



Outdoor D/N WDR HD Fast Dome IP Camera



**IPS4184E/4188E, IPS4204E/4208E
IPS4304E/4308E, IPS6224E/6228E
Instruction Manual**

IMPORTANT SAFEGUARDS



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION :
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

GRAPHIC SYMBOL EXPLANATION

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the unit.



CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED
BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING
TO THE INSTRUCTIONS



PREFACE

IPS4184E/4188E, IPS4204E/4208E, IPS4304E/4308E, IPS6224E/6228E with High resolution of HD/Full HD offer significant enhancement and refinements to bring you the most innovative surveillance solutions.

IPS4184E/4188E, IPS4204E/4208E, IPS4304E/4308E, IPS6224E/6228E are the leading product in the industry offering the most advanced features such as 18X/20X/30X/22X optical zoom lens, Digital Zoom, Wide Dynamic Range, Digital Noise Reduction, High Light Compensation and Digital Image Stabilizer.

IPS4184E/4188E, IPS4204E/4208E, IPS4304E/4308E, IPS6224E/6228E measure only 210mm in diameter and is capable of making 360 degrees continuous rotation with a speed range of 0.15 to 360 degrees per second, ensures direct and accurate target positioning. When required the dome can be quickly spun through 180 degrees, an important feature when something passes directly under the camera.

Up to 128 preset positions can be programmed and recalled with an accuracy of 0.25 degrees. Can be set to auto-sequence mode, perform automatic monitoring presets.

Each Fast Dome has 6 alarm inputs can drive the dome to any position in under second.

IPS4184E/4188E, IPS4204E/4208E, IPS4304E/4308E, IPS6224E/6228E H.264 AVC (Advanced Video Coding) video compression engine provides high video quality, SXGA/1080P resolution, bandwidth efficiency, and real-time streaming. The cutting edge of H.264 AVC main profile encoding technology can provide better compression rate and superior video quality at 56 Kbps to 3 Mbps bit rate. Dual streaming design, JPEG and H.264 AVC allow to stream video at low bandwidth (Internet) and high bandwidth (LAN) for optimizing video quality. Low latency design for both Intranet and Internet is a key factor of operating PTZ.

Four PTZ web interfaces including lens absolute positioning are designed for easy-to-use purpose.

FEATURES

- Auto Focus Lens
 - Build-in 30X optical zoom lens with focal length 4.4~132mm [30X Model]
 - Build-in 22X optical zoom lens with focal length 4.7~103.4mm [22X Model]
 - Build-in 20X optical zoom lens with focal length 4.7~94mm [20X Model]
 - Build-in 18X optical zoom lens with focal length 4.7~84.6mm [18X Model]
- Day & Night (IR cut removable)
- 1920x1080(1080P)[30X/20X/18X Model] / 1280x1024(SXGA)[22X Model] Horizontal TV lines
- Automatic / Manual Iris Control
- Privacy Mask
- 360° continuous rotation
- Up to 128 programmable preset positions
- Preset positions auto scanning
- High speed rotation and tilt, speed range varies from 0.15°/sec ~ 360°/sec
- 180° Horizontal Instant Flip
- 6 alarm inputs, 1 alarm output for each Fast Dome IP Camera
- Build in high resolution DSP color camera:
 1. Color / Mono Switch (IR Cut Filter)
 - Day → Color
 - Night → Mono
 - Auto → Switch from color to mono when light drops below 3 lux
 2. x12 Digital Zoom[30X/20X Model] / x10 Digital Zoom [22X Model]
 3. Digital effect : Mirror & Flip
 4. Minimum Illumination :
 - Color 0.1Lux at F1.4; Mono 0.01Lux at F1.4 [30X Model]
 - Color 0.1Lux at F1.6; Mono 0.03Lux at F1.6 [22X Model]
 - Color 0.1Lux at F1.6; Mono 0.01Lux at F1.6 [20X Model]
 - Color 0.1Lux at F1.6 [18X Model]
 5. Sens. Up Function
 6. Auto Gain Control : 0~45dB [30X/20X Model] / 0~42dB [22X Model] / 0~28dB [18X Model]
 7. White Balance Control : Auto , Manual
 8. Sharpness
 9. Privacy Zone : Off / On
 10. Digital noise reduction : Off / On (2D, 3D)
 11. Back Light Compensation : Off / BLC / WDR
- Power supply options : PoE+ (IEEE 802.3at) or 100 ~ 240VAC or 24VAC
- In live monitoring :
 - 1080P(1920x1080), 720P(1280x720), D1(720x480), CIF(352x240) [30X/20X/18X Model]
 - SXGA(1280x1024), D1(720x480), CIF(352x240) [22X Model]
- True H.264 AVC/ MPEG-4 part 10 real-time video compression
- Full duplex H.264 AVC and JPEG streaming
- 2-Way Audio supported
- iPhone and Android Support
- Onvif Support

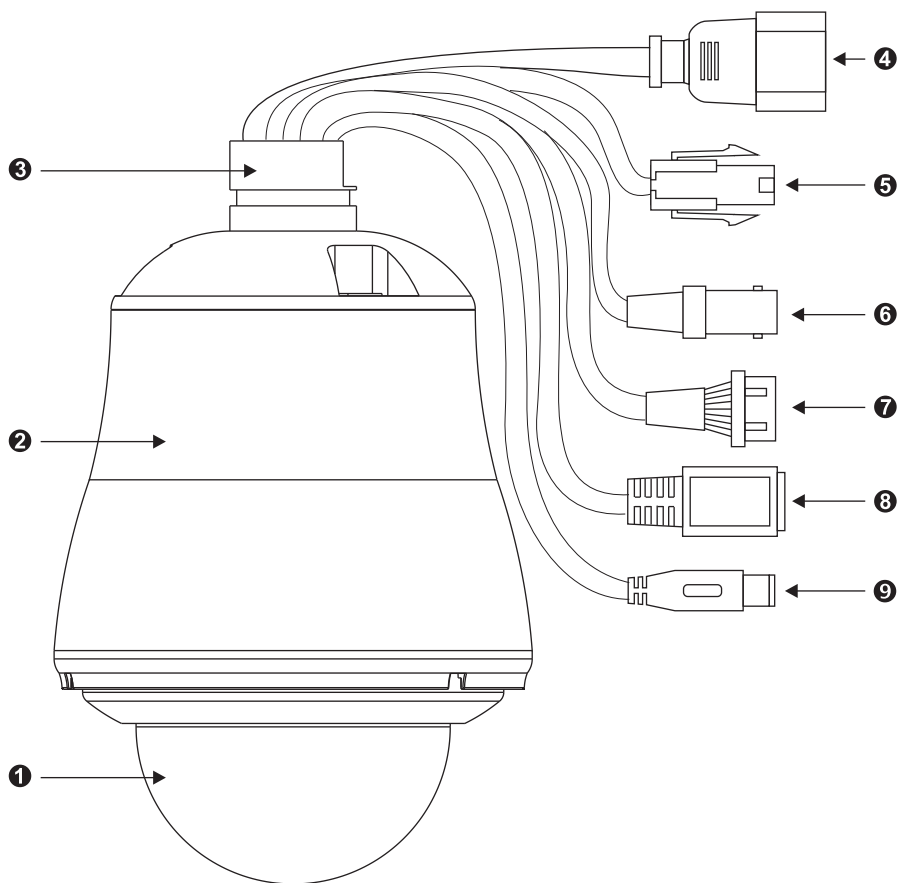
WARNINGS & CAUTIONS

Please read the manual before attempting installation or operation

1. Please be aware to the warnings and cautions notice.
2. Don't use any chemical detergent to clean the machine surface, use a damp cotton cloth only. Regularly clean the dome cover to assure proper focus ability.
3. Please install the Fast Dome in a dry area, water and high humidity may cause damage on internal parts. External housing should be used for outdoor installation.
4. Please use parts supplied by the manufacturer only, any unqualified part using in the equipment may violate the warranty.
5. Avoid installing the equipment in an unstable area. Make sure the area is firm and stable. Falling equipment may injure personnel and damage the equipment.
6. Do not install the equipment near any flammable gas. Violation may cause fire or injury.
7. Avoid running video cable and signal cable through or passing interference sources such as video waves, broadcast station, power generator, elevator motor or high voltage area etc. Violation may cause interference.
8. Make sure the power cable is properly fixed. Un-suitably fixed cable may cause serious short circuit or fire.
9. Correct cable connection is important. Do not place any object on the connection cable and change the cable if there is damage on cable. Violation may cause short circuit, fire and injury.
10. Make sure ground is well connected to avoid damage caused by lightning.
11. Do not put any foreign objects inside the equipment and do not spray any liquid on equipment. This will avoid short circuit damage.
12. Do not touch power connection with wet hands to avoid short circuit or electricity shock.
13. Do not apply smash-force on the equipment. Violation may cause damage.
14. Do not install the equipment in a location that may expose the equipment directly to sunlight. Violation may cause colour fading or damage.
15. Do not install the equipment in high temperature or low temperature environment to avoid damage. The normal operational temperature is between $-35^{\circ}\text{C} \sim +50^{\circ}\text{C}$.
16. Fast Dome contains high sensitive electric parts inside. Do not try to repair them without qualified personnel.
17. Turn off the power immediately and contact the technician when the following occurs:
 - A. Damage on power cable or plug.
 - B. Water leak into the equipment.
 - C. Fast Dome can not be operated normally.
 - D. Equipment falling on ground or damage on external case.
 - E. Unusual occurrence.
18. Warning: Do not try to repair the equipment. Only a qualified technician may disassemble and repair the equipment. Shut off the power before disassemble the equipment and don't put power on unless the case is completely assembled.



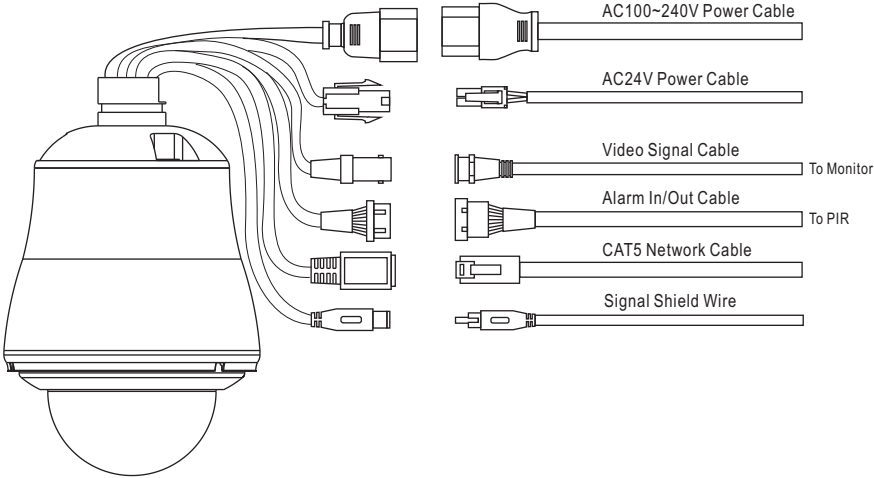
STRUCTURAL ELEMENT



- ❶ Dome Cover
- ❷ Camera Case
- ❸ Upper Base
- ❹ Power In Jack (AC100 ~ 240V)
- ❺ Power In Jack (AC24V)

- ❻ Video Out Jack
- ❼ Alarm In/Out connector
- ❽ RJ45 Network Connector
- ❾ Audio In/Out Jack

Fast Dome Connection Jack and Cable Requirement



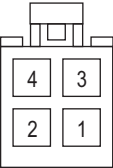
1. AC100 ~ 240V Power Cable

2. AC24V Power Cable

Recommended Cable:

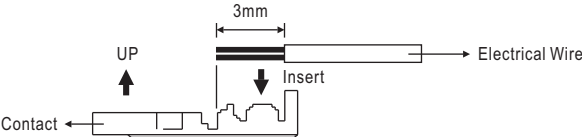
Copper Wire (AWG)		#24 (0.22mm ²)	#22 (0.33mm ²)	#20 (0.52mm ²)	#18 (0.83mm ²)
Length of Cable (approx.)	(m)	20	30	45	75
	(ft)	65	100	160	260

Accessory Connector Information

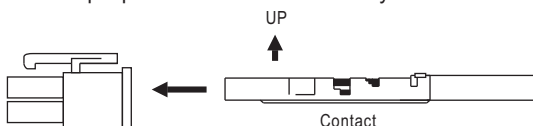
	PIN	Power
	1	AC24V Live (Black)
	2	AC24V Neutral (White)
	3	Earth (Green)
	4	NA

Assemble the Cable with the Accessory Connector

a. Strip back the cable jacket approx. 3mm and separate the individual conductors.



- b. Prepare the individual conductors for clamping. After clamping the contacts, push them into the proper holes in the accessory connector of this camera until they snap in place.



CAUTIONS : CONNECT THIS TO 24V AC CLASS 2 POWER SUPPLY ONLY.

3. Video Out BNC Jack

Video Signal Output CVBS 1.0Vp-p 75Ω BNC

Recommended Data Cable: 5C2V

4. Alarm In/Out Connector

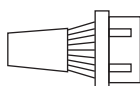
Each fast dome contains 6 alarm inputs and 1 alarm output.

Alarm Input Voltage: 5.6V max.

Alarm Output: 1A 24VDC

Recommended Data Cable: UL26 AWG 80°C 300V

UL24 AWG 80°C 300V



Alarm Out:	Reset	(Pink)
	NC	(Brown)
	NO	(Gray)
	COM.	(White)
Alarm In:	GND	(Black)
	IN6	(Red)
	IN5	(Green)
	IN4	(Orange)
	IN3	(Blue)
	IN2	(Yellow)
	IN1	(Violet)

6. Network Connector RJ45

LAN : 10/100Mbps

Recommended Data Cable : CAT5

7. Audio In/Out RCA Jack

Audio : 1.4Vp-p (1 Vrms)

Recommend Signal Cable : Signal shield wire

Low Temperature Start-up

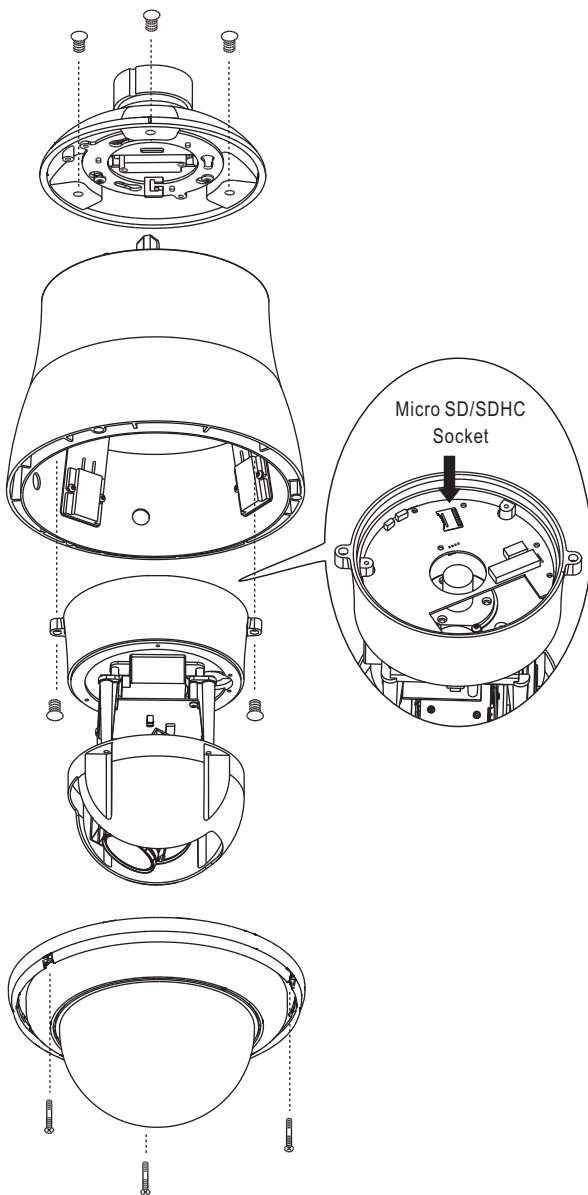
Camera may perform abnormally at low temperature. Hence, please operate low temperature start-up procedure when the camera is off due to power outage or other issues and needs to be restarted under -40°C to -5°C condition.

Low temperature start-up procedure

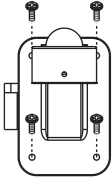
To connect the power cord for warming up the heater for an hour until the temperature detector automatically turns on, then the system will run again.

INSTALLATION

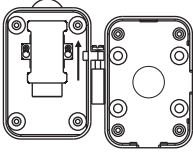
Installation Structural Drawing



Step 1 Separate bracket from base of bracket

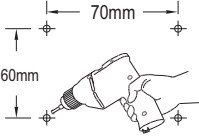


Untighten four screws from bracket

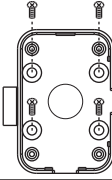


Separate bracket and base of bracket from top of bolt.

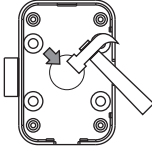
Step 2 Fix base of bracket on the wall



Drill holes on desired location

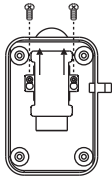


Tighten four screws to fix the base of bracket (These four screws are not supplied. User must prepare their own screws)

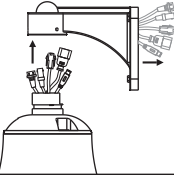


If this circle hole is utilized, please use this tool to knock at this circle hole

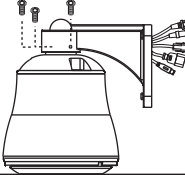
Step 3 Attach camera to bracket



Untighten two screws from iron slice of fixed cable in the bracket and then pick off the iron slice.

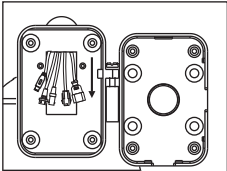


Put output cables of outdoor fast dome camera in sequence through tube of bracket to outlet of bracket. (AC cable is preferred)

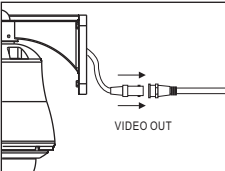


Attach outdoor fast dome camera to bracket, and tighten three screws.

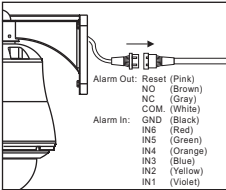
Step 4 Connect Jack



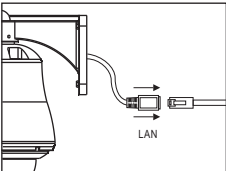
Attach outdoor fast dome camera including bracket to base of bracket



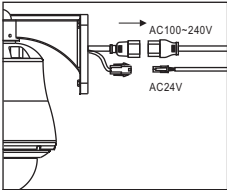
Connect video cable



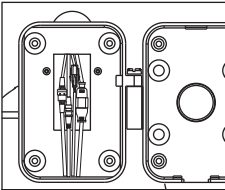
Connect alarm out/ input cable



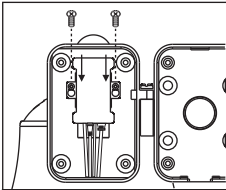
Connect Network cable



Connect AC24V or AC100~240V power cable

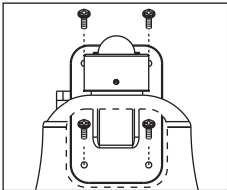


After connecting all of cables, put all of cables and jacks in the tube of bracket

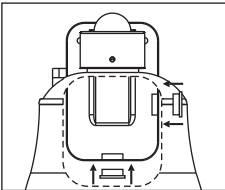


Put iron slice of fixed cable on the bracket, and tighten two screws to fix the iron slice

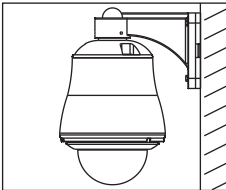
Step 5 Fix bracket and outdoor fast dome camera with base



Tighten four screws to bracket



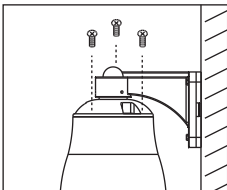
Use rubber cover to chock outlet of un-use cable



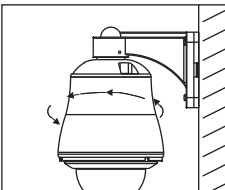
Complete outdoor fast dome camera installation

Outdoor AC24V Model (Easy Installation)

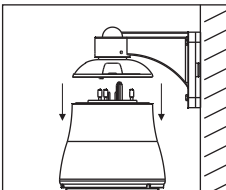
Step 1 Unmounting the camera



Untighten three screws from upper base

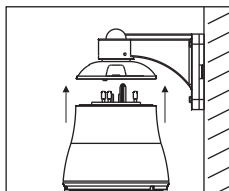


Turn the camera case counter clockwise

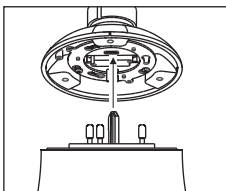


Separate the camera case from upper base

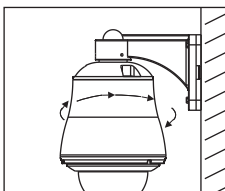
Step 2 To install fast dome camera



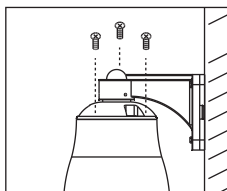
Attach camera case to upper base



To take the camera case into the hole of upper base



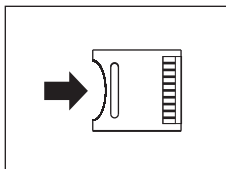
Turn the camera case clockwise to tight position



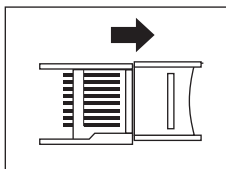
Tighten three screws to upper base to fix the camera case

● Installation Micro SD/SDHC card, please follow instruction as below:

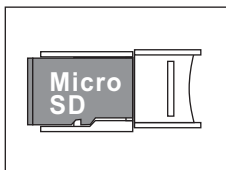
1. Push the cover of Micro SD/SDHC socket right for unlocking.



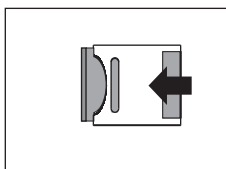
2. Pull the cover of the Micro SD/SDHC socket up.



3. Place Micro SD card on the socket. Make sure to face the card down.



4. Lock the cover of the Micro SD card by flip the cover. Press the cover down and push left for locking.



SPECIFICATION

18X D/N WDR HD FAST DOME IP CAMERA		
General		
Model	IPS4184E	IPS4188E
Power Supply	AC24V	AC100~240V
Power Consumption	25W (with Heater)	63W (with Heater)
Image Pick-up Device	1/2.8 Type Exmor CMOS Sensor	
effective Pixels	2096(H) x 1561(V) = 3,269,760(pixel)	
Total number of pixel	2144(H) x 1588(V) = 3,404,672(pixel)	
Scanning System	Progressive Scan	
Video Output	CVBS 1.0Vp-p/ 75Ω BNC	
Minimum illumination	0.1Lux (F1.6, 50IRE)	
IP Rating	IP66	
Ambient Operation Temperature	-40°C ~ +50°C (-40°F ~ 122°F)	
Operating Humidity	0% ~ 90%	
Dimensions	332mm(H) x 210mm(V)	
Weight	3200g	
Heater Activation	On: 15°C, Off: 25°C	
Fan Activation	On: 35°C, Off: 25°C	
Pan & Tilt		
Panning Range	360° Endless	
Panning Mode	Manual, Auto, Manual Position, Sequential Position	
Panning Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps, 16Steps/ Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Tilting Range	-6° ~ +96°	
Tilting Mode	Manual, Auto, Manual Position, Sequential Position	
Tilting Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps, 16Steps/ Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Lens		
Zoom Ratio	18X Optical Zoom	
Focal Length	4.7mm ~ 84.6mm	
Minimum Aperture Ratio	1 : 1.6 (Wide) ~ 3.5(Tele)	
Minimum Object Distance	10mm(Wide end) ~ 1.5m (Tele end)	
Iris Range	F1.6 ~ 360, Close	
Angle Field of View	Approx. 54.1°(Wide end), approx. 3.2°(Tele end), 1080P mode	
Main Function		
Control Function	Pan and Tilt/ Zoom and Focus/ Iris and ICR/ 128 Preset Position/ Home Position	
Zoom Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 5.0 Second (Tele to Wide) in Manual Mode]	
Focus Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 5.0 Second (Far to Near) in Manual Mode]	
Auto Focus	Auto/ One Push Focus	
Iris	Auto/ Manual	
Day & Night	Day/ Night/ Auto/ Schedule	
Sense Up (Slow Shutter)	Off/ On	
Electronic Shutter Speed	1/1 ~ 1/10,000	
Exposure Mode	Auto/ Manual	
Back Light Compensation	Off/ On	
Digital Wide Dynamic Rang	Off/ On	
Sharpness	Adjustable	
White Balance	ATW/ AWC/ Manual(1700K~11000K)	
Auto Gain Control	0 ~ 28dB (12 Step)	
Digital Noise Reduce	(2D) Off/ On (Level= 1~5)	
Auto Mode	Off/ AUTO/ SEQ/ TOUR	
Privacy Function	Off/ On (Up to 14 area)	
Digital Effect	OFF/ Mirror	
Alarm Input/ Output	6 input(TTL 5Vdc), 1 Output(0.5A 120Vac, 1A 24Vac)	
Schedule Setting	Off/ Auto Mode/ Preset Position	

Design and specification are subject to change without notice.

Network Function	
Video compression	H.264, Motion JPEG
Resolution	1080P(1920x1080), 720P(1280x720), D1(720x480), CIF(352x240)
Frame rate	H.264: up to 30FPS at 1080P(1920x1080)
	Motion JPEG: up to 30FPS at D1(720x480)
Video streaming	RTP/HTTP, RTP/TCP, RTP/UDP, Multicast
Video bitrate	128Kbps ~ 5Mbps
	Frame rate and bitrate controllable on-the-fly
	VBR/ CBR/ GOP supported
Security	Base64 HTTP encryption
	Multiple user access levels with password protection
	10 user accounts available
Users	8 simultaneous users
OSD	Text overlay for date, time, and camera name
Alarm Function	Image upload over FTP and E-mail by alarm/ motion detection
CPU, memory	Embedded SoC ARM11, 528MHz, 256MB DDR2, 256MB flash memory
Web PTZ control	Pan, tilt, zoom in/ out, absolute position, and video-click-n-move
PTZ preset scheduling	Yes, via web interface
Mintenance	Firmware update via HTTP
	Firmware available at web site
Network Interface	10Mbps / 100Mbps, RJ-45
Client PC requirement	OS : Windows 2000, Windows XP, Windows Vista, Windows 7
	Browser : Windows Internet Explorer 6, 7, 8
	CPU : Intel Pentium 4 1.8GHz or above
	RAM : 1GB or above, Independent Display Card
Network protocols	IP, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ONVIF, IGMP
Mobile phone and PDA	iPhone, iPad and Android support
System integration	ONVIF & LILIN HTTP API
CMX	CMX HD3.6 support
Video display	LILIN Universal ActiveX & LILIN Java Applet
OS	Embedded Linux 2.6.32
Two-way Audio	G.711
SD Card Recording	Support Micro SD/SDHC card for circular recording(card is not included)

Design and specification are subject to change without notice.

20X D/N 1080P HD WDR PTZ DOME IP CAMERA		
General		
Model	IPS4204E	IPS4208E
Power Supply	AC24V PoE+ (IEEE802.3at compliant)	AC100~240V PoE+ 14W(does not support the heater)
Power Consumption	37W (with Heater) PoE+ 14W(does not support the heater)	48W (with Heater) PoE+ 14W(does not support the heater)
Image Pick-up Device	1/2.8 Type CMOS Sensor	
effective Pixels	1944(H) x 1224(V) = 2,379,456(pixels)	
Total number of pixel	1952(H) x 1236(V) = 2,412,692(pixels)	
Scanning System	Progressive Scan	
Video Output	CVBS 1.0Vp-p/ 75Ω BNC	
Minimum illumination	0.4Lux (1/30 sec, F1.6(wide), 50IRE, AGC-Gain: 45dB, ICR OFF)	
	0.1Lux (1/8 sec, F1.6(wide), 50IRE, AGC-Gain: 45dB, ICR OFF)	
	0.01Lux (1/8 sec, F1.6(wide), 50IRE, AGC-Gain: 45dB, ICR ON)	
IP Rating	IP66	
Ambient Operation Temperature	-10°C~+50°C(14°F~122°F) / PoE+, -40°C ~ +50°C (-40°F ~ 122°F) / AC	
Operating Humidity	0% ~ 90%	
Dimensions	332mm(H) x 210mm(V)	
Weight	3200g	
Heater Activation	On: 15°C, Off: 25°C	
Fan Activation	On: 35°C, Off: 25°C	
Pan & Tilt		
Panning Range	360° Endless	
Panning Mode	Manual, Auto, Manual Position, Sequential Position	
Panning Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps / Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Tilting Range	-6° ~ +96°	
Tilting Mode	Manual, Auto, Manual Position, Sequential Position	
Tilting Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps / Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Lens		
Zoom Ratio	20X Optical Zoom	
Focal Length	4.7mm(Wide) ~ 94.0mm(Tele)	
Minimum Aperture Ratio	1 : 1.6 (Wide) ~ 3.5(Tele)	
Minimum Object Distance	10mm(Wide end) ~ 4.0m (Tele end)	
Iris Range	F1.6 ~ 36.2, Close	
Angle Field of View	Approx. 59.6°(Wide end), approx. 3.2°(Tele end), 1080P mode	
Main Function		
Control Function	Pan and Tilt/ Zoom and Focus/ Iris and ICR/ 128 Preset Position/ Home Position	
Digital Zoom Ratio	x12	
Zoom Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 5.0 Second (Tele to Wide) in Manual Mode]	
Focus Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 5.0 Second (Far to Near) in Manual Mode]	
Auto Focus	Auto/ Manual	
Iris	Auto/ Manual	
Day & Night	Day/ Night/ Auto	
Electronic Shutter Speed	1/1 ~ 1/30,000	
Exposure Mode	Auto/ Manual	
Back Light Compensation	Off/ On	
Wide Dynamic Range	Off/ On	
Sharpness	Adjustable	
White Balance	ATW/ Manual(1700K~11000K)	
Auto Gain Control	0 ~ 45dB	
Digital Noise Reduce	Off/ On (2D, 3D)	
Auto Mode	Off/ AUTO/ SEQ/ TOUR/ PATROL	
Dynamic Privacy Zone Mask	Off/ On (Up to 8 area)	
Digital Effect	OFF/ Mirror/ Flip	
Alarm Input/ Output	6 input(TTL 5Vdc), 2 Output(0.5A 120Vac, 1A 24Vac)	
Schedule Setting	Off/ Auto Mode/ Preset Position	

Design and specification are subject to change without notice.

Network Function		
Video compression		H.264, Motion JPEG
Resolution		1080P(1920x1080), 720P(1280x720), D1(720x480), CIF(352x240)
Multiple profile	Profile #1	H.264: up to 30fps @ 1920x1080, MJPEG: up to 30fps @ 720x480
	Profile #2	H.264: up to 30fps @ 1280x720, MJPEG: up to 30fps @ 352x240
	Profile #3	H.264: up to 30fps @ 1920x1080, MJPEG: up to 30fps @ 1280x720
	Profile #4	H.264: up to 30fps @ 720x480, MJPEG: up to 15fps @ 1920x1080
Video streaming		RTP/HTTP, RTP/TCP, RTP/UDP, Multicast
Video bitrate		128Kbps ~ 5Mbps
		Frame rate and bitrate controllable on-the-fly
		VBR/ CBR/ GOP supported
Security		Base64 HTTP encryption
		Multiple user access levels with password protection
		10 user accounts available
Users		8 simultaneous users
OSD		Text overlay for date, time, and camera name
Alarm Function		Image upload over FTP and E-mail by alarm/ motion detection
CPU, memory		Embedded SoC ARM11, 528MHz, 256MB DDR2, 256MB flash memory
Web PTZ control		Pan, tilt, zoom in/ out, absolute position, and video-click-n-move
PTZ preset scheduling		Yes, via web interface
Mintenance		Firmware update via HTTP
		Firmware available at web site
Network Interface		10Mbps / 100Mbps, RJ-45
Client PC requirement		OS : Windows 2000, Windows XP, Windows Vista, Windows 7,8
		Browser : Windows Internet Explorer 6.0 or above
		CPU : Intel Pentium 4 1.8GHz or above
		RAM : 1GB or above, Independent Display Card
Network protocols		IP, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ONVIF, ICMP, IGMP, SNMP
Mobile phone and PDA		iPhone, iPad and Android support
System integration		ONVIF & LILIN HTTP API
CMX		CMX 3.6/ Navigator 3.8 support
Video display		LILIN Universal ActiveX & LILIN Java Applet
OS		Embedded Linux 2.6.32
Two-way Audio		G.711
SD Card Recording		Support Micro SD/SDHC/SDXC card for circular recording(card is not included)

Design and specification are subject to change without notice.

30X D/N 1080P HD PTZ DOME IP CAMERA		
General		
Model	IPS4304E	
Power Supply	AC24V	IPS4308E
	PoE+ (IEEE802.3at compliant)	AC100~240V PoE+ (IEEE802.3at compliant)
Power Consumption	37W (with Heater) / PoE+ 14W	48W (with Heater) / PoE+ 14W
Image Pick-up Device	1/3 Type CMOS Sensor	
effective Pixels	1944(H) x 1092(V) = 2,122,848(pixels)	
Total number of pixel	1956(H) x 1266(V) = 2,476,296(pixels)	
Scanning System	Progressive Scan	
Video Output	CVBS 1.0Vp-p/ 75Ω BNC	
Minimum illumination	0.4Lux (1/30 sec, F1.4(wide), 50IRE, AGC-Gain: 45dB, ICR OFF)	
	0.1Lux (1/8 sec, F1.4(wide), 50IRE, AGC-Gain: 45dB, ICR OFF)	
	0.01Lux (1/8 sec, F1.4(wide), 50IRE, AGC-Gain: 45dB, ICR ON)	
IP Rating	IP66	
Ambient Operation Temperature	-10°C~+50°C(14°F~122°F) / PoE+, -40°C ~ +50°C (-40°F ~ 122°F) / AC	
Operating Humidity	0% ~ 90%	
Dimensions	332mm(H) x 210mm(V)	
Weight	3200g	
Heater Activation	On: 15°C, Off: 25°C	
Fan Activation	On: 35°C, Off: 25°C	
Pan & Tilt		
Panning Range	360° Endless	
Panning Mode	Manual, Auto, Manual Position, Sequential Position	
Panning Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps / Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Tilting Range	-6° ~ +96°	
Tilting Mode	Manual, Auto, Manual Position, Sequential Position	
Tilting Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps / Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Lens		
Zoom Ratio	30X Optical Zoom	
Focal Length	4.4mm(Wide) ~ 132.0mm(Tele)	
Minimum Aperture Ratio	1 : 1.4 (Wide) ~ 4.6(Tele)	
Minimum Object Distance	10mm(Wide end) ~ 1.5m (Tele end)	
Iris Range	F1.4 ~ 32, Close	
Angle Field of View	Approx. 63.4°(H)38.51°(V)(Wide end), approx. 2.3°(H)1.33°(V)(Tele end), 1080P mode	
Main Function		
Control Function	Pan and Tilt/ Zoom and Focus/ Iris and ICR/ 128 Preset Position/ Home Position	
Digital Zoom Ratio	x12	
Zoom Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 5.0 Second (Tele to Wide) in Manual Mode]	
Focus Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 5.0 Second (Far to Near) in Manual Mode]	
Auto Focus	Auto/ Manual	
Iris	Auto/ Manual	
Day & Night	Day/ Night/ Auto	
Sense up (Slow shutter)	Off/ Auto	
Electronic Shutter Speed	Auto/ Manual (1/1 ~ 1/30(25) ~ 1/30,000)	
Exposure Mode	Auto/ Manual	
Back Light	Off/ BLC/ WDR	
Sharpness	Adjustable	
White Balance	ATW/ Manual(1800K~10500K)	
Auto Gain Control	0 ~ 45dB	
Digital Noise Reduce	Off/ On (2D, 3D)	
Enhanced Intensity	Off/ On/ HLC	
Defog	Off/ On (Defog-1, Defog-2, Defog-3, Auto)	
Electronic Image Stabilization	Off/ On (Digital Zoom max 2.0x)	
Auto Mode	Off/ AUTO/ SEQ/ TOUR/ PATROL	
Dynamic Privacy Zone Mask	Off/ On (Up to 16 area)	
Digital Effect	OFF/ Mirror/ Flip	
Alarm Input/ Output	6 input(TTL 5Vdc), 2 Output(0.5A 120Vac, 1A 24Vac)	
Schedule Setting	OFF/ AUTO/ SEQ/ TOUR/ PATROL/ Preset Position	

Design and specification are subject to change without notice.

Network Function		
Video compression		H.264, Motion JPEG
Resolution		1080P(1920x1080), 720P(1280x720), D1(720x480), CIF(352x240)
Multiple profile	Profile #1	H.264: up to 30fps @ 1920x1080, MJPEG: up to 30fps @ 720x480
	Profile #2	H.264: up to 30fps @ 1280x720, MJPEG: up to 30fps @ 352x240
	Profile #3	H.264: up to 30fps @ 1920x1080, MJPEG: up to 30fps @ 1280x720
	Profile #4	H.264: up to 30fps @ 720x480, MJPEG: up to 15fps @ 1920x1080
Video streaming		RTP/HTTP, RTP/TCP, RTP/UDP, Multicast
Video bitrate		128Kbps ~ 5Mbps
		Frame rate and bitrate controllable on-the-fly
		VBR/ CBR/ GOP supported
Security		Base64 HTTP encryption
		Multiple user access levels with password protection
		10 user accounts available
Users		8 simultaneous users
OSD		Text overlay for date, time, and camera name
Alarm Function		Image upload over FTP and E-mail by alarm/ motion detection
CPU, memory		Embedded SoC ARM11, 528MHz, 256MB DDR2, 256MB flash memory
Web PTZ control		Pan, tilt, zoom in/ out, absolute position, and video-click-n-move
PTZ preset scheduling		Yes, via web interface
Mintenance		Firmware update via HTTP
		Firmware available at web site
Network Interface		10Mbps / 100Mbps, RJ-45
Client PC requirement		OS : Windows 2000, Windows XP, Windows Vista, Windows 7,8
		Browser : Windows Internet Explorer 6.0 or above
		CPU : Intel Pentium 4 1.8GHz or above
		RAM : 1GB or above, Independent Display Card
Network protocols		IP, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ONVIF, ICMP, IGMP, SNMP
Mobile phone and PDA		iPhone, iPad and Android support
System integration		ONVIF & LILIN HTTP API
CMX		CMX 3.6/ Navigator 3.8 support
Video display		LILIN Universal ActiveX & LILIN Java Applet
OS		Embedded Linux 2.6.32
Two-way Audio		G.711
SD Card Recording		Support Micro SD/SDHC/SDXC card for circular recording(card is not included)

Design and specification are subject to change without notice.

22X D/N WDR HD FAST DOME IP CAMERA		
General		
Model	IPS6224E	IPS6228E
Power Supply	AC24V	AC100~240V
Power Consumption	25W (with Heater)	63W (with Heater)
Image Pick-up Device	Panasonic 1/3" Mega-Pixel MOS Sensor	
effective Pixels	1280(H) x 1024(V) = 1,310,720(pixel)	
Total number of pixel	1376(H) x 1070(V) = 1,472,320(pixel)	
Scanning System	Progressive Scan	
Video Output	CVBS 1.0Vp-p/ 75Ω BNC	
Minimum illumination	Color: 0.07Lux at F1.6, Mono: 0.03Lux at F1.6	
IP Rating	IP66	
Ambient Operation Temperature	-35°C ~ +50°C (-31°F ~ 122°F)	
Operating Humidity	0% ~ 90%	
Dimensions	332mm(H) x 210mm(V)	
Weight	3200g	
Heater Activation	On: 15°C, Off: 25°C	
Fan Activation	On: 35°C, Off: 25°C	
Pan & Tilt		
Panning Range	360° Endless	
Panning Mode	Manual, Auto, Manual Position, Sequential Position	
Panning Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps, 16Steps/ Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Tilting Range	-6° ~ +96°	
Tilting Mode	Manual, Auto, Manual Position, Sequential Position	
Tilting Speed	Manual Approx. 0.15°/s ~ 120°/s 8Steps, 16Steps/ Preset Approx. 1°/s ~ 255°/s, Alarm Trigger Speed 360°/s	
Lens		
Zoom Ratio	22X Optical Zoom	
Focal Length	4.7mm ~ 103.4mm	
Minimum Aperture Ratio	1 : 1.6 (Wide) ~ 3.1(Tele)	
Minimum Object Distance	1.5m (Tele)	
Iris Range	F1.6 ~ 360, Close	
Angle Field of View	Wide: 54.6°(H) 42.3°(V) / Tele: 2.70°(H) 2.10°(V)	
Main Function		
Control Function	Pan and Tilt/ Zoom and Focus/ Iris and ICR/ 128 Preset Position/ Home Position	
Digital Zoom Ratio	x10	
Zoom Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 4.0 Second (Tele to Wide) in Manual Mode]	
Focus Speed	Slow/ MID./ Fast Selectable [Fast: Approx. 4.0 Second (Far to Near) in Manual Mode]	
Auto Focus	Auto/ One Push Focus	
Iris	ALC (Adjustable Output Target Level)/ Manual	
Day & Night	Day/ Night/ Auto/ Schedule	
Electronic Image Stabilizer	Off/ On	
Sense Up (Slow Shutter)	x1 ~ x255	
Electronic Shutter Speed	1/30 ~ 1/120,000	
Exposure Mode	ALC/ ELC	
Back Light Compensation	BLC/ HSBLC	
Digital Wide Dynamaic Range	Off/ Low/ Middle/ High	
Sharpness	Adjustable	
White Balance	ATW/ AWC/ Manual(1700K~11000K)	
Auto Gain Control	Off/ Low/ Middle/ High	
3D Digital Noise Reduce	Off/ Low/ Middle/ High	
Auto Mode	Off/ AUTO/ SEQ/ TOUR	
Privacy Function	Off/ On (Up to 24 area)	
Digital Effect	OFF/ V-Flip/ Mirror/ Rotate	
Alarm Input/ Output	6 input(TTL 5Vdc), 1 Output(0.5A 120Vac, 1A 24Vac)	

Design and specification are subject to change without notice.

Network Function	
Video compression	H.264, Motion JPEG
Resolution	SXGA(1280x1024), D1(720x480), CIF(352x240)
Frame rate	H.264: up to 30FPS at SXGA(1280x1024)
	Motion JPEG: up to 30FPS at D1(720x480)
Video streaming	RTP/HTTP, RTP/TCP, RTP/UDP, Multicast
Video bitrate	128Kbps ~ 5Mbps
	Frame rate and bitrate controllable on-the-fly
	VBR/ CBR/ GOP supported
Security	Base64 HTTP encryption
	Multiple user access levels with password protection
	10 user accounts available
Users	8 simultaneous users
OSD	Text overlay for date, time, and camera name
Alarm Function	Image upload over FTP and E-mail by alarm/ motion detection
CPU, memory	Embedded SoC ARM11, 528MHz, 256MB DDR2, 256MB flash memory
Web PTZ control	Pan, tilt, zoom in/ out, absolute position, and video-click-n-move
PTZ preset scheduling	Yes, via web interface
Mintenance	Firmware update via HTTP
	Firmware available at web site
Network Interface	10Mbps / 100Mbps, RJ-45
Client PC requirement	OS : Windows 2000, Windows XP, Windows Vista, Windows 7
	Browser : Windows Internet Explorer 6, 7, 8
	CPU : Intel Pentium 4 1.8GHz or above
	RAM : 1GB or above, Independent Display Card
Network protocols	IP, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ONVIF, IGMP
Mobile phone and PDA	iPhone, iPad and Android support
System integration	ONVIF & LILIN HTTP API
CMX	CMX HD3.6 support
Video display	LILIN Universal ActiveX & LILIN Java Applet
OS	Embedded Linux 2.6.32
Two-way Audio	G.711

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