESSIONAL_V7.01.000.R.20171208.exe
Client	SmartPss	DH_SmartPSS_ChnEng_Win32_IS_V2.02.0.T.180330副本.zip

Corollary Equipment

Product	Device Type	Program version
NVR	NVR5000-4KS2	The new program will be released in September, 2018
DSS	DSS-pro	General_OverseasDSS-PRO_Pro_V7.010.10RL000.0.R.20180614.exe
Client	SmartPss	DH_SmartPSS_ChnEng_Win32_IS_V2.02.0.T.180330副本.zip

1. Product Launch Objectives / Portfolio Positioning
2. Product Introduction
   - Product Overview
   - Key Features & Benefits
   - Mounting Tips
3. Vertical / Solution Overview
4. Market Deliverables

Vertical Market Overview

- The camera can be widely used in market entrance and exit management, station/airport checking system, banking, retail and other scenes with the demand of people counting.

- With advanced algorithm, the camera can offer an accurate detection and statistics of people flow. It can bring extra business analysis value for customers.

Retail &
Mall

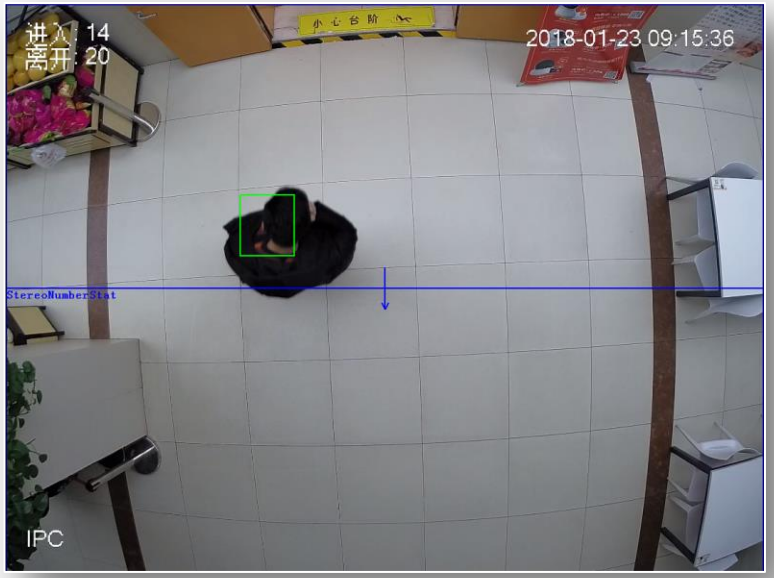
Finance &
Banking
中国工商银行
24小时自助银行
24 HOUR BANKING

Building

Airport & Station
出发
Departures
4
出发
Departure
4

Vertical Applications

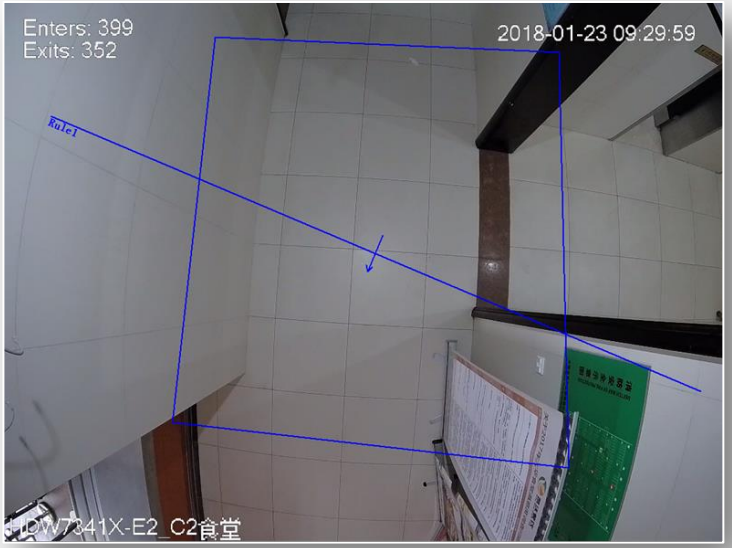
Recommended Scenarios



- Entrance and Exit
- The scene is open and no shelter
- Even lighting scene without reflection
- Single direction flow

Vertical Applications

Not Recommended Scenarios



- People flow in multi-direction

- Strong light reflection

1. Product Launch Objectives / Portfolio Positioning
2. Product Introduction
   - Product Overview
   - Key Features & Benefits
   - Mounting Tips
3. Vertical / Solution Overview
4. Market Deliverables

Release Date / Availability

Material Code	Model	Description	Release Time
1.0.01.04.27501	DH-IPC-HDBW8241EP-Z-27135	2MP IR People Counting AI Dome Network Camera	2018.8
1.0.01.04.27502	IPC-HDBW8241EP-Z-27135	2MP IR People Counting AI Dome Network Camera	
1.0.01.04.27503	DH-IPC-HDBW8241EP-Z-0735	2MP IR People Counting AI Dome Network Camera	
1.0.01.04.27504	IPC-HDBW8241EP-Z-0735	2MP IR People Counting AI Dome Network Camera	
1.0.01.04.27497	DH-IPC-HFW8241EP-Z-27135	2MP IR People Counting AI Bullet Network Camera	
1.0.01.04.27498	IPC-HFW8241EP-Z-27135	2MP IR People Counting AI Bullet Network Camera	
1.0.01.04.27499	DH-IPC-HFW8241EP-Z-0735	2MP IR People Counting AI Bullet Network Camera	
1.0.01.04.27500	IPC-HFW8241EP-Z-0735	2MP IR People Counting AI Bullet Network Camera	

Release Date / Availability

Material Code	Model	Description	Release Time
1.0.01.04.27495	DH-IPC-HF8241FP	2MP People Counting AI Box Network Camera	2018.8
1.0.01.04.27496	IPC-HF8241FP	2MP People Counting AI Box Network Camera	
1.0.01.04.27444	DH-IPC-HD4140XP-3D-0210B	1.3MP Dual-Lens People Counting AI Network Camera	
1.0.01.04.27445	DH-IPC-HD4140XP-3D-0280B	1.3MP Dual-Lens People Counting AI Network Camera	
1.0.01.04.27446	IPC-HD4140XP-3D-0210B	1.3MP Dual-Lens People Counting AI Network Camera	
1.0.01.04.27447	IPC-HD4140XP-3D-0280B	1.3MP Dual-Lens People Counting AI Network Camera	

Release Date / Availability

Material Code	Model	Description	Release Time
1.0.01.04.26147	DH-IPC-HDW8341XP-3D-0280B	3MP Dual-Lens People Counting AI Network Camera, PAL	2018.2
1.0.01.04.26148	DH-IPC-HDW8341XN-3D-0280B	3MP Dual-Lens People Counting AI Network Camera, NTSC	
1.0.01.04.26149	DH-IPC-HDW8341XP-3D-0360B	3MP Dual-Lens People Counting AI Network Camera, PAL	
1.0.01.04.26150	DH-IPC-HDW8341XN-3D-0360B	3MP Dual-Lens People Counting AI Network Camera, NTSC	
1.0.01.04.26153	IPC-HDW8341XP-3D-0280B	3MP Dual-Lens People Counting AI Network Camera, PAL	
1.0.01.04.26154	IPC-HDW8341XN-3D-0280B	3MP Dual-Lens People Counting AI Network Camera, NTSC	
1.0.01.04.26155	IPC-HDW8341XP-3D-0360B	3MP Dual-Lens People Counting AI Network Camera, PAL	
1.0.01.04.26156	IPC-HDW8341XN-3D-0360B	3MP Dual-Lens People Counting AI Network Camera, NTSC	

Quality · Service · Innovation

The smart security, **I P** romise you.