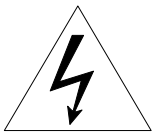
H.264 x12 PTZ NETWORK CAMERA

ZN-PTZ12VP-XT
ZN-PTZ12VN-XT

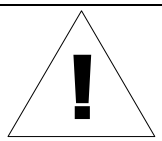
Installation Manual

INFORMATION TO USER

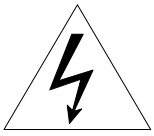


CAUTION

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 SEERIVCE PERSONEL.



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

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Table of Contents

1. FEATURES

Camera

- Indoor/Outdoor Mini PTZ Dome IP Camera (Vandal Proof)
- Sony 1/4" Super HAD CCD, 410K Pixel
- x12 Optical Zoom, x16 Digital Zoom (Max x192)
- True Day & Night (IR Cut Filter, DSS)
- 360° endless rotation
- Intelligent pan/tilt controlling
- Improvement of color rolling suppression

Streaming

- Dual streaming mode (such as different codec/resolution/bit rate and so on.)
- De-interlacing on DSP
- Burnt-in text supported
- Unicast/Multicast supported

Video/Audio

- Video compression: H.264/MPEG4/MJPEG, 25/30FPS@D1(PAL/NTSC)
- Audio compression: G.711(μLaw, aLaw)/PCM
- Analog video out for external monitors
- Video Motion Detection supported
- Two-way mono audio supported

Network

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

Additional Features

- RS-485 supported
- Micro SD card socket for external storage
- OSD supported
- SDK (Software Development Kit) provided

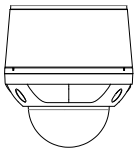
VCA (Video Content Analysis)

- VCA Presence (Included as basic)
- VCA Surveillance (Optional)

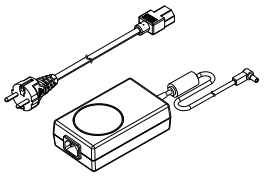
2. PACKAGE CONTENTS

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

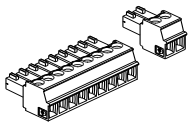
Camera



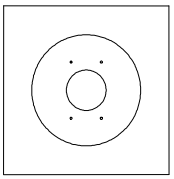
DC power adaptor



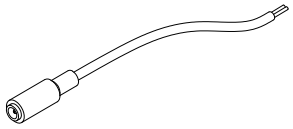
Terminal block



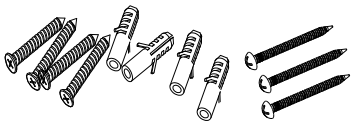
Installation Template



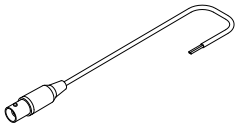
Power adaptor jack



Screws and Anchor blocks

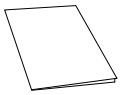


Video BNC cable



Hex wrench driver

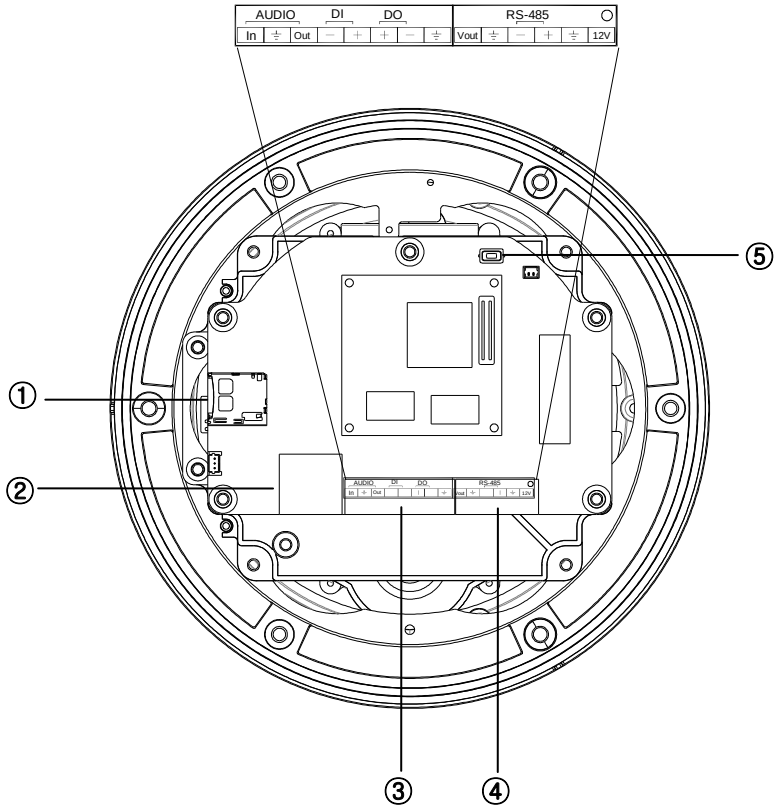
Quick Installation Guide



Note

The above contents are subject to change without prior notice.

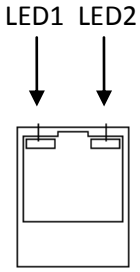
3. PART NAMES



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

① Micro SD Card Socket
It is a memory card slot for external storage.

② LAN Connector (Ethernet)
This is a RJ45 LAN connector for 10/100 Base-T Ethernet.



This LED lights up as orange and turns green when the encoder is powered on.

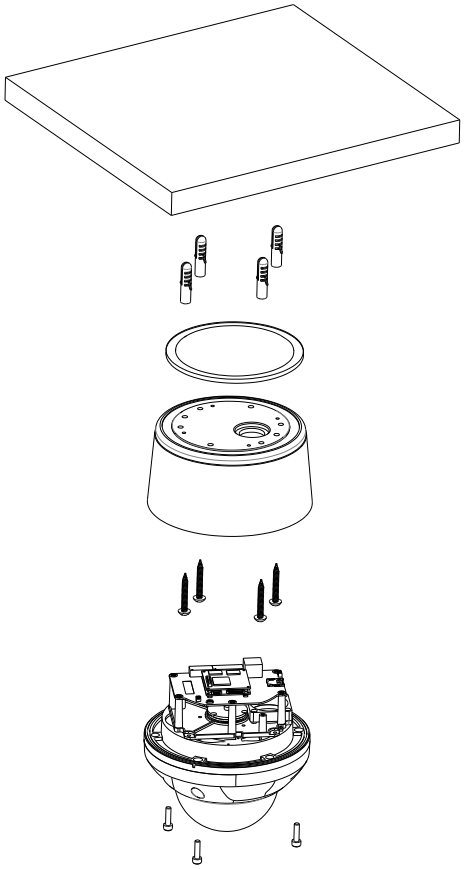
LED operation setting:
For the factory default setting, LED 2 blinks for the heartbeat and LED 1 turns on for video signal. To change its setting, refer to the section ***4.5.11. LED Setting*** of the ***NVC Web Page User's Manual.***

③ 8 pin terminal block for audio, DI, and DO
Refer to the section "**5.1.Connectors"** for more specific information.

④ 6 pin connector for analog video output, RS485, and power
Refer to the section "**5.1.Connectors"** for more specific information.

⑤ Reset
Reset switch is used for restarting the camera or resetting it to Factory Default (FD). Refer to the section "**6.3. Reset"** for more specific information.

4. INSTALLATION



1) Connect the LAN cable, power supply cable, and the video loop out cable with the camera.

2) Place the installation template on the ceiling.

3) Drill four holes on the template and insert anchor blocks into the holes. Fasten the surface mount bracket with screws.

4) Put the main body on the surface mount bracket of the camera. Make sure the bracket and the main body fit each other into place.

5) Fasten the main body with screws.

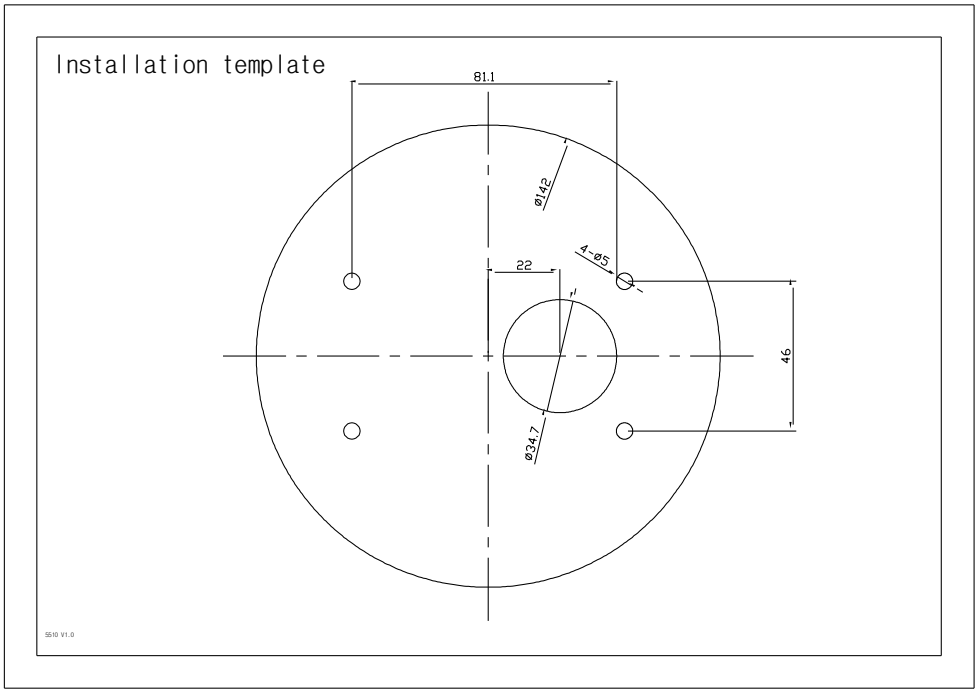
Note

When assembling the main body of the camera and its dome cover, make sure they fit each other into place.

Caution

The camera may fall off the ceiling even after the proper installation and mounting. To prevent any accident, make sure the ceiling is firm and stable enough to support the camera. If any reinforcement is needed, consult with your safety personnel and proceed with the installation.

4.1. Installation Template



4.2.Setting the Image Attribute

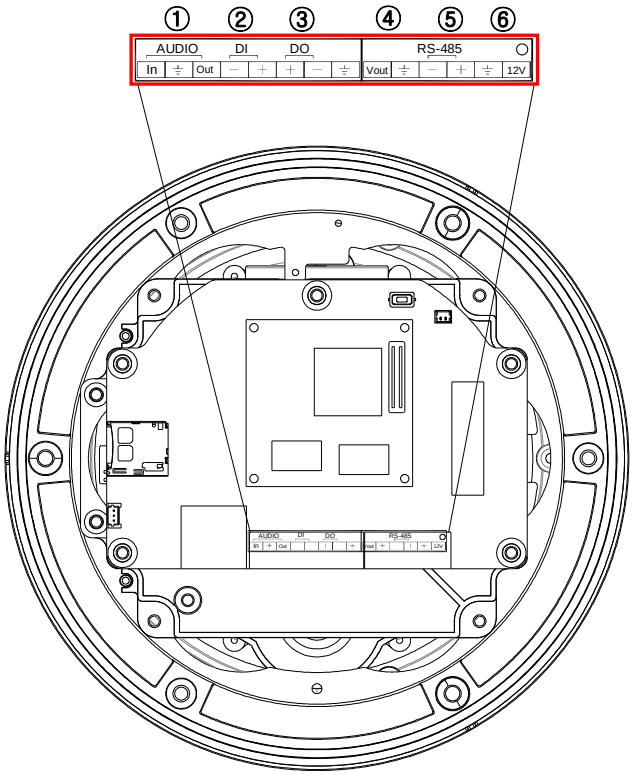
You can set the image attribute of camera through the webpage.
The menu of image attribute can be seen under **Setup > Video & Audio > Video-in > Attribute Setting**. Brightness, contrast, hue, saturation and sharpness can be adjusted.

4.3.Operating the OSD Menu

To operate the OSD of camera, refer to the ”**OSD Menu Control Manual.**”

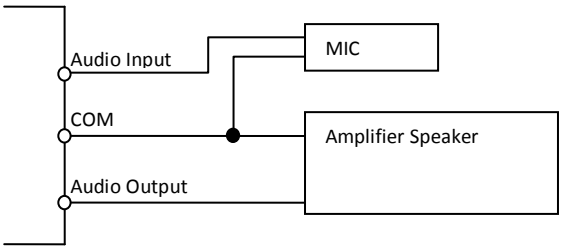
5. CONNECTIONS

5.1.Connectors



① Audio Input/Output Connection

Connect to the audio input device such as a mike and the audio output device such as the amplifier speaker.



Audio Input : Linein, 1.43Vp-p(Min 1.35Vp-p, max 1.49 Vp-p), 39 KΩ
Audio Output : Lineout, 46mW Power, 16 Ω

Caution

Do not connect the speaker without amplifier.

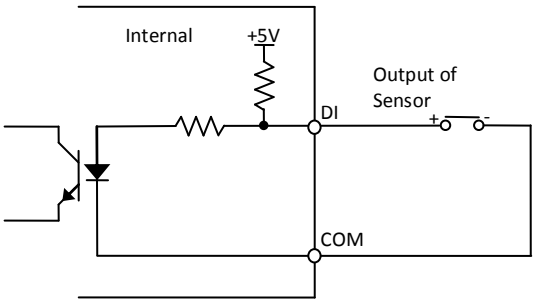
② Sensor (DI) connection

The camera provides 1 channel D/I. It can be connected to either a voltage type sensor or a relay type sensor as the following figures. It can be selected by software.

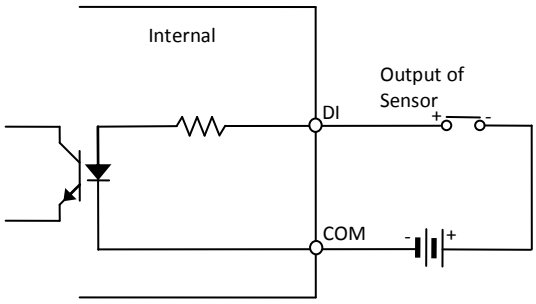
Input voltage range: 0VDC minimum to 5VDC maximum, Max 50mA
Input voltage threshold: 4.5V

Caution

Do not exceed the maximum input voltage or relay rate.



Relay Type



Voltage Type

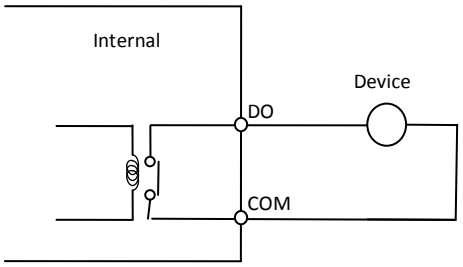
③ Alarm (DO) connection

The camera provides 1 channel D/O.

Relay Rating: Max 24VAC 500mA or 12VDC 1A

Caution

Do not exceed the maximum relay rating.



Relay Type

④ Analog video out
Connect with BNC coaxial cable.

⑤ RS-485 Communication
For PTZ control, connect this line to keyboard.

⑥ Power Connection
Please, check the voltage and current capacity of rated power carefully.

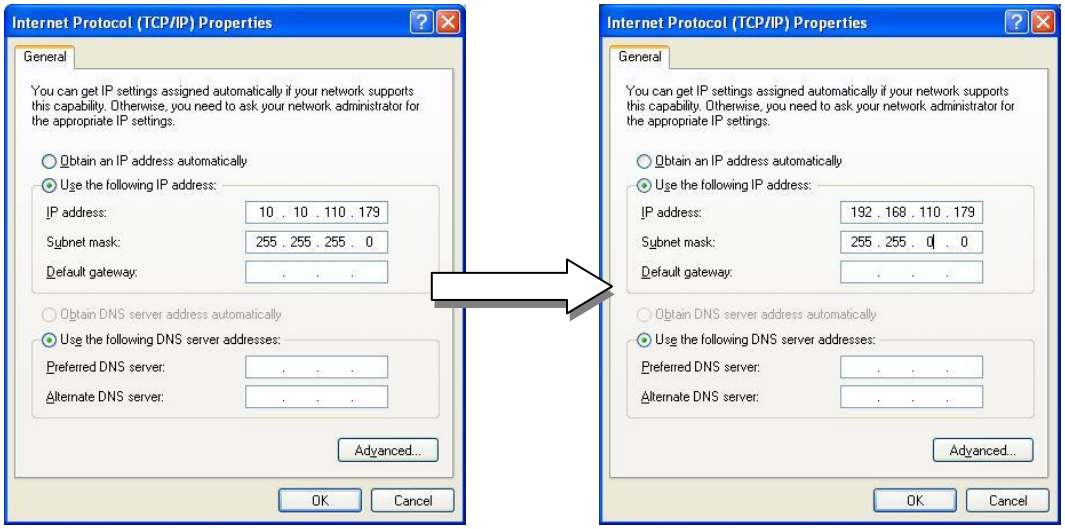
Rated Power	Input Voltage Range	Current Consumption
DC 12V	DC 8V ~ 16V	1 A

6. CONFIGURATION

6.1.Set up network environment

The default IP address of your IP device is 192.168.XXX.XXX. You can find the available IP address from the MAC address of your device. Please make sure the device and your PC are on the same network segment before running the installation. If the network segment between your PC and the device is different, change your PC's settings as below.

IP address : **192.168.xxx.xxx**
Subnet mask: **255.255.0.0**



6.2. View video on web page

View the live video on a web page using your IP device and its IP address. You can use the IPAdminTool or enter the IP address on the web page.

6.2.1. 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\

To use the IPAdminTool and view the live video on a web page:

1. Start IPAdminTool. Names and info of currently activated devices appear as a list.
2. Right-click on the desired device and select **Web view**.
3. Click **pop-up blocked** and install the ActiveX setup.exe by clicking the **Run** or **Save** button. You need to install the ActiveX for displaying the images.

4. Follow the instructions of the dialog boxes and complete the installation. Then the live video is displayed on the main page of the web browser.
5. If the live video is not displayed with the message said, "*This software requires the Microsoft XML Parser V6 or higher. Please download MSXML6 from the Microsoft website to continue. Error code: Can not create XMLDOMDocument.*", please download and install the relevant MSXML.

Note

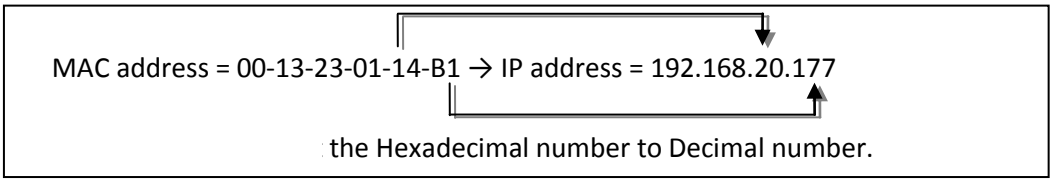
If the ActiveX ***setup.exe*** file fails to be installed successfully, close all of the Internet Explorer windows and go to **Program Files** > **AxInstall** folder on your computer. Then, run ***Uninstall.exe*** and try to perform the steps 1 to 4 above again.

6.2.2. View video using IP address

View the live video on a web page using your IP device and its IP address. To have the correct IP address ready and use it on a web page:

1. Convert a MAC address to an IP address or check the IP address on the IPAdminTool. Refer to *Appendix (C): Hexadecimal-Decimal Conversion Table*.

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



2. Open a web browser and enter the IP address of the device.
3. Click **pop-up blocked** and install the ActiveX setup.exe by clicking the **Run** or **Save** button. You need to install the ActiveX for displaying the images.
4. Follow the instructions of the dialog boxes and complete the installation. Then the live video is displayed on the main page of the web browser.

6.3. Reset

1. While the device is in use, press and hold the Reset button.
2. Release the Reset button after 3 seconds.
3. Wait for the system to reboot.

6.4. Factory Default

1. Disconnect the power supply from the device.
2. Connect the power to the device with the Reset button pressed and held.
3. Release the Reset button after 5 seconds.
4. 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	
Image Sensor	Sony 1/4” Super HAD CCD
Effective Pixels	811 x 508 (NTSC) / 795 x 596 (PAL)
TV System	NTSC / PAL
Horizontal Resolution	580 TVL (Color), 680 TVL (B/W)
Zoom	X12 Optical Zoom, x16 Digital Zoom
Focal length	F1.67~1.88, f=3.94~46.05mm
Sync System	Internal (12 VDC)
Min. Illumination	0.7 Lux(Color) / 0.02 Lux(B/W), 50 IRE
Lens	10X Optical Day & Night F1.8 f=3.8 ~ 38.0 mm
Iris	Auto / Manual
Day & Night	Auto / Day / Night(ICR)
S / N Ratio	52 dB
BLC	On/Off
Flickerless	On/Off
SSNR	Yes
Dome	
Pan Angle / Speed	360° Endless Rotation, Manual: 0.05° ~ 150°/sec / Preset: Max 250°/sec
Tilt Angle / Speed	-2° ~ 90°, Manual: 0.05° ~150°/sec / Preset: Max 250°/sec
Auto Scan	Programmable Auto scan
Pattern	8 Programmable Patterns (total 480 seconds)
Sector	8 selectable Sectors with 16 characters
On Screen Display	Yes
Video	
Compression	H.264, MPEG-4, MJPEG Selectable per Stream
Number of Streams	Dual stream, Configurable
Resolution	D1, 4CIF, 2CIF, VGA, CIF, QCIF, QVGA
Compression FPS	25/30 fps @ D1 (PAL/NTSC)
De-interlacing	Support (DSP)
Motion Detection	Support
Burnt-in Text(digital)	Support (DSP)
Analog Video Output	1 Loop Out (Terminal Block)
Audio	

Input / Output	1 / 1 Ch
Compression	PCM, G.711
Function	
Network	10/100 Base-T
DI / DO	1 / 1 Ch
RS-485	Support
Protocol	TCP/IP, UDP/IP, HTTP, RTSP, RTCP, RTP/UDP, RTP/TCP, SNTP, mDNS, UPnP, SMTP, SOCK, IGMP, DHCP, FTP, DDNS, SSL v2/v3, IEEE 802.1X, SSH, SNMP v2/v3
SD memory	Micro SD card slot ※ Micro SD Card is not included
Mechanical	
Material	Aluminum Die Casting / Polycarbonate
Dimensions	Housing : Housing: 157(Φ) x 178(H) mm
Color	Ivory
Weight	1,900 g

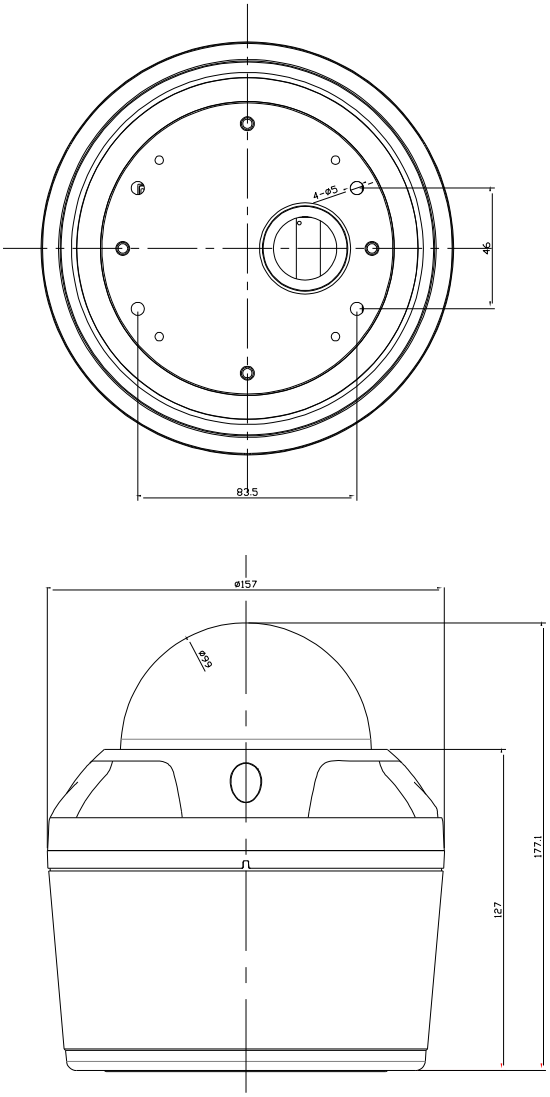
Electrical Characteristics

Power Source	12V DC
Power Consumption (Approx.)	1400mA
Analog Video Output	1 Vp-p, 75Ω, Composite
Audio Input	Linein, 1.43Vp-p(Min 1.35Vp-p, max 1.49 Vp-p), 39 KΩ
Audio Output	Lineout, 46mW Power, 16 Ω
Sensor(D/I)	Max 50mA@5VDC, TTL level 4.5V threshold
Alarm(D/O)	Max 500mA@24VAC or 1A@12VDC On-state resistance: 50 Ω (max continuous)

Environment Condition

Operating Temperature	**Operating Range** DC12V : -40˚C ~ 50˚C (-40˚F ~ 122˚F) **Cold Start** DC12V : -10˚C (14˚F)
Storage Temperature	-20 °C ~ 60 °C (-4°F ~ 140 °F)
Operating Humidity	Up to 85% RH

APPENDIX (B): DIMENSIONS



(Unit: mm)

APPENDIX (C): HEXADECIMAL-DECIMAL CONVERSION TABLE

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

Hex	Dec
00	0
01	1
02	2
03	3
04	4
05	5
06	6
07	7
08	8
09	9
0A	10
0B	11
0C	12
0D	13
0E	14
0F	15
10	16
11	17
12	18
13	19
14	20
15	21
16	22
17	23
18	24
19	25
1A	26
1B	27
1C	28
1D	29
1E	30
1F	31
20	32
21	33
22	34
23	35
24	36

Hex	Dec
25	37
26	38
27	39
28	40
29	41
2A	42
2B	43
2C	44
2D	45
2E	46
2F	47
30	48
31	49
32	50
33	51
34	52
35	53
36	54
37	55
38	56
39	57
3A	58
3B	59
3C	60
3D	61
3E	62
3F	63
40	64
41	65
42	66
43	67
44	68
45	69
46	70
47	71
48	72
49	73

Hex	Dec
4A	74
4B	75
4C	76
4D	77
4E	78
4F	79
50	80
51	81
52	82
53	83
54	84
55	85
56	86
57	87
58	88
59	89
5A	90
5B	91
5C	92
5D	93
5E	94
5F	95
60	96
61	97
62	98
63	99
64	100
65	101
66	102
67	103
68	104
69	105
6A	106
6B	107
6C	108
6D	109
6E	110

Hex	Dec
6F	111
70	112
71	113
72	114
73	115
74	116
75	117
76	118
77	119
78	120
79	121
7A	122
7B	123
7C	124
7D	125
7E	126
7F	127
80	128
81	129
82	130
83	131
84	132
85	133
86	134
87	135
88	136
89	137
8A	138
8B	139
8C	140
8D	141
8E	142
8F	143
90	144
91	145
92	146
93	147

Hex	Dec
94	148
95	149
96	150
97	151
98	152
99	153
9A	154
9B	155
9C	156
9D	157
9E	158
9F	159
A0	160
A1	161
A2	162
A3	163
A4	164
A5	165
A6	166
A7	167
A8	168
A9	169
AA	170
AB	171
AC	172
AD	173
AE	174
AF	175
B0	176
B1	177
B2	178
B3	179
B4	180
B5	181
B6	182
B7	183
B8	184

Hex	Dec
B9	185
BA	186
BB	187
BC	188
BD	189
BE	190
BF	191
C0	192
C1	193
C2	194
C3	195
C4	196
C5	197
C6	198
C7	199
C8	200
C9	201
CA	202
CB	203
CC	204
CD	205
CE	206
CF	207
D0	208
D1	209
D2	210
D3	211
D4	212
D5	213
D6	214
D7	215
D8	216
D9	217
DA	218
DB	219
DC	220
DD	221

Hex	Dec
DE	222
DF	223
E0	224
E1	225
E2	226
E3	227
E4	228
E5	229
E6	230
E7	231
E8	232
E9	233
EA	234
EB	235
EC	236
ED	237
EE	238
EF	239
F0	240
F1	241
F2	242
F3	243
F4	244
F5	245
F6	246
F7	247
F8	248
F9	249
FA	250
FB	251
FC	252
FD	253
FE	254
FF	255

REVISION HISTORY

MAN#	DATE(M/D/Y)	Comments
01A.01	12/219/2011	Created
01A.02	01/03/2012	Modified operating temperature