Network Dome Camera

Installation Manual

V3.0.0

Hangzhou Hikvision Digital Technology Co., Ltd.

http://www.hikvision.com

2010-04

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

This manual applies to DS-2CD763PF(NF)-E(I), DS-2CD753F-E(I), DS-2CD793PF(NF)-E(I), DS-2CD793PFWD(NFWD)-E(I) and DS-2CD733F-E(I) Network Camera.

This manual may contain several technical incorrect places or printing errors, and the content is subject to change without notice. The updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

DISCLAIMER STATEMENT

"Underwriters Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested for fire, shock or casualty hazards as outlined in UL's Standard(s) for Safety, UL60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product. UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT."

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into 'Warnings' and 'Cautions':

Warnings: Serious injury or death may be caused if any of these warnings are neglected.

Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

Warnings:

1. In the use of the product, you must strictly comply with the electrical safety regulations of the nation and region.
2. Source with DC 12V or AC24V according to the IEC60950-1 standard. Please refer to technical specifications for more details.
3. Do not connect several devices to one power adapter as an adapter overload may cause over-heating and can be a fire hazard.If use the POE as the power supply, please make sure that the POE Switch have the sufficient power.
4. Please make sure that the plug is firmly inserted into the power socket.
5. When the product is installed on a wall or ceiling, the device should be firmly fixed.

6. If smoke, odor, or noise rise from the device, turn off the power at once and unplug the power cable, then contact the service center.
7. If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

Notice:

1. Make sure the power supply voltage is correct before using the camera.
2. Do not drop the camera or subject it to physical shock.
3. Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
4. Do not aim the camera at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of sensor at the same time.
5. The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor will not be exposed to the laser beam.
6. Do not place the camera in extremely hot or cold temperatures (the operating temperature should be between -10°C ~ +60°C, dusty or damp locations, and do not expose it to high electromagnetic radiation.
7. To avoid heat accumulation, good ventilation is required for a proper operating environment.
8. While shipping, the camera should be packed in its original packing, or packing of the same texture.
9. Regular part replacement: a few parts (e.g. electrolytic capacitor) of the equipment should be replaced regularly according to their average life time. The average time varies because of differences between operating environment and usage history, so regular

checking is recommended for all users. Please contact with your dealer for more details.

Index

Chapter 1 Introduction 1
1.1 Network camera Functions and Features 1
1.2 Applications 2
Chapter 2 Installation 3
2.1 Camera Description and Connection 3
2.2 Hardware Installation 5
Appendix Product Specification 8
DS-2CD763PF(NF)-E(I) 8
Specification 8
Dimensions 9
DS-2CD753F-E(I) 10
Specification 10
Dimensions 11
DS-2CD793PF(NF)-E(I) 12
Specification 12
Dimensions 13
DS-2CD793PFWD(NFWD)-E(I) 14
Specification 14
Dimensions 15
DS-2CD733F-E(I) 16
Specification 16

Dimensions 17

Chapter 1 Introduction

Network camera is a kind of embedded digital surveillance product that combines the features of both traditional analog camera and net DVS (Digital Video Server). Due to the embedded Linux operation system and the latest Davinci hardware platform of TI, the system operates with high scheduling efficiency. Furthermore, the firmware is burned in the flash, which makes the product small, reliable and highly stable.

1.1 Network camera Functions and Features

Functions:

- Network Function: Support the TCP/IP protocols and IE browsing.
- Heartbeat Function: The server can acquire real time operating performance of the network camera through the heartbeat function.
- Alarm Function: The product includes 2 channel of alarm signal input and 2 channel of alarm on/off output, and supports motion detection, video loss, Network Broken, IP address conflict, Storage exception.
- Voice Talking: Support bidirectional voice talking.
- User Management: Support multilevel right management. The administrator can create up to 15 separate users with different right levels, which highly improves the system security.

Compression Functions:

- Support 1 channel video signal and standard H.264 encoding compression, which

supports both variable bit rate and variable frame rate; besides, you can self-define both the video quality and its compressed bit rate.

Remote Control:

- The product offers a 10M/100M self-adaptive Ethernet interface.
- Support TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, PPPoE, SMTP, NTP protocols.
- Set the parameters, browse real time videos or check the camera performance through software or IE, and store the compressed bit rate through network.
- Support remote upgrades and maintenance.

1.2 Applications

This camera is ideal for remote control network applications. E.g.:

1. Network surveillance for bank counters, supermarkets and factories.
2. Remote surveillance for nursing homes, kindergartens and schools.
3. AI janitors.
4. AI building/district management systems.
5. Self-service systems of power plants.
6. Pipelining and warehouse monitoring.
7. Surveillance for airdrome, railway station, bus stop etc.

Hangzhou Hikvision Digital Technology Co., Ltd. | Copyright ©

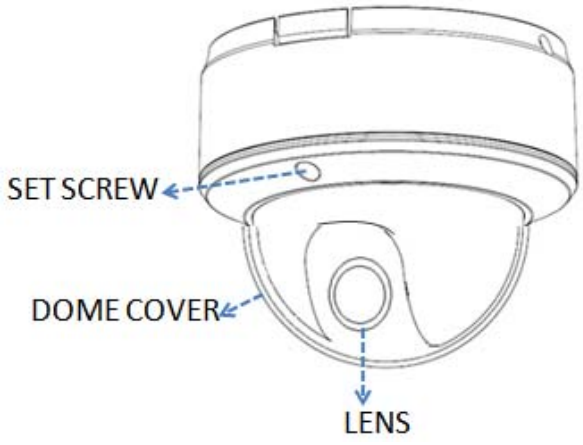
Chapter 2 Installation

NOTE:

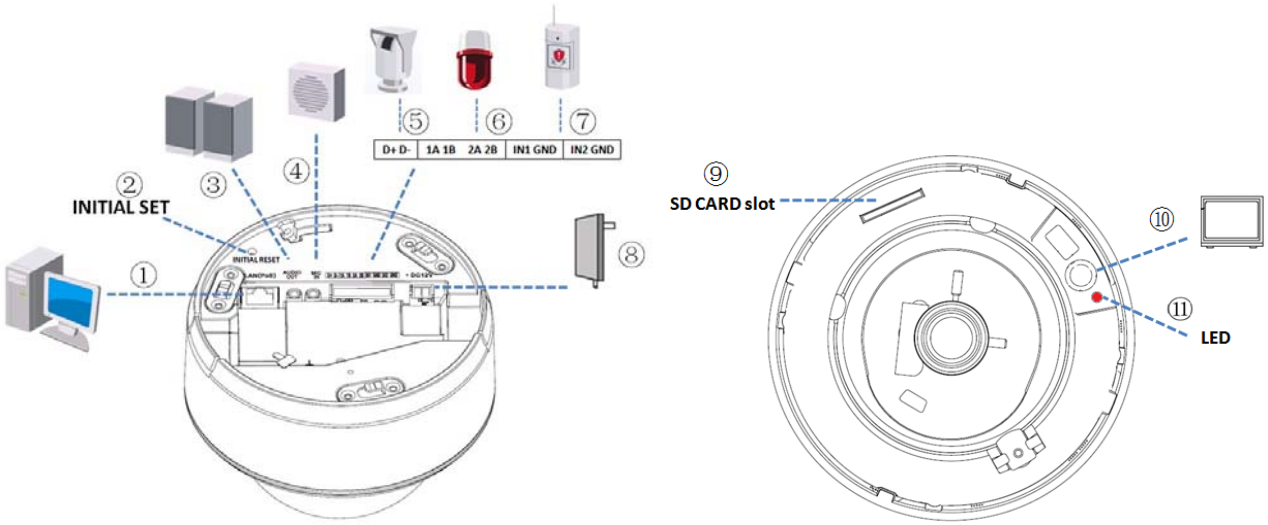
1. Please check if all the items on the package list have been included with your camera.
2. Read the following contents carefully before the installation.
3. Make sure that all the related equipment is power-off during the installation.
4. Check the power supply to prevent any damage caused by mismatching problems.
5. If the product does not operate properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. Users are responsible for any problem caused by modification or repairing without authorization.

2.1 Camera Description and Connection

Camera description:



Camera Connection:

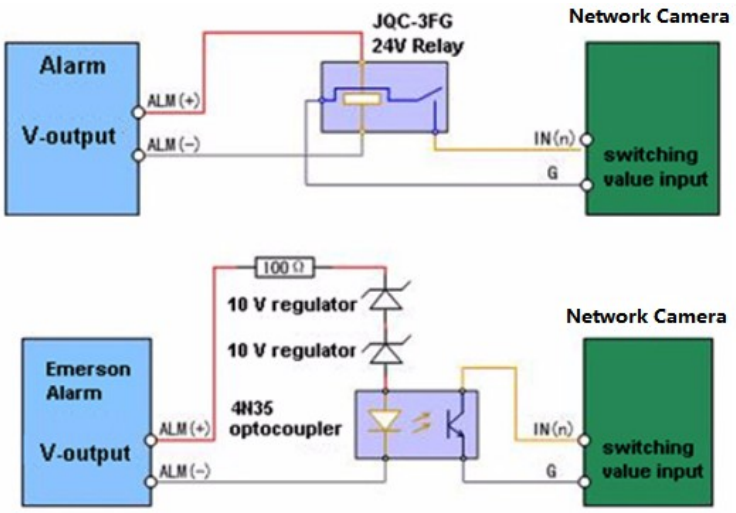


Serial NO.	Description
1	LAN(PoE): 10M/100M self-adaptive Ethernet interface
2	INITIAL SET: Reset all parameters to factory default settings.
3	AUDIO OUT: Audio output interface
4	MIC IN: Audio input interface
5	D+, D-: RS-485 interface
6	1A 1B, 2A 2B: Alarm output interface
7	IN1 GND, IN2 GND: Alarm input interface
8	Power supply
9	SD card slot
10	Video output interface
11	Power LED indicator, which turns red when power is applied to the unit

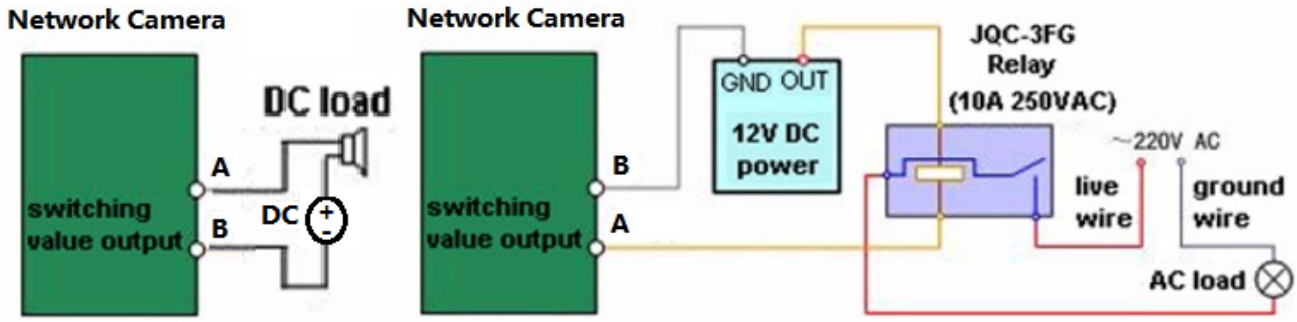
NOTE:

When the camera is power up, press the "INITIAL SET" button for about 10 seconds, then all parameters, including user name, password, IP address, port number, etc., will be reset to the factory default settings.

The alarm input is a NO/NC relay. If the input is not a NO/NC relay, follow the connection diagram below:



To connect to an AC/DC load, use the following diagram:



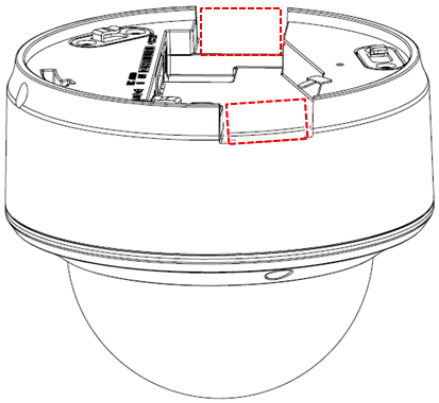
The alarm output is an on/off output that requires external power supply on connection. The external power supply shall be 12V DC/30mA, or use AC with external relays. Equipment damage or electric shock may cause if without relays.

2.2 Hardware Installation

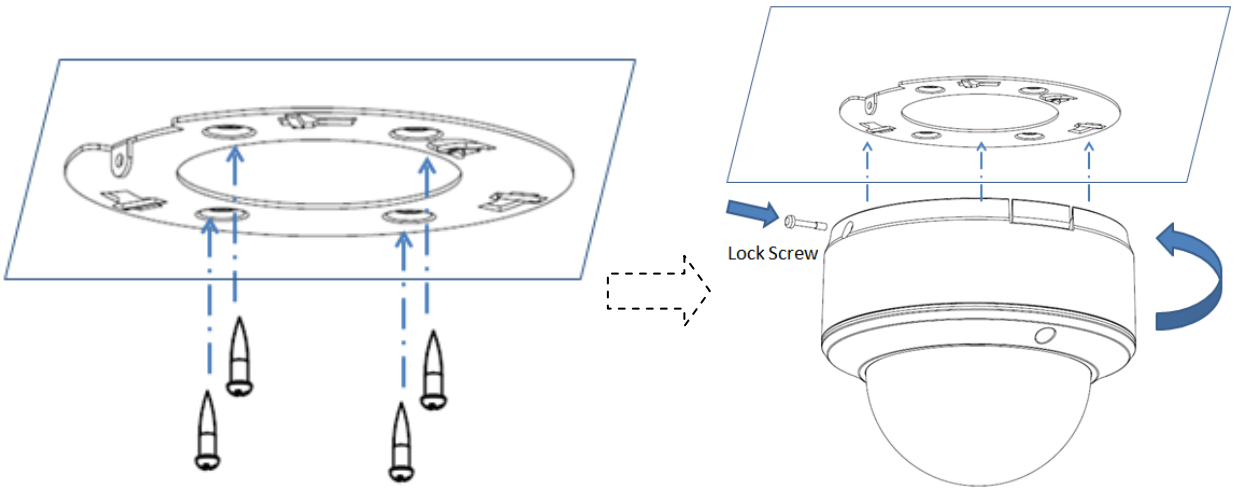
The ceiling mount is a suitable installation method for this camera. Please stick to the following steps:

NOTE:

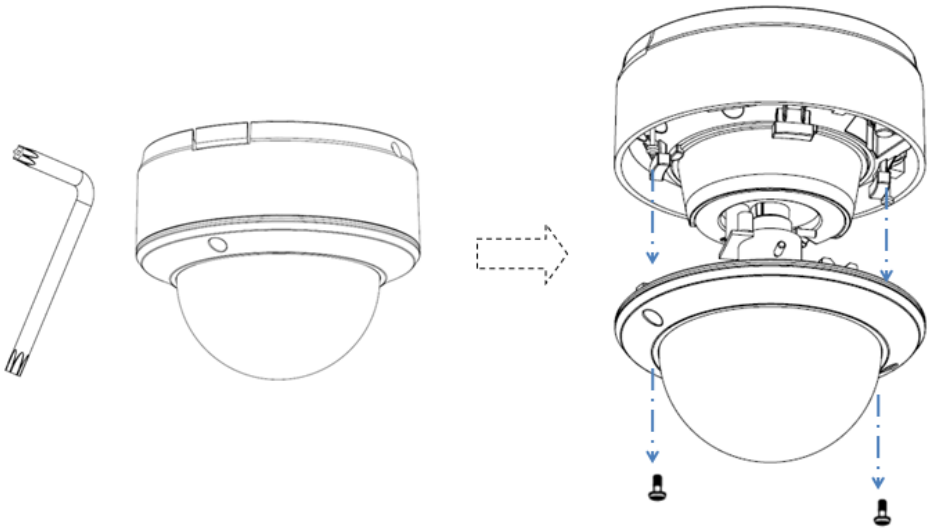
If required, user can apply the pliers to remove the clip (refer to the part



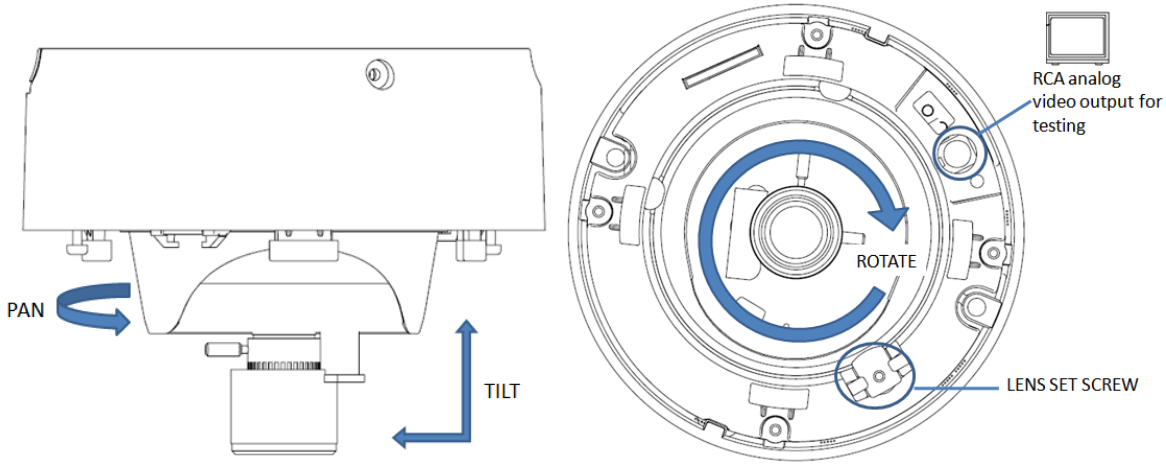
1. Use the screws to fix the bottom plate on the ceiling, and rotate dome camera in anti-clockwise direction to attach it to the bottom plate, and finally use the lock screw to secure the dome camera into position.



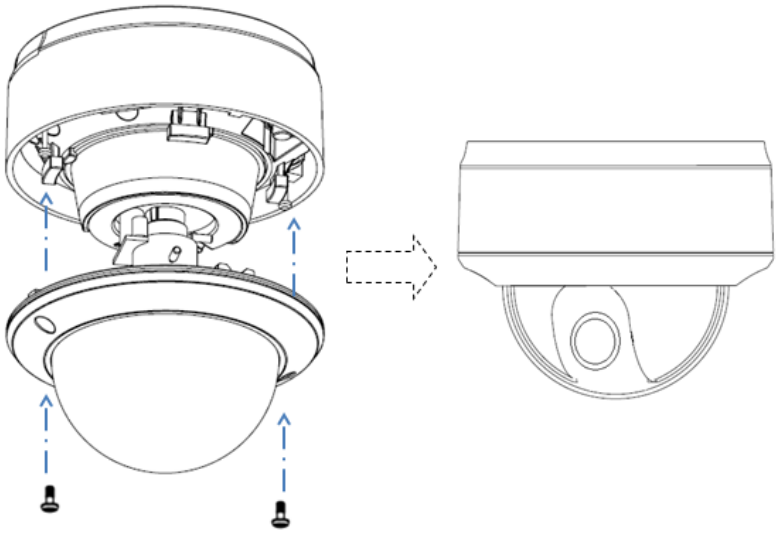
2. Loosen the set screws with a hexagonal screw driver (attached with the camera), and take down the dome cover.



3. While viewing the video on the monitor, adjust the camera's view angle for your need.



4. Install the dome cover and tighten the screws.



Appendix Product Specification

DS-2CD763PF(NF)-E(I)

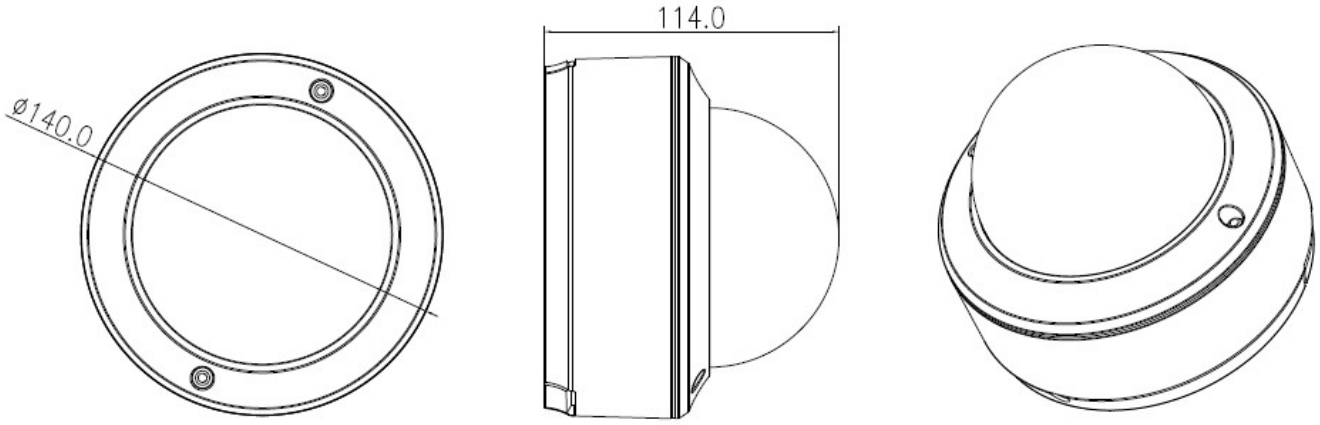
Specification

Model / Parameter	DS-2CD763PF-E(I) / DS-2CD763NF-E(I)
	1.3 Megapixel 1/3 "CCD Day&Night Vandal-proof Network Dome Camera
Camera	
Image Sensor	1/3 " SONY Progressive Scan CCD
Signal System	PAL / NTSC
Min. Illumination	0.1Lux @(F1.2, AGC ON) -I : 0.1Lux @(F1.2, AGC ON), 0 Lux with IR
Electronic Shutter	1/25(1/30)s ~1/100,000s
Lens	2.7-9mm @ F1.2 Angle of view: 101°~30.4°
Lens Mount	φ14
Auto Iris	DC Drive
Adjustment Range	Pan0~360°, Tilt0~75°, Rotation0~360°
Day& Night	Electronic (-I: IR cut filter with auto switch)
Compression Standard	
Video Compression	H.264/Mjpeg
Bit rate	32 Kbps~16Mbps
Audio Compression	G.711(G.722.1 optional)
Image	
Max. Image Resolution	1280 x 960
Frame Rate	50HZ: 12.5fps (1280 x 960), 25fps (1280 x 720) 60HZ: 15fps (1280×960), 30fps (1280 x 720)
Image Settings	Saturation, Brightness, Contrast adjustable through client software or web browser
Network	

Storage	Support SD/SDHC, NAS (ISCSI optional)
Intelligent Alarm	Motion Detection, Video Loss, Network Broken, IP address conflict, Storage exception
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, PPPoE, SMTP, NTP (SNMP, HTTPS, FTP, SIP, SRTP, 802.1x, IPV6 optional)
Basic	Initial Set Button, Anti-flicker, Dual Stream, Heartbeat, Password Protection, Watermark
Interface	
Audio Input	1 channel microphone input, 3.5mm mini-jack
Audio Output	1 channel 3.5mm audio interface (Line level, 600Ω)
Communication Interface	1 RJ45 10M / 100M self-adaptive Ethernet interface, 1 RS-485 interface
Alarm Input	2 channel
Alarm Output	2 channel
Video Output	1Vp-p Composite Output (75Ω/RCA)
General	
Operating Condition	-10℃~60℃(14°F~140°F), Humidity 90% or less(non-condensing)
Power Supply	DC12V±10% / PoE (AC24V optional)
Power Consumption	7.5W MAX -I: 9W MAX(9.5W MAX with ICR working)
Impact Protection	IEC60068-2-75Eh,50J;EN50102, up to IK10
IR Range	-I: Within 10-20 meters (32.8-65.6ft)
Dimensions(mm)	φ140 × 114 (φ5.5" × 4.9")
Weight	1400g (3.08lbs)

*"I" series supports 10-20 meters (32.8-65.6ft) IR Range

Dimensions



DS-2CD753F-E(I)

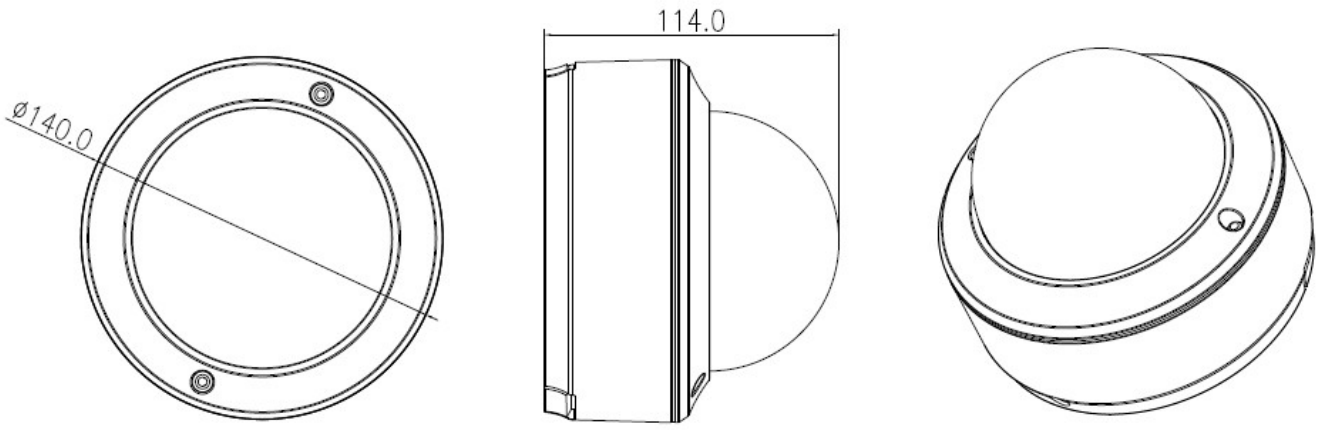
Specification

Parameter \ Model	DS-2CD753F-E(I)
	2 Megapixel 1/3 " CMOS Day&Night Vandal-proof Network Dome Camera
Camera	
Image Sensor	1/3 " Progressive Scan CMOS
Min. Illumination	0.5Lux @(F1.2, AGC ON), 0.1Lux @(F1.2, AGC ON, Sense-up×5) -I: 0.5Lux @(F1.2, AGC ON), 0.1Lux @(F1.2, AGC ON, Sense×5) , 0 Lux with IR
Electronic Shutter	1/25s ~1/100,000s
Lens	2.7-9mm @ F1.2 Angle of view: 101°~30.4°
Lens Mount	φ14
Auto Iris	DC Drive
Adjustment Range	Pan0~360°, Tilt0~75°, Rotation0~360°
Day&Night	Electronic (-I: IR cut filter with auto switch)
Compression Standard	
Video Compression	H.264/MJpeg
Bit rate	32 Kbps~16Mbps
Audio Compression	G.711(G.722.1 optional)
Image	
Max. Image Resolution	1600 x 1200
Frame Rate	50HZ: 12.5fps (1600×1200), 12.5fps (1600×912), 25fps (1280×960), 25fps (1280×720) 60HZ: 15fps (1600×1200), 15fps (1600×912), 25fps (1280×960), 30fps (1280×720)
Video Parameter	Saturation, Brightness, Contrast adjustable through client software or web browser
Network	
Storage	Support SD/SDHC, NAS (ISCSI optional)
Intelligent Alarm	Motion Detection, Video Loss, Network Broken, IP address conflict,

	Storage exception
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, PPPoE, SMTP, NTP (SNMP, HTTPS, FTP, SIP, SRTP, 802.1x, IPV6 optional)
Basic	e-PTZ , Initial Set Button, Anti-flicker, Dual Stream, Heartbeat, Password Protection, Watermark
Interface	
Audio Input	1 channel microphone input, 3.5mm mini-jack
Audio Output	1 channel 3.5mm audio interface (Line level, 600Ω)
Communication Interface	1 RJ45 10M / 100M self-adaptive Ethernet interface, 1 RS-485 interface
Alarm Input	2 channel
Alarm Output	2channel
Video Output	1Vp-p Composite Output (75Ω/RCA)
General	
Operating Condition	-10℃~60℃(14°F~140°F), Humidity 90% or less(non-condensing)
Power Supply	DC12V±10% / PoE (AC24V optional)
Power Consumption	4.5W MAX -I: 6W MAX(6.5W MAX with ICR working)
Impact Protection	IEC60068-2-75Eh,50J;EN50102, up to IK10
IR Range	-I: Within 10-20 meters (32.8-65.6ft)
Dimensions(mm)	φ140 × 114 (φ5.5" × 4.9")
Weight	1400g (3.08lbs)

* "I" series supports 10-20 meters (32.8-65.6ft) IR Range

Dimensions



DS-2CD793PF(NF)-E(I)

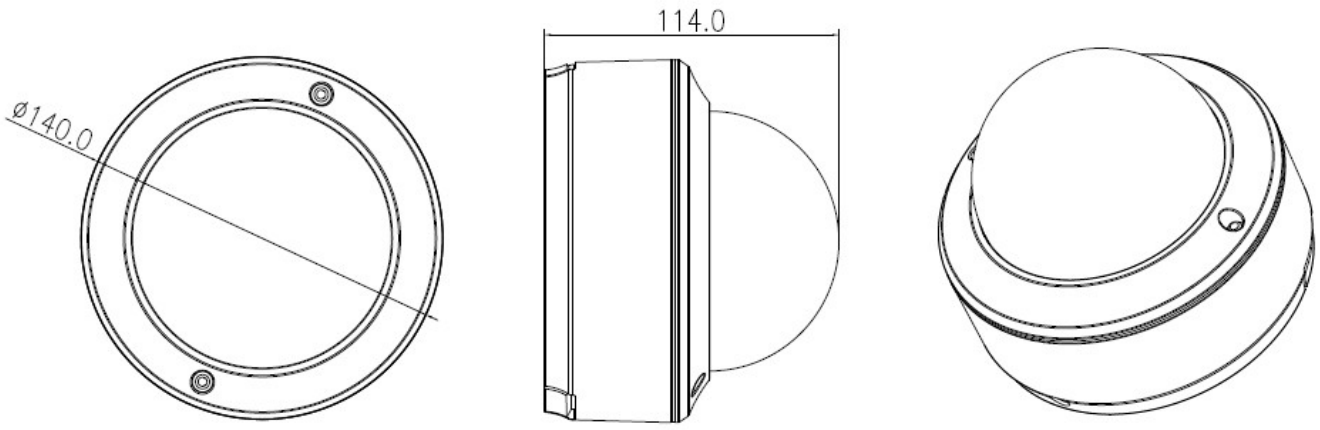
Specification

Parameter \ Model	DS-2CD793PF-E(I) / DS-2CD793NF-E(I)
	4CIF 1/3 " CCD Low Illumination Day&Night Vandal-proof Network Dome Camera
Camera	
Image Sensor	1/3 " SONY CCD
Signal System	PAL / NTSC
Min. Illumination	0.02Lux @ (F1.2, AGC ON) 0.027Lux @(F1.4, AGC ON) -I: 0.02Lux @ (F1.2, AGC ON),0 Lux with IR 0.027Lux @(F1.4, AGC ON), 0 Lux with IR
Electronic Shutter	1/25(1/30)s ~1/100,000s
Lens	2.8-11mm @ F1.4 Angle of view: 97°~24°
Lens Mount	φ14
Auto Iris	DC Drive
Adjustment Range	Pan0~360°, Tilt0~75°, Rotation0~360°
Day&Night	Electronic (-I: IR cut filter with auto switch)
Compression Standard	
Video Compression	H.264/MJpeg
Bit rate	32 Kbps~8Mbps
Audio Compression	G.711(G.722.1 optional)
Image	
Max. Image Resolution	PAL: 704 × 576 NTSC: 704 × 480
Frame Rate	50HZ:25 fps (704 × 576) 60HZ:30fps (704 × 480)
Image Settings	Saturation, Brightness, Contrast adjustable through client software or web browser
Network	
Storage	Support SD/SDHC, NAS (ISCSI optional)
Intelligent Alarm	Motion Detection, Video Loss, Network Broken, IP address conflict,

	Storage exception
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, PPPoE, SMTP, NTP (SNMP, HTTPS, FTP, SIP, SRTP, 802.1x, IPV6 optional)
Basic	Initial Set Button, Anti-flicker, Dual Stream, Heartbeat, Password Protection, Watermark
Interface	
Audio Input	1 channel microphone input, 3.5mm mini-jack
Audio Output	1 channel 3.5mm audio interface (Line level, 600Ω)
Communication Interface	1 RJ45 10M / 100M self-adaptive Ethernet interface, 1 RS-485 interface
Alarm Input	2 channel
Alarm Output	2channel
Video Output	1Vp-p Composite Output (75Ω/RCA)
General	
Operating Condition	-10℃~60℃(14°F~140°F), Humidity 90% or less(non-condensing)
Power Supply	DC12V±10% / PoE (AC24V optional)
Power Consumption	5.5W MAX -I: 7W MAX(7.5W MAX with ICR working)
Impact Protection	IEC60068-2-75Eh,50J;EN50102, up to IK10
IR Range	-I: Within 20-30 meters (65.6-98.4ft)
Dimensions(mm)	φ140 × 114 (φ5.5" × 4.9")
Weight	1400g (3.08lbs)

*"I" series supports 20-30 meters (65.6-98.4ft) IR Range

Dimensions



DS-2CD793PFWD(NFWD)-E(I)

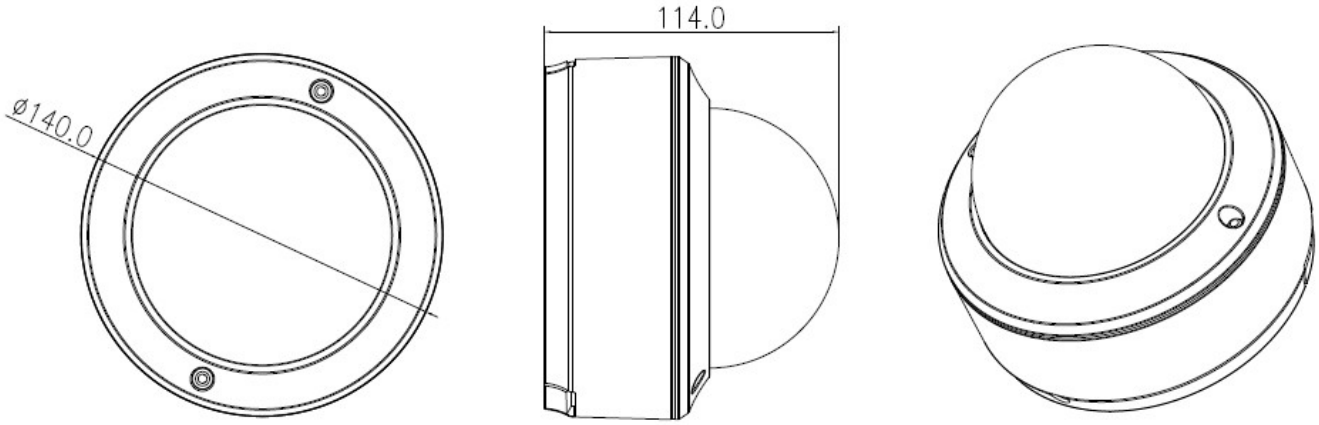
Specification

Model / Parameter	DS-2CD793PFWD-E(I) / DS-2CD793NFWD-E(I)
	4CIF 1/3 "CCD WDR Day&Night Vandal-proof Network Dome Camera
Camera	
Image Sensor	1/3" SONY vertical double density interline CCD
Signal System	PAL / NTSC
Min. Illumination	0.1Lux @(F1.2, AGC ON) 0.14Lux @(F1.4, AGC ON) -I: 0.1Lux @(F1.2, AGC ON) , 0 Lux with IR 0.14Lux @(F1.4, AGC ON), 0 Lux with IR
Electronic Shutter	1/25(1/30)s ~1/100,000s
Lens	2.8-11mm @ F1.4 Angle of view: 97°~24°
Lens Mount	φ14
Auto Iris	DC Drive
Adjustment Range	Pan0~360°, Tilt0~75°, Rotation0~360°
Day&Night	Electronic (-I: IR cut filter with auto switch)
Wide Dynamic Range	160X
Compression Standard	
Video Compression	H.264/Mjpeg
Bit rate	32 Kbps~8Mbps
Audio Compression	G.711(G.722.1 optional)
Image	
Max. Image Resolution	PAL: 704 × 576 NTSC: 704 × 480
Frame Rate	50HZ:25fps (704 × 576) 60HZ: 30fps (704 × 480)
Image Settings	Saturation, Brightness, Contrast adjustable through client software or web browser
Network	
Storage	Support SD/SDHC, NAS (ISCSI optional)

Intelligent Alarm	Motion Detection, Video Loss, Network Broken, IP address conflict, Storage exception
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, PPPoE, SMTP, NTP (SNMP, HTTPS, FTP, SIP, SRTP, 802.1x, IPV6 optional)
Basic	Initial Set Button, Anti-flicker, Dual Stream, Heartbeat, Password Protection, Watermark
Interface	
Audio Input	1 channel microphone input, 3.5mm mini-jack
Audio Output	1 channel 3.5mm audio interface (Line level, 600Ω)
Communication Interface	1 RJ45 10M / 100M self-adaptive Ethernet interface, 1 RS-485 interface
Alarm Input	2 channel
Alarm Output	2channel
Video Output	1Vp-p Composite Output (75Ω/RCA)
General	
Operating Condition	-10℃~60℃(14°F~140°F), Humidity 90% or less(non-condensing)
Power Supply	DC12V±10% / PoE (AC24V optional)
Power Consumption	5.5W MAX -I: 7W MAX(7.5W MAX with ICR working)
Impact Protection	IEC60068-2-75Eh,50J;EN50102, up to IK10
IR Range	-I: Within 10-20 meters (32.8-65.6ft)
Dimensions(mm)	φ140 × 114 (φ5.5" × 4.9")
Weight	1400g (3.08lbs)

*"I" series supports 10-20 meters (32.8-65.6ft) IR Range

Dimensions



DS-2CD733F-E(I)

Specification

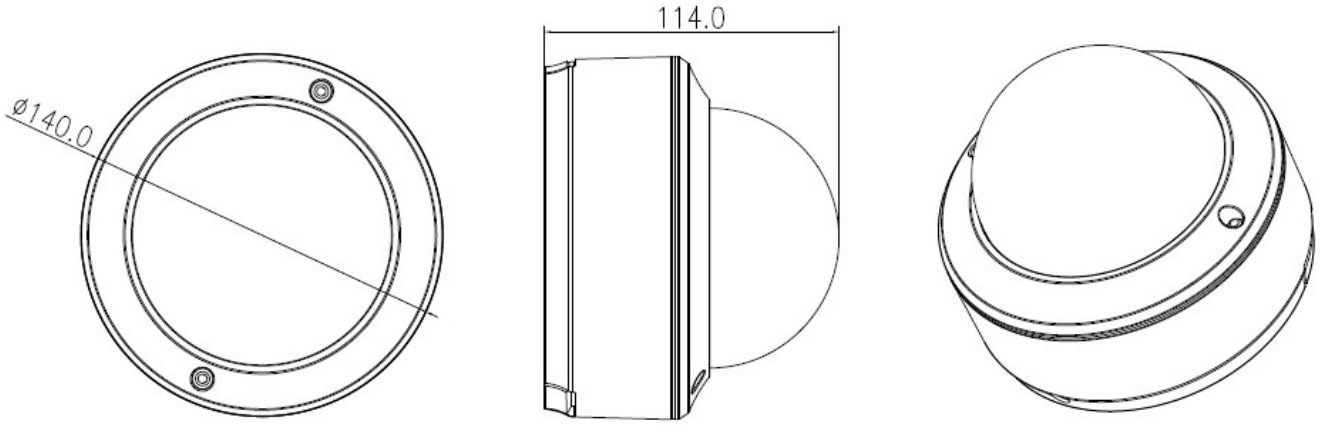
Model / Parameter	DS-2CD733F-E(I)
	VGA 1/4" CMOS Day&Night Vandal-proof Network Dome Camera
Camera	
Image Sensor	1/4" Progressive Scan CMOS
Electronic Shutter	1/25s ~1/100,000s
Min. Illumination	0.2Lux @(F1.2,,AGC ON) 0.27Lux @(F1.4, AGC ON) -I : 0.2 Lux @(F1.2, AGC ON) , 0 Lux with IR 0.27 Lux @(F1.4, AGC ON) , 0 Lux with IR
Lens	2.8-11mm @ F1.4 Angle of view: 70°~18°
Lens Mount	φ14
Auto Iris	DC Drive
Adjustment Range	Pan0~360°, Tilt0~75°, Rotation0~360°
Day / Night	Electronic (-I: IR cut filter with auto switch)
Compression Standard	
Video Compression	H.264/Mjpeg
Bit rate	32 Kbps~8Mbps
Audio Compression	G.711(G.722.1 optional)
Image	
Max. Image Resolution	640×480
Frame Rate	50HZ: 25fps(640×480) 60HZ: 30fps(640×480)
Video Parameter	Saturation, Brightness, Contrast adjustable through client software or web browser
Network	
Storage	Support SD/SDHC, NAS (ISCSI optional)
Intelligent Alarm	Motion Detection, Video Loss, Network Broken, IP address conflict, Storage exception
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, PPPoE, SMTP, NTP (SNMP, HTTPS, FTP, SIP, SRTP, 802.1x, IPV6 optional)
Basic	Initial Set Button, Anti-flicker, Dual Stream, Heartbeat, Password

Hangzhou Hikvision Digital Technology Co., Ltd. | Copyright ©

	Protection, Watermark
Interface	
Audio Input	1 channel microphone input, 3.5mm mini-jack
Audio Output	1 channel 3.5mm audio interface (Line level, 600Ω)
Communication Interface	1 RJ45 10M / 100M self-adaptive Ethernet interface, 1 RS-485 interface
Alarm Input	2 channel
Alarm Output	2 channel
Video Output	1Vp-p Composite Output (75Ω/RCA)
General	
Operating Condition	-10℃~60℃(14°F~140°F), Humidity 90% or less(non-condensing)
Power Supply	DC12V±10% / PoE (AC24V optional)
Power Consumption	4.5W MAX -I: 6W MAX(6.5W MAX with ICR working)
Impact Protection	IEC60068-2-75Eh,50J;EN50102, up to IK10
IR Range	-I: Within 10-20 meters (32.8-65.6ft)
Dimensions(mm)	φ140 × 114 (φ5.5" × 4.9")
Weight	1400g (3.08lbs)

*"I" series supports 10-20 meters (32.8-65.6ft) IR Range

Dimensions



First Choice for Security Professionals