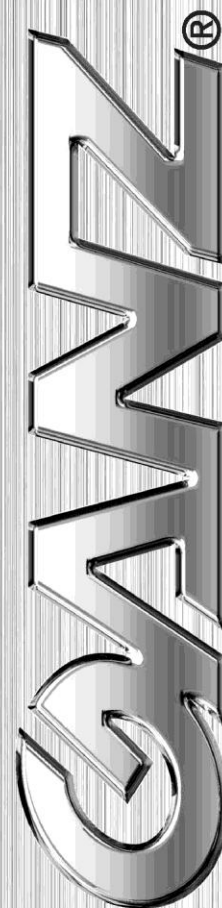


**FULL HD OUTDOOR PTZ**

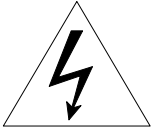

# **ZN-PTZ202XE-XT**

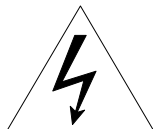
---

**Installation Manual**



## INFORMATION TO USER

	<table border="1"><tr><td><b>CAUTION</b></td></tr><tr><td>RISK OF ELECTRIC SHOCK, DO NOT OPEN</td></tr></table>	<b>CAUTION</b>	RISK OF ELECTRIC SHOCK, DO NOT OPEN	
<b>CAUTION</b>				
RISK OF ELECTRIC SHOCK, DO NOT OPEN				
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). CONTACT QUALIFIED SERVICE PERSONNEL FOR INTERNAL PARTS.</p>				



This symbol is intended to alert the user the presence of un-insulated “dangerous voltage” within the product’s enclosure, which may be sufficient magnitude to constitute a electric shock risk to persons.



This symbol is intended to alert the user the presence of important operating and maintenance (servicing) instructions within the guide manual.

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# 1. FEATURES

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## Camera

- Full HD outdoor high-speed dome IP camera
- High quality compression in real time streaming
- 1/3" High Quality CMOS Image Sensor
- Optical 20X, Digital 8X zoom
- True Day / Night (ICR)
- Stealth Spin® (World's most silent speed dome)
- 360° Pan Rotation

## Streaming

- Dual streaming mode
- De-interlacing on DSP
- Burnt-in text supported
- Unicast/Multicast supported

## Video/Audio

- Video compression: H.264/MJPEG, 25/30FPS@1080p
- Audio compression: G.711(μLaw, aLaw)/PCM
- Analog video out for external monitors
- Video motion detection supported
- Mic in and line out audio supported

## Network

- RTSP/ HTTP protocol supported
- 10/100 Base-T Ethernet

## Additional Features

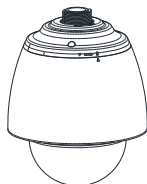
- Micro SD/SDHC card support
- PoE+ support
- Built-in Video Content Analysis
- Internal fan/heater
- SDK (Software Development Kit) provided
- IP66 (Outdoor) Certified
- 255 Dome positions

## 2. PACKAGE CONTENTS

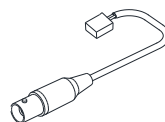
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Unpack carefully and handle the equipment with care. The packaging contains:

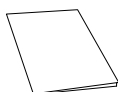
**Camera**



**Video connector**

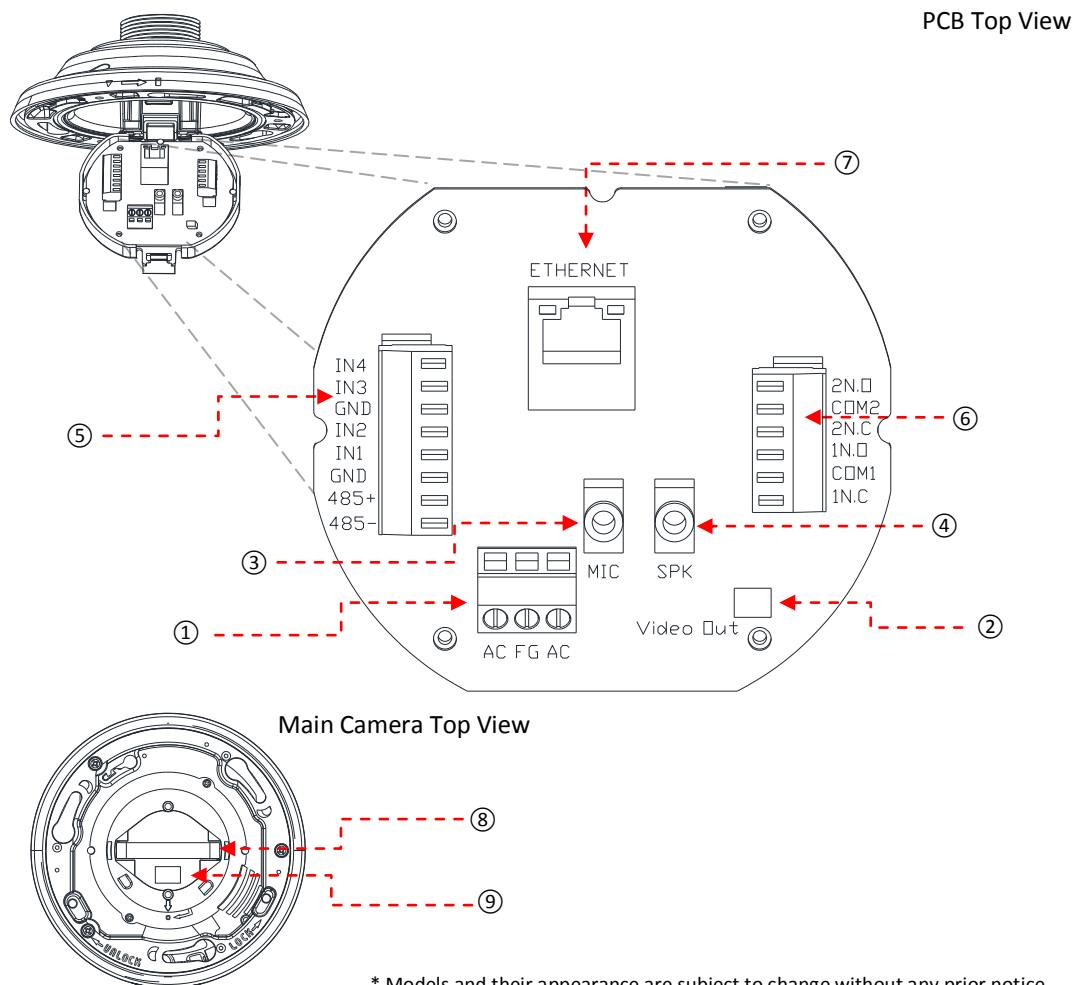


**Quick installation guide**



The above contents are subject to change without prior notice.

### 3. PART NAMES



\* Models and their appearance are subject to change without any prior notice.

**① 3-Pin terminal block connector**  
For power connection (AC, FG, AC)

**② Video Out**  
CVBS : 1.0 Vp-p / 75Ω composite3.5

**③ Audio microphone stereo jack connector**  
Connector for 3.5mm audio jack plug.

**④ Audio speaker stereo jack connector**  
Connector for 3.5mm audio jack plug.

**⑤ 8-Pin terminal block (485 + Digital In)**  
Interface connector (JN4, JN3, GND, JN2, JN1, GND, 485+, and 485-)

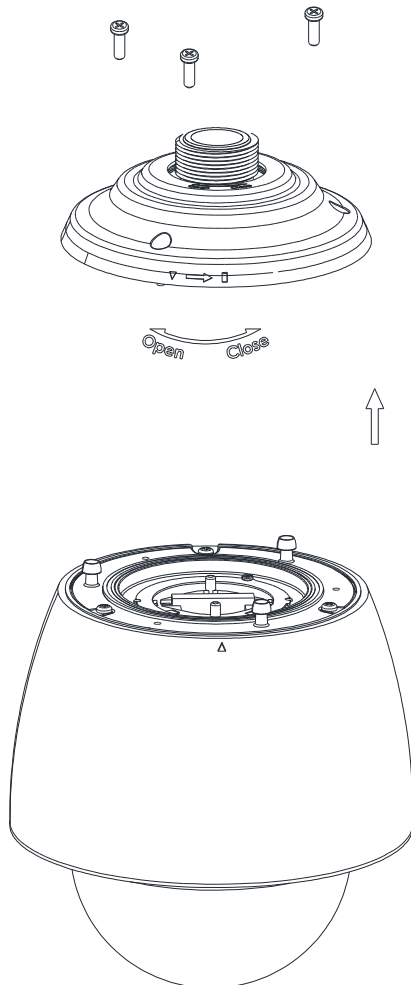
**⑥ 6-Pin terminal block (Digital Out)**  
Interface connector (2N.O, COM2, 2N.C, 1N.O, COM1, 1N.C)

**⑦ LAN connector**  
RJ45 LAN connector for 10/100 Base-T Ethernet.

**⑧ 32-pin slot**  
Main socket for 32-pin connector on pcb.

**⑨ Built-in microSD slot**  
Supports up to 32GB. (SDHC)  
Recommend Class 4 and higher for HD recordings

## 4. INSTALLATION



1) Secure three screws in top of camera's main body as three unit holders with metal rings attached in the end.

2) Connect all necessary cables to a PCB board in a cover shield before conjoining the shield to a camera's main body.

3) Under the PCB board has a 32-pin connector which matches the main camera body's 32-pin socket; The shield's three unit holder holes also align with the main camera body's three unit holders.

4) Once cable connect is complete along with brackets and poles on an installation spot, align the connector (of the cover shield) and socket (of the main body), and then push the main body to conjoin together.

5) Once two units are attached, rotate the main camera body counterclockwise to secure the lock.

6) Insert three screws on top cover shield and tighten them up.



To prevent products from damaging, place the camera on stable and non-vibrating surfaces. If the stability is in doubt, consult with safety personnel for reinforcements, and then proceed with the installation.

## 4.1. Setting the Lens Position

The device is 360° rotating camera and fully controlled by web user interface.

Once the unit's installation is complete and connected properly, please refer to ZN-XE Series Web User's Manual for the device's camera configuration instructions.

## 4.2. Setting the Image Attribute

The device's image attributes are configured by web user interface.

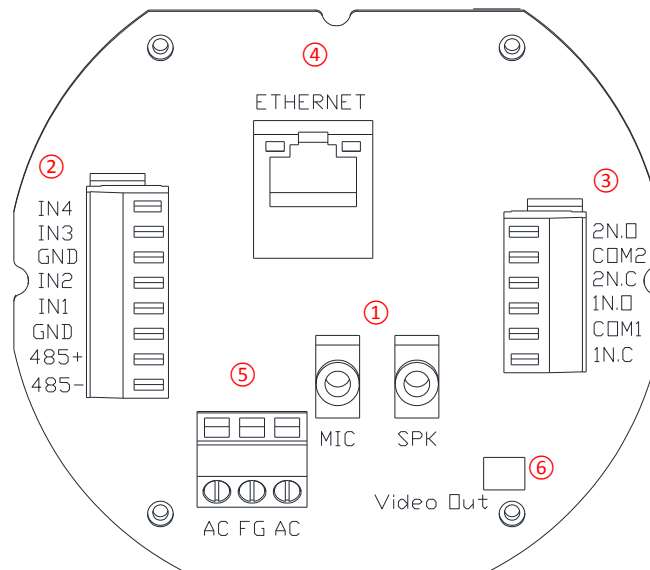
The camera image's brightness, contrast, saturation and sharpness are adjustable through the image settings. (**Setup > Video & Audio > Camera**).

Once the unit's installation is complete and connected properly, please refer to ZN-XE Series Web User's Manual for the device's camera configuration instructions.



## 5. CONNECTIONS

Top View



\* Models and their appearance are subject to change without any prior notice.

### ① Audio Mic in and Line out (3.5mm)

Support PCM8/16, G.711 a-law, and u-law compression formats.

### ② Sensor (DI) connection

The camera provides 4 channel D/I.

Name	Descriptions
IN4	Alarm Signal Input 4
IN3	Alarm Signal Input 3
GND	Ground
IN2	Alarm Signal Input 2
IN1	Alarm Signal Input 1
GND	Ground
485+	
485-	

### ③ Alarm (DO) connection

The device supports two digital outputs. The max relay capacity is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A.

Name	Descriptions
NC1	Normal Close 1
COM1	Common 1
NO1	Normal Open 1
NC2	Normal Close 2
COM2	Common 2
NO2	Normal Open 2

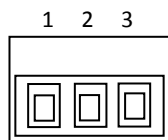
**④ LAN connector**

Use 10/100 Base-T Ethernet cable to connect to a network.

Use RJ45 coupler to extend the cable.

**⑤ 12V DC Power**

A 3-pin terminal block is used for power output.



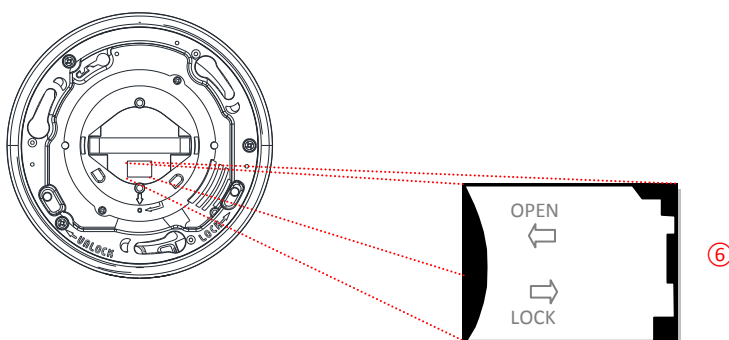
Function		Pin	Notes
DC Output	AC~	1	
	FG	2	
	AC~	3	

**⑥ Micro SD slot**

Located on top of main device, next to 32-pin socket, a user must push the upper cover as inscribed arrow direction next to “OPEN” to open the case.

Slide the micro SD card into the opened cover with its gold contacts facing down.

Once the card is inserted, close down the upper cover, and push the cover as inscribed arrow direction next to “LOCK” to lock the card down.



---

## 6. CONFIGURATION

---

### 6.1. Set up network environment

The default IP address of the device is 192.168.XXX.XXX. Users can identify the IP address of the device from converting the MAC address's hexadecimal numbers, which is attached to the device. Be sure that the device and PC are on a same area network before running the installation.

IP address : **192.168.xxx.xxx**

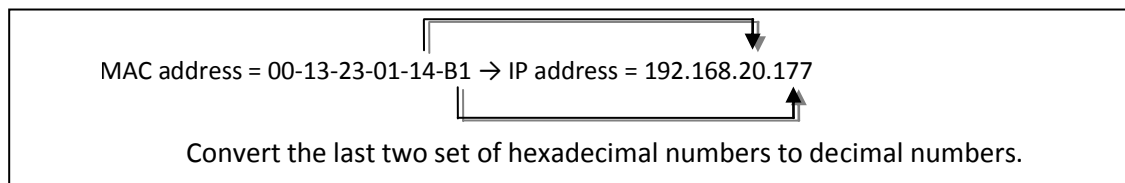
Subnet mask: **255.255.0.0**

#### 6.1.1. Generic IP Environment

In case of generic private network environment where IP address 192.168.XXX.XXX are used, users may view the live streaming images on a web page using the device's default IP address:

1. Convert the device's MAC address to the IP address. Refer to the Hexadecimal-Decimal Conversion Chart at the end of the manual.

(The MAC address of the device is attached on the side or bottom of the device.)



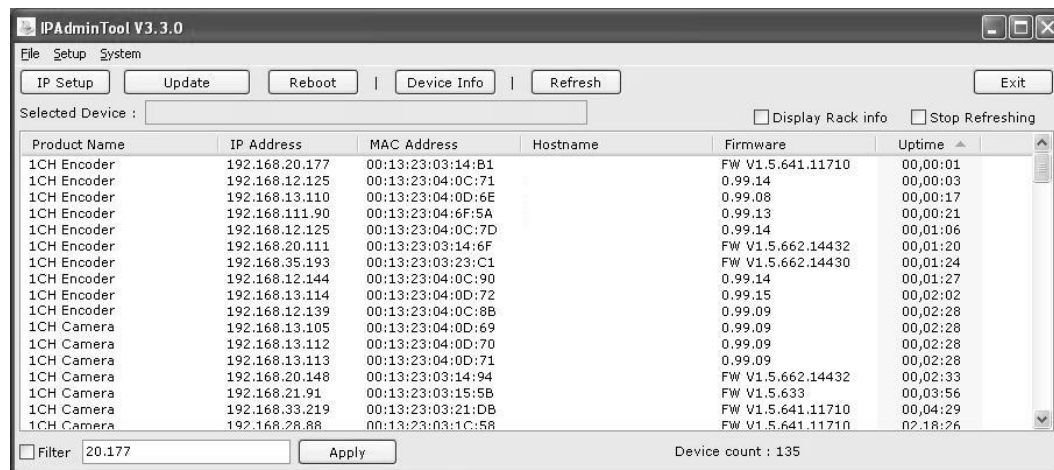
2. Start the Microsoft® Internet Explorer web browser and enter the address of the device.
3. Web streaming and device configurations are supported through ActiveX program. When the ActiveX installation window appears, authorize and install the ActiveX.

## 6.1.2. Custom IP Environment

IPAdminTool is provided with SDK at the following SDK path.

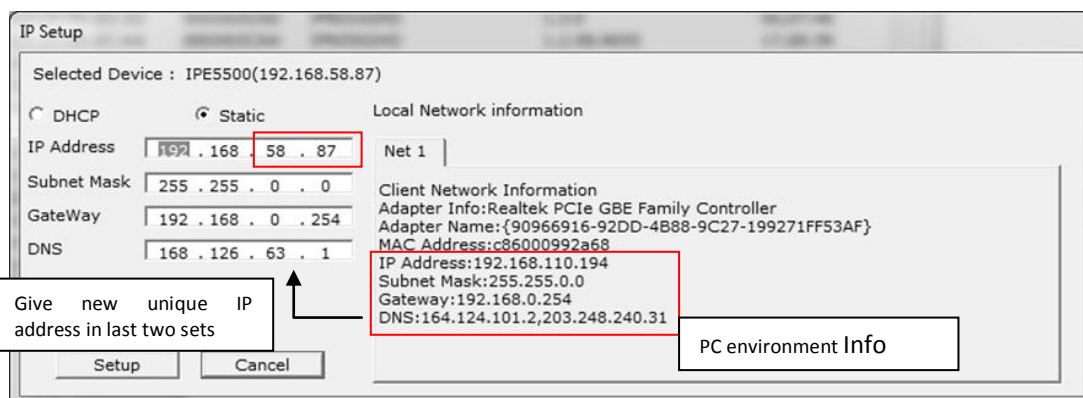
{SDK root}\BIN\TOOLS\AdminTool\

IPAdminTool is a management tool, which automatically scans all of the network products for users to perform administrative tasks, which includes network configurations, firmware update, device reboot, and device organizations.



To modify the device's default IP address for customized network area;

1. Find the device from the IPAdminTool's list and highlight the device's name.
2. Right-click the mouse and select "IP Address"; IP Setup window appears.

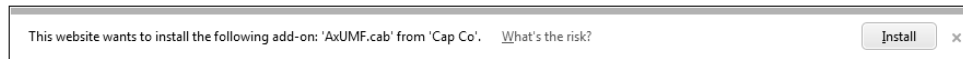


3. In the IP Setup's window, information under 'Local Network information' displays the user/PC's network area information. Those information need to be incorporated to the IP Address, Subnet Mask, Gateway, and DNS boxes, except the last 2 sets of IP Address, which are to be the unique numbers for the device. Refer to the image above for the setting
4. Click 'Setup' to complete the modification.

## 6.2. View video on web page

Type the proper IP address to view the live streaming images through a web browser.  
The default username and password is *root / pass*.

### 6.2.1. ActiveX Installation



1. When the browser asks to install the AxUMF software, click Install to proceed.



2. When Setup installation pop-up window appears, click install to proceed with rest of installations.



#### Note

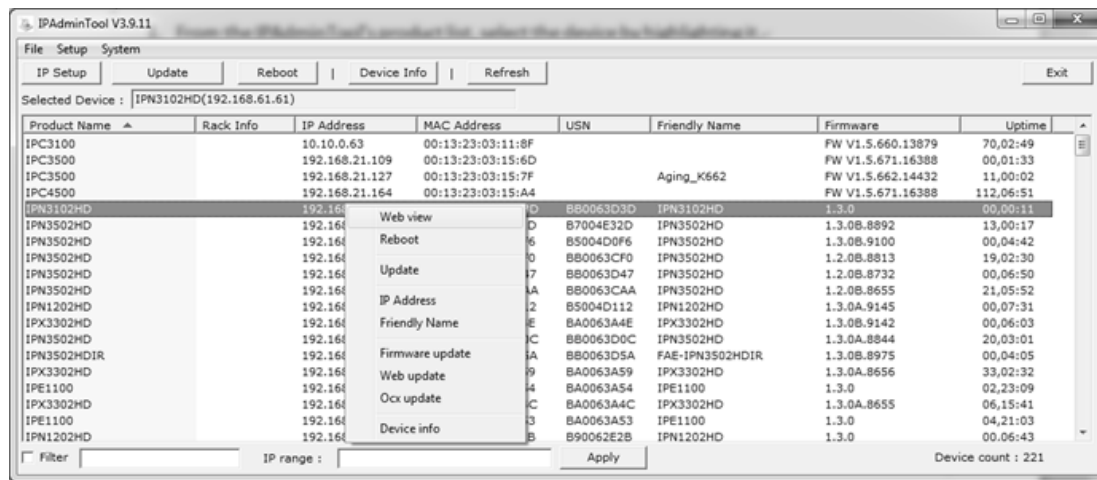
Depends on system OS and Internet Explorer version, Installation experience may differ from one another. Figures described above are from Windows 7, Internet Explorer 9 environment.

## 6.2.2. View video using IPAdmin Tool

IPAdminTool automatically searches all activated network encoders and IP cameras and shows the product name, IP address, MAC address and etc. IPAdminTool is provided with SDK at the following SDK path.

```
{SDK root}\BIN\TOOLS\AdminTool\
```

1. From the IPAdminTool's product list, select the device by highlighting it.
2. Right-click the mouse and select **Web view**



3. The system's default web browser opens the device's address.

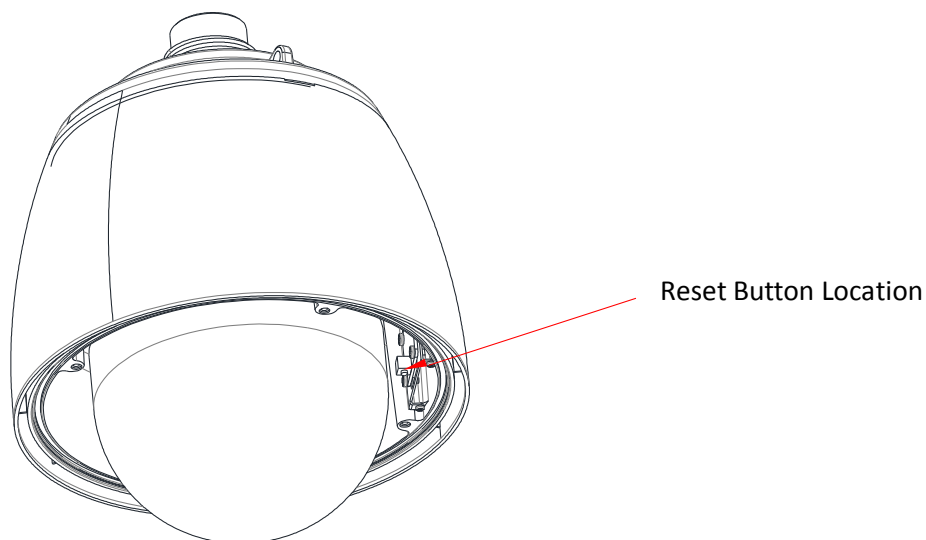


Whether directly accessing the streaming video through typing IP address on a web page or taking steps through IPAdminTool, the ActiveX is needed to be installed for the Microsoft® Internet Explorer to have the complete configuration privileges.

## 6.3. Reset

Perform the following procedures to reset your device:

1. Press the Reset button for 2 seconds.
2. Wait for the system to reboot.



## 6.4. Factory Default

Resetting the device back to the factory default will initialize all parameters including the IP address back to the factory defaults. To reset back to the factory default;

1. Press reset button and hold.
2. Release the button after 5 seconds.
3. Wait for the system to reboot.

The factory default settings can be inferred as follows:

IP address:	192.168.xx.yy
Network mask:	255.255.0.0
Gateway:	192.168.0.1
User ID:	root
Password:	pass

# APPENDIX (A): SPECIFICATIONS

## Summary

Camera Module		
CMOS	Image Sensor	1/3" 1080p CMOS
	Effective Pixels	1920x1080
	Scanning system	Progressive scanning
ELECTRICAL	Resolution	1920 x 1080
	Min. Illumination	Color: 1.5Lux(50 IRE) / 0.02Lux(Sens-up) B/W : 0.1Lux(50 IRE) / 0.001Lux(Sens-up)
	Type	DC auto iris
Lens	Focal Length	4.45 ~ 89mm (Optical x20)
	Aperture Ratio	F1.6(Wide) / F2.9(Tele)
	Angular Field of View	H : 56.56°(Wide) ~ 3.10°(Tele) V : 43.32°(Wide) ~ 2.34°(Tele)
	Min. Object Dist.	1m (3.28ft)
Day & Night		Auto / Day / Night
Video		
Compression Format		H.264, MJPEG Selectable per Stream
Number of Streams		Dual Stream, Configurable
Resolution		1920x1080, 1280x720, 800x450, 480x270, 320x180
Compression FPS		30fps@1080p
Motion Detection		Built-in
Burnt-in Text (Digital)		Video stream overlay text
Output		CVBS : 1.0 Vp-p / 75Ω composite3.5
Audio		
Input/output		3.5mm stereo jack for speaker and microphone
Compression Format		G.711
Function		
Digital Input/output		4/2 channel
RS-485		Supported
Network		10/100 Base-T
Power over Ethernet		Supported
Protocol		TCP/IP, UDP/IP, HTTP, RTSP, RTCP, RTP/UDP, RTP/TCP, SNTP, mDNS, UPnP, SMTP, IGMP, DHCP, DDNS, SSL v2/v3, IEEE 802.1X, SSH, SNMP v2/v3
SD Slot		Supported (MicroSD/SDHC) ※ Micro SD Card not included



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## Electrical Characteristics

Power Source	AC 24V $\pm$ 10%, PoE+ (IEEE802.3at)
Power Consumption	Max. 52W (Heater ON)
Video Output	1 Vp-p, 75 $\Omega$ , Composite
Audio Input / Output	Mic in, Line out
Audio Format	PCM8/16, G.711 a-law, u-law
D/I	
D/O	

## Environment Condition

Operating Temperature	Operating Range (Indoor) AC24V : -40 °C ~ 50 °C (-40 °F ~ 122 °F) PoE+ : -10 °C ~ 50 °C (14 °F ~ 122 °F)
Operating Humidity	Up to 85% RH

## Mechanical Condition

Material	Aluminum, Anti-vandal bubble (Poly Carbonate)
Color	Ivory
Dimension	Ø232 x 296.4mm
Weight (Approx.)	4 Kg (8.82lbs)

---

## APPENDIX (B): POWER OVER ETHERNET

---

The Power over Ethernet (PoE) is designed to extract power from a conventional twisted pair Category 5 Ethernet cable, conforming to the IEEE 802.3af Power-over-Ethernet (PoE) standard. IEEE 802.3af allows for two power options for Category 5 cables.

The IEEE **802.3af-2003** standard allows up to 15.4 W of power the device. However, 12.95W is the available power, as some power gets lost in the cable. The updated IEEE **802.3at-2009 (PoE+)** standard allows up to 25.5 W (Max 34.2 W) of power the device.

PoE has advantages over conventional power in such places where AC powers cannot be reached or expensive to wire.

Note: For proper activation of 12V PoE, the Category 5 cable must be shorter than 140m and conform the PoE standard.

### PoE compatibility

#### With non-Power Sourcing Equipment (PSE)

When it is connected with non PSE, the power adaptor should be connected.

#### With power adaptor

Connecting both PSE and power adaptor does not do any harm to the product, but power adaptor will be the only power source for the device as it has priority over PSE. In this case, disconnecting power adaptor while it is operating will cause the device to reboot. And PoE will be the power source for the device after the reboot.

### Power Comparison

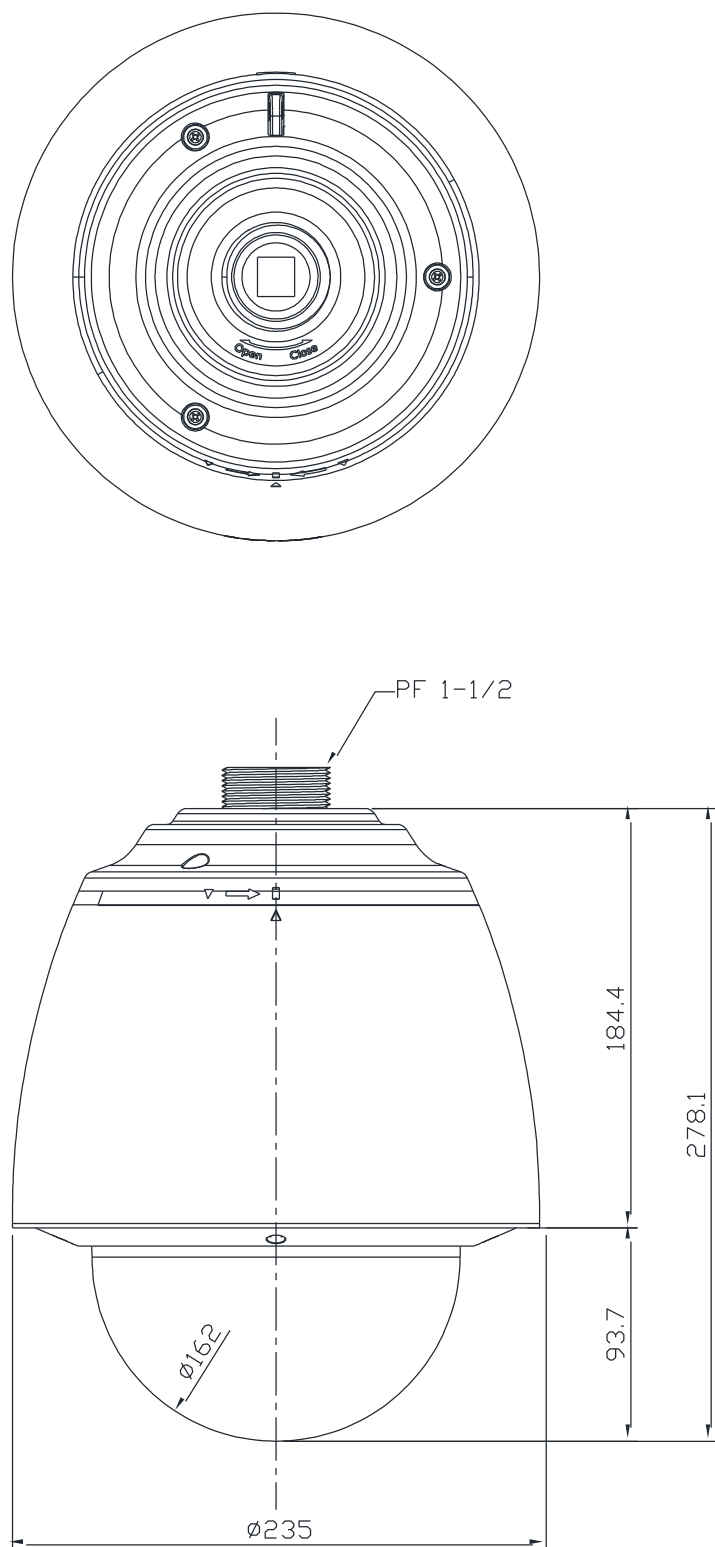
Property	802.3af	802.3at
Available Power	12.95 W	25.50 W
Max. Power by PSE	15.40 W	34.20 W
Max. Current	350 mA	600 mA
Supported Cable	Category 3 and 5	Category 5



#### Note

Disconnecting PSE or PoE does not reboot the device as long as a power adaptor is connected.

## APPENDIX (C): DIMENSIONS



(Unit: mm)

# APPENDIX (D): HEXADECIMAL-DECIMAL CONVERSION TABLE

Refer to the following table when you convert the MAC address of your device to IP address.

Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec
0	0	25	37	4A	74	6F	111	94	148	B9	185	DE	222
1	1	26	38	4B	75	70	112	95	149	BA	186	DF	223
2	2	27	39	4C	76	71	113	96	150	BB	187	E0	224
3	3	28	40	4D	77	72	114	97	151	BC	188	E1	225
4	4	29	41	4E	78	73	115	98	152	BD	189	E2	226
5	5	2A	42	4F	79	74	116	99	153	BE	190	E3	227
6	6	2B	43	50	80	75	117	9A	154	BF	191	E4	228
7	7	2C	44	51	81	76	118	9B	155	C0	192	E5	229
8	8	2D	45	52	82	77	119	9C	156	C1	193	E6	230
9	9	2E	46	53	83	78	120	9D	157	C2	194	E7	231
0A	10	2F	47	54	84	79	121	9E	158	C3	195	E8	232
0B	11	30	48	55	85	7A	122	9F	159	C4	196	E9	233
0C	12	31	49	56	86	7B	123	A0	160	C5	197	EA	234
0D	13	32	50	57	87	7C	124	A1	161	C6	198	EB	235
0E	14	33	51	58	88	7D	125	A2	162	C7	199	EC	236
0F	15	34	52	59	89	7E	126	A3	163	C8	200	ED	237
10	16	35	53	5A	90	7F	127	A4	164	C9	201	EE	238
11	17	36	54	5B	91	80	128	A5	165	CA	202	EF	239
12	18	37	55	5C	92	81	129	A6	166	CB	203	F0	240
13	19	38	56	5D	93	82	130	A7	167	CC	204	F1	241
14	20	39	57	5E	94	83	131	A8	168	CD	205	F2	242
15	21	3A	58	5F	95	84	132	A9	169	CE	206	F3	243
16	22	3B	59	60	96	85	133	AA	170	CF	207	F4	244
17	23	3C	60	61	97	86	134	AB	171	D0	208	F5	245
18	24	3D	61	62	98	87	135	AC	172	D1	209	F6	246
19	25	3E	62	63	99	88	136	AD	173	D2	210	F7	247
1A	26	3F	63	64	100	89	137	AE	174	D3	211	F8	248
1B	27	40	64	65	101	8A	138	AF	175	D4	212	F9	249
1C	28	41	65	66	102	8B	139	B0	176	D5	213	FA	250
1D	29	42	66	67	103	8C	140	B1	177	D6	214	FB	251
1E	30	43	67	68	104	8D	141	B2	178	D7	215	FC	252
1F	31	44	68	69	105	8E	142	B3	179	D8	216	FD	253
20	32	45	69	6A	106	8F	143	B4	180	D9	217	FE	254
21	33	46	70	6B	107	90	144	B5	181	DA	218	FF	255
22	34	47	71	6C	108	91	145	B6	182	DB	219		
23	35	48	72	6D	109	92	146	B7	183	DC	220		
24	36	49	73	6E	110	93	147	B8	184	DD	221		

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# REVISION HISTORY

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MAN#	DATE(M/D/Y)	Comments
01A.00	12/06/2012	First release version