Illustra Pro LT 2MP Bullet
Illustra Pro Compact Mini-Bullet

Quick Start Guide

8200-1136-01 A0

Notice

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Trademarks

Notice of Use

- This manual is designed for administrators and users of the network camera. Please read it carefully before use. All requirements should be followed before using this camera.
- We are not responsible for any technical or typographical errors and reserve the right to change the product and manuals without notice.
- Keep this document for future reference.
- It is intended that this camera utilizes a PoE power source that complies with LPS requirements.
- The camera must be installed on a solid mounting surface.
- Keep the camera and other accessories dry.
- We are not responsible for any damage caused by inappropriate use.

Safety Notice

The recessed indoor camera models are rated as suitable for use in environmental air handling spaces, except inside air ducts or furnace plenums

ESD Precautions: With the covers removed during installation and alignment this product is sensitive to electrostatic discharge. The installer should take appropriate ESD control measures such as the use of a ESD wrist strap connected to the chassis of the camera.

Note to Installer **-** POE networks that are connected to IP Encoders should not be routed to the exterior or outside of the installed plant location.

Product Features

Features

ADCi610-M022

- Motion detection
- High quality compression in real time streaming
- Full frame rates @ Maximum resolution 1920x1080 provides superior image quality
- Supports simultaneous streaming of H.264 and MJPEG encoded video
- Wide Dynamic Range (WDR)
- Backlight Compensation
- Digital Slow Shutter
- IR Illuminator
- Dynamic 2D Digital Noise Reduction
- OSD supported
- Weather Proof (IP66)
- Event or Continuous recording on microSD card or FTP(microSD media not included.)
- PoE supported
- ONVIF 2.4 Profile S compliant

IPL02B1BNWIY
IPL02B2BNWIY

- Motion detection
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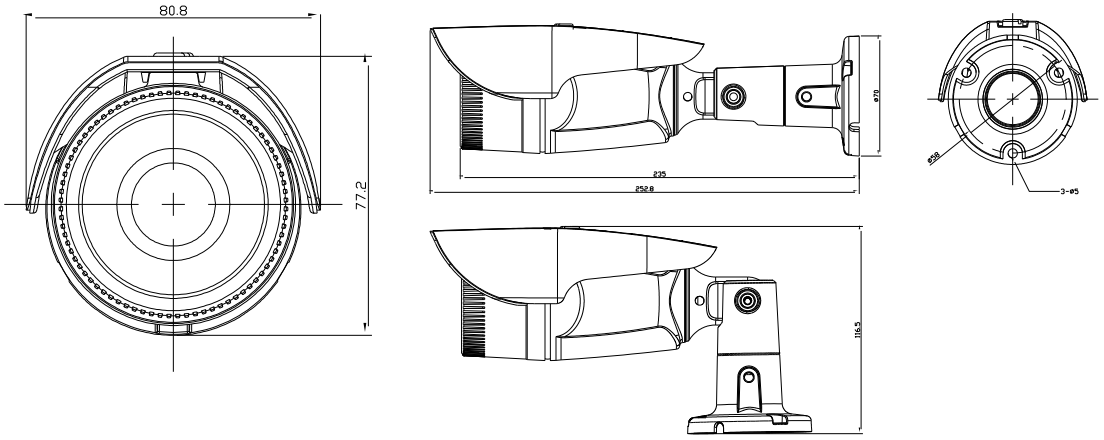
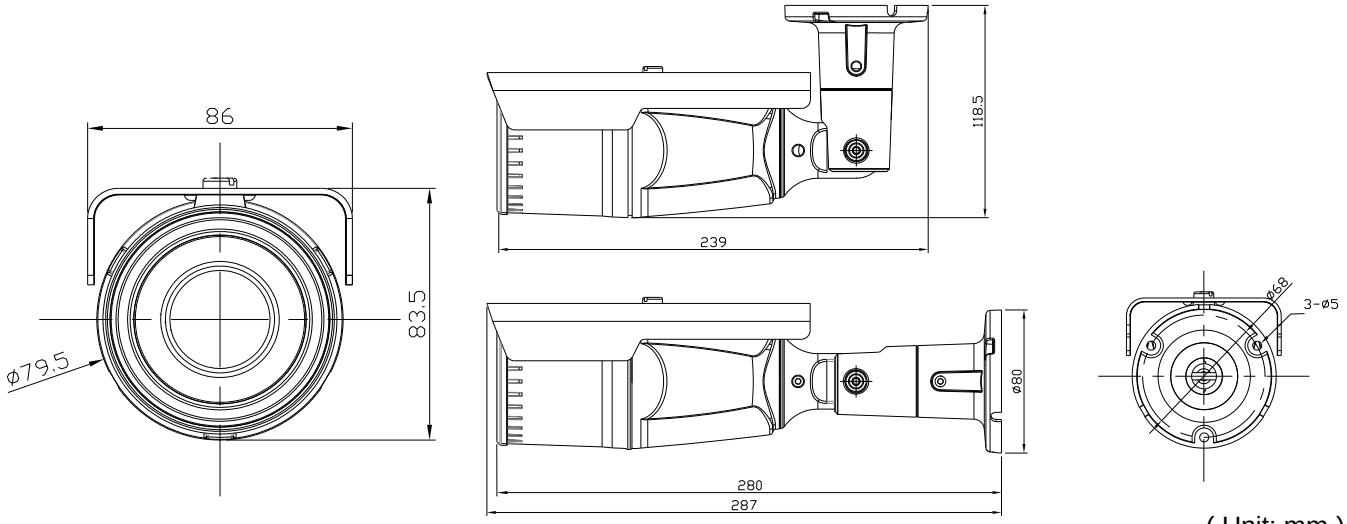
- Weather Proof (IP66)
- Event or Continuous recording on microSD card or FTP(microSD media not included)
- PoE supported
- ONVIF 2.4 Profile S compliant
- Remote zoom and focus control
- Analogue Video Output
- Digital Input / Output

Dimension ADCi610-M022



(Unit: mm)

Dimension IPL02B1BNWIY
IPL02B2BNWIY



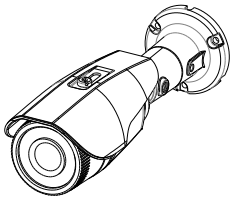
(Unit: mm)

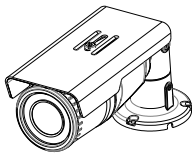
Package contents

The package contains a camera, screws, anchors, a waterproof band, a ferrite core, a hex wrench driver, universal plugs, a quick installation guide, a CD ROM, a paper mounting template, and a microSD card (exclusive for the camera model, IQS02MFONWTY). Unpack the package carefully, and handle the equipment with care.

Note:
The contents of the package may vary by model:

Camera x 1

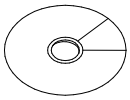


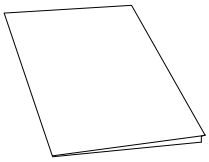


ADCi610-M022 IPL02B2BNWIY

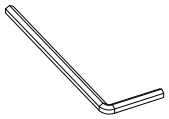
Mounting screw with plastic anchors x 3

Quick installation guide & CDROM x 1



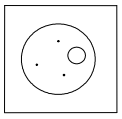


Hex Wrench Driver

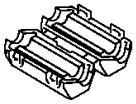


Silicon Waterproof Band

Paper Mounting Template x 1

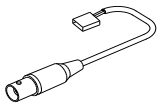


Ferrite Core (ADCi610-M022)



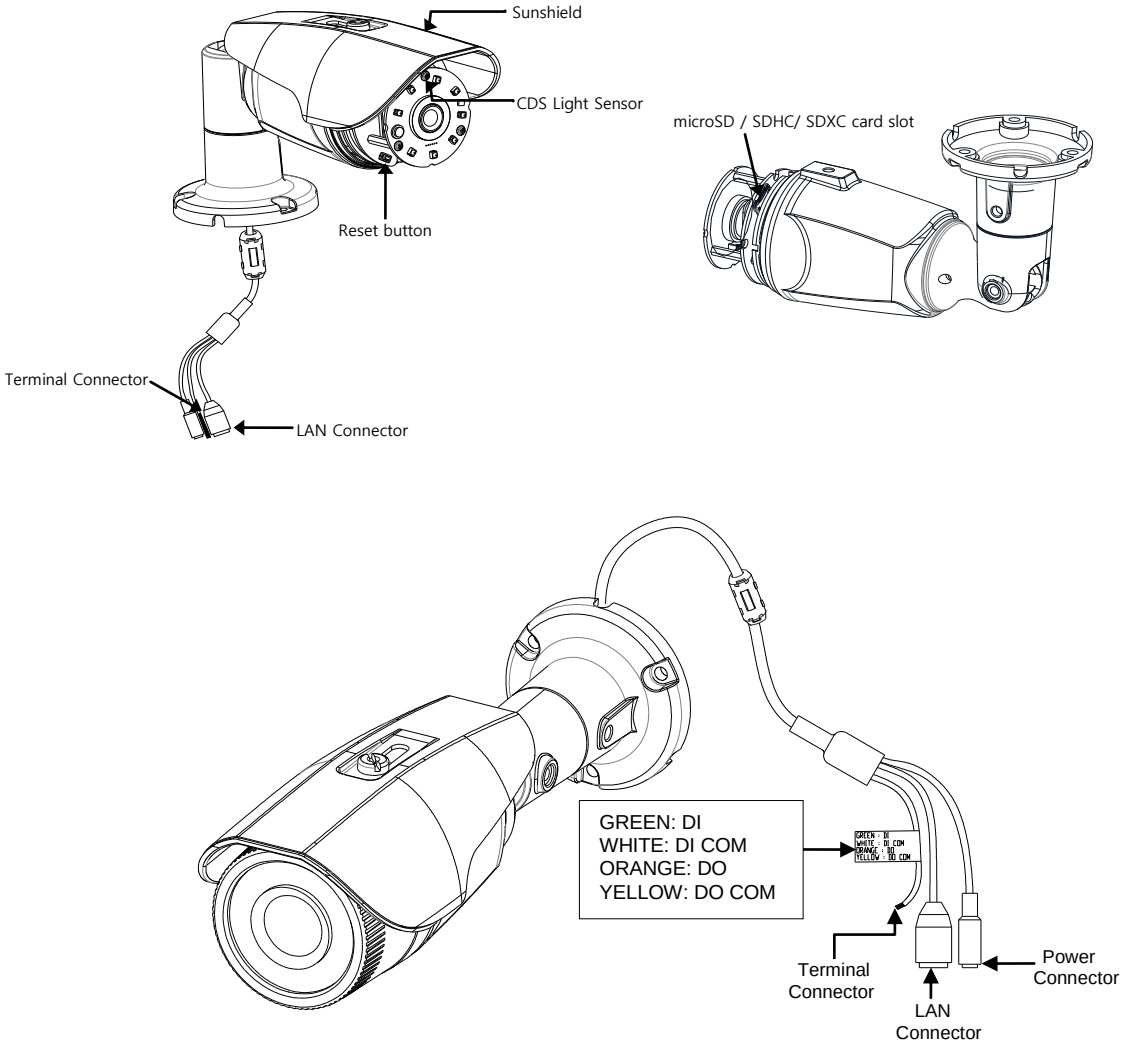
microSD card (pre-installed exclusively in the camera model, IQS02MFONWTY)

Video Output Cable (IPL02B1BNWIY & IPL02B2BNWIY)

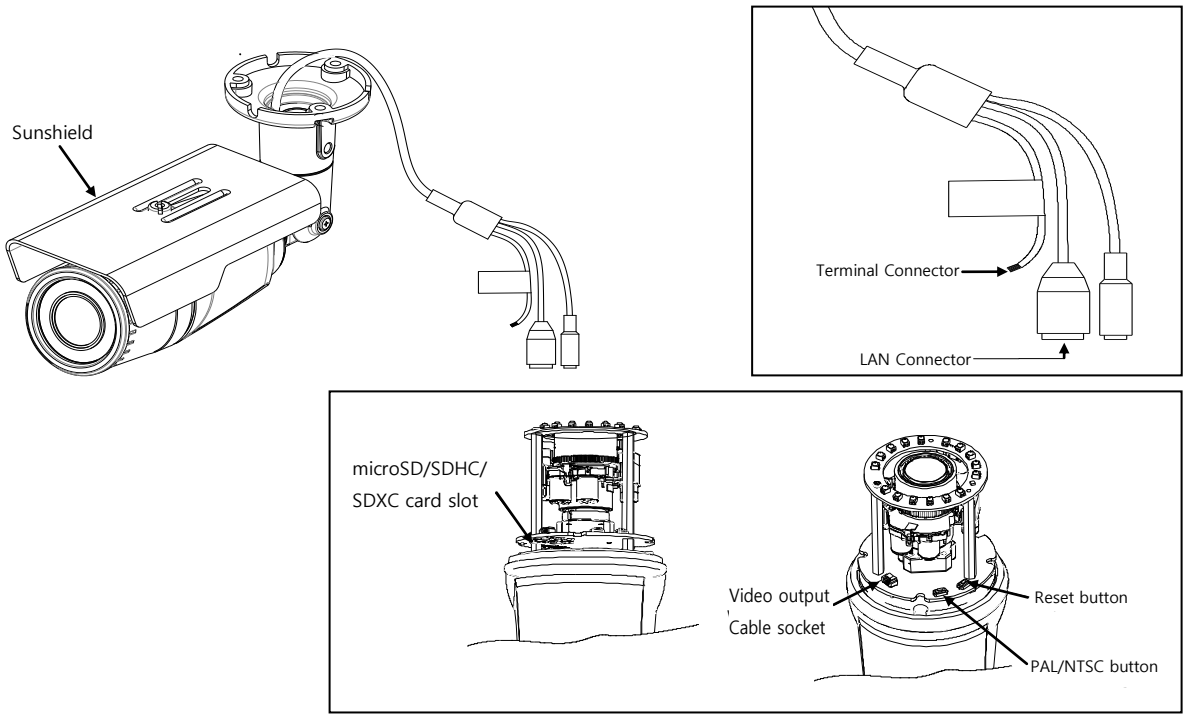


Controls/Connectors

ADCi610-M022



IPL02B1BNWIY
IPL02B2BNWIY



Note

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

- **Sunshield**: Protects the camera lens against direct sunshine.
- **Reset button**: This button will restart or reset to factory default settings. Refer to Reboot or Factory Default under the Maintenance section in the camera's Installation and Operation Manual for more details.
- **CDS Light Sensor**: To detect the level of ambient light or intensity of light. The sensor should not be blocked by a cable or any other objects.
- **microSD/SDHC/SDXC card slot**: The camera supports up to 64GB. Class 4 or higher SD card is recommended for HD recordings.
- **Terminal Connector**: Cable connections for digital input/output. Refer to Connections in the camera's Installation and Operation Manual for more details.
- **LAN connector**: RJ45 LAN connector for 10/100 Base-T Ethernet.

Peripheral Connection

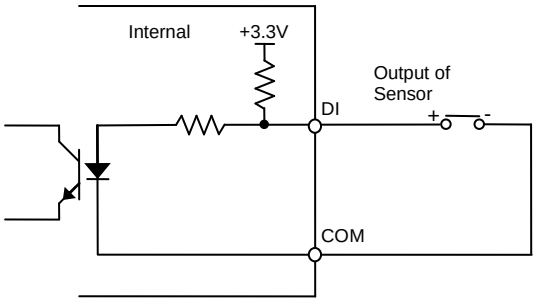
Sensor (DI) Connection

Sensor(DI) can be connected to either a voltage type sensor or a replay type sensor like in the following figures. Settings can be done through the camera's webpage.

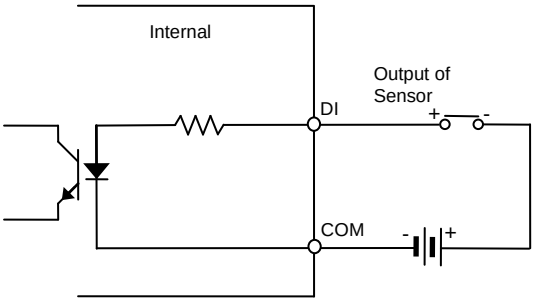
Input voltage range: 0VDC minimum to 5VDC maximum, Max 50mA

CAUTION

Do not exceed the maximum input voltage or relay rate.



Relay Type



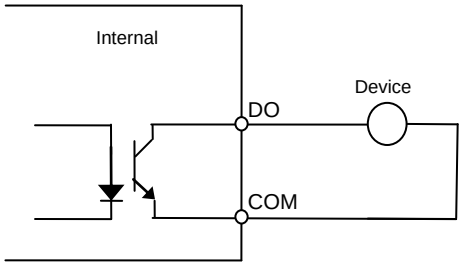
Voltage Type

Alarm (DO) Connection

Only the replay type is supported.
Relay Rating: Max 24VDC 50mA
The activation can be managed through the camera's webpage. (IPL02B2BNWIY)

CAUTION

Do not exceed the maximum replay rate.



Relay Type

Power Connection

The camera can be powered from either 12VDC or PoE. If it is powered from 12VDC, connect an adaptor which can supply the camera with enough power. Also, refer to the characteristics of the polarity according to the image below.

LAN Connection

The LAN connector is an RJ45 LAN connector for 10/100 Base-T Ethernet. Use the Ethernet cable (RJ45) to connect the device to a hub or a router in the network.

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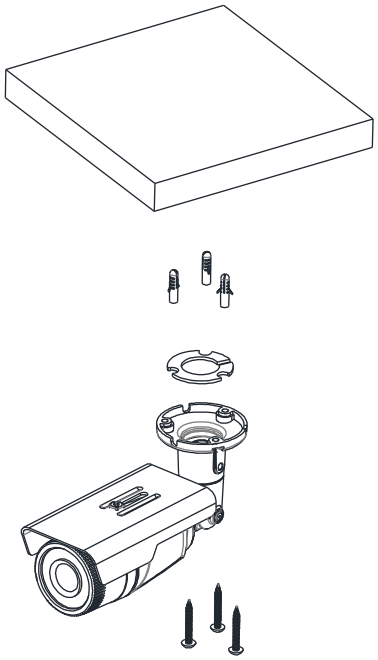
Installation



Model Shown IPL02B2BNWIY

1. Place the paper mounting template that is included in the package on the desired installation surface.
2. Drill three holes in the correct positions based on the paper mounting template, and insert the plastic anchors into the holes.
3. Attach the silicon waterproof band included in the package to the camera's mounting surface by aligning it with the three alignment holes on the camera's mounting surface.
4. Connect the required cables to the device. Refer to Connections in this manual for more details.
5. Place the camera body on the mounting surface to match its alignment holes with the corresponding plastic anchors.
6. Tighten the plastic anchors with the screws through the camera's alignment holes.
7. Adjust the heading direction of the camera. Refer to the section, 'Adjusting angle of the camera' for more details.
8. Attach the lens cover to the camera by rotating it clockwise.
9. Adjust zoom and focus of the camera. Refer to the section, 'Adjusting zoom and focus' in this manual for the instructions.

CAUTION

Sealing gaps is recommended as gaps may appear after the camera installation. Gaps may cause problems such as moisture, water leakage, and etc., which negatively affect the operation of the camera if gaps appear but remain unsealed.

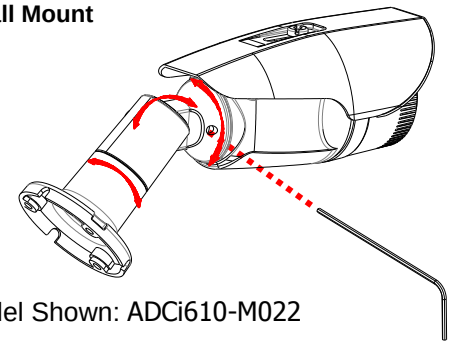
CAUTION

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

Adjusting angle of the camera

Adjust the angle of the camera by changing the heading direction by reference to the following pictures

Wall Mount

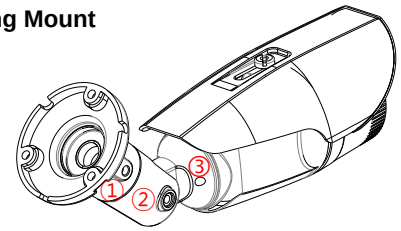


Model Shown: ADCi610-M022

A. Loosen the joint(②) with the hex wrench driver to adjust the tilt angle of the camera for wall mount.

B. Adjust the angle delicately by loosening the joint(①) if necessary after the installation on the wall.

Ceiling Mount



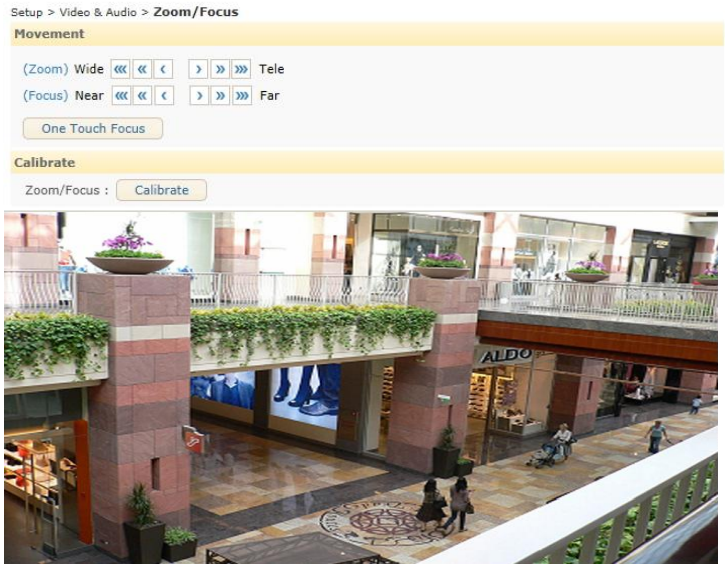
A. Loosen the joint(③) with the hex wrench driver, and rotate the camera bracket 180 degrees if the bracket was fixed for wall mount(image on the left).
Then, tighten the joint(③).

B. Loosen the joint(②) to ideally adjust the tilt angle of the camera, and tighten it if the angle is appropriate.

C. Adjust the angle delicately if necessary after the installation on the ceiling.

Adjusting zoom and focus IPL02B1BNWIY & IPL02B2BNWIY

Your camera is supported with motorized zoom and focus. Thus, connecting the device to a network is pre-requisite to enable the adjustment of zoom and focus. For the network connection, refer to the section, Network Connection and Configuration in this manual.
Once the device is on the network and the webpage is open, go to **Setup**> **Video** > **Zoom/Focus**. Then, the features shown below will appear.



1. Adjust zoom and focus by clicking the arrow buttons. The buttons «« »» move the lens more

extensively than the buttons ‹ ›.

Or, click **One Touch Focus** to automatically set the lens focus.

Refer to the camera's Configuration Manual for more detailed configuration about zoom and focus on the webpage.

Specifications

<table>
<tr><td colspan="2">Model List</td><td colspan="2">ADCi610-M022</td><td>IPL02B1BNWIY
IPL02B2BNWIY</td></tr>
<tr><td colspan="5">Camera</td></tr>
<tr><td rowspan="4">Image Sensor</td><td>Max. Resolution</td><td colspan="3">1080p (1920x1080)</td></tr>
<tr><td>Pixel Size</td><td colspan="3">3x3 ㎛</td></tr>
<tr><td>Type</td><td colspan="3">CMOS</td></tr>
<tr><td>Active Image Area</td><td colspan="3">5,856 H x 3,276V ㎛</td></tr>
<tr><td rowspan="6">Lens</td><td>Type</td><td colspan="3">Built-in Lens</td></tr>
<tr><td rowspan="2">Focal Length</td><td rowspan="2">4.3 mm</td><td>IPL02B2BNWIY</td><td>IPL02B1BNWIY</td></tr>
<tr><td>3.0(w) ~ 9.0(t) mm</td><td>2.8(w) ~ 12.0(t) mm</td></tr>
<tr><td>F No.</td><td>F2.0</td><td>F1.2(w) ~ F2.3(w), Optical 3x Motorized Focus & Zoom lens</td><td>F1.4</td></tr>
<tr><td>IRIS</td><td colspan="2">Fixed</td><td>Auto iris</td></tr>
<tr><td rowspan="2">Format</td><td rowspan="2">1/2.9”</td><td>IPL02B2BNWIY</td><td>IPL02B1BNWIY</td></tr>
<tr><td>1/2.9”</td><td>1/2.7”</td></tr>
<tr><td rowspan="3">Angle of View</td><td rowspan="2">Horizontal</td><td rowspan="2">74.4°</td><td>IPL02B2BNWIY</td><td>IPL02B1BNWIY</td></tr>
<tr><td>Approx. 110.8°(Wide) to 35.5°(Tele)</td><td>Approx. 106°(Wide) to 32°(Tele)</td></tr>
<tr><td>Vertical</td><td>40.8°</td><td>Approx. 57.7°(Wide) to 19.9°(Tele)</td><td></td></tr>
<tr><td colspan="2">Electronic Shutter Time</td><td colspan="3">1/2~1/10,000 seconds</td></tr>
</table>

Min. Illumination	Color : 1.0 Lux(30IRE) B/W: 0 Lux(IR LED On)	Color : 0.5 Lux(30IRE) B/W: 0 Lux(IR LED On)
CODEC		
Video Compression	H.264 Baseline, Main, High profile(MPEG-4 Part 10/ AVC), MJPEG(Motion JPEG)	
Video Streaming	Dual Stream, Configurable streams in H.264, MJPEG H.264: Controllable frame rate, bandwidth(VBR/CBR),GOP MJPEG: Controllable frame rate, JPEG quality	
Resolutions	1920x1080 1280x720 1120x630 960x540 800X450, 640X360 480x270 320x180	1920x1080 1280x720 1120x630 960x540 800X450, 640X360 480x270 320x180
Max Frame Rate	H.264: Max 30fps in all resolution MJPEG: Max 30fps in all resolution	
Special Features		
Image Settings	Configurable brightness, contrast, saturation, sharpness	
Orientation Control	Flip & Mirror	
Rotation Control	None / Left(-90 degrees) / Right(+90 degrees)	
Dynamic 2D Digital Noise Reduction(DNR)	Supported (1 ~ 15)	
Smart Bitrate Control	Supported (In VBR mode)	
Exposure Adjustment	+1.0, +0.6, +0.3, 0, -0.3, -0.6, -1.0 EV	
White Balance	ATW1 / ATW2 / Push / Manual	
Back Light Compensation	None / Left(	90 degrees) / Right(+90 degrees)
IR Illuminator	Off / Manual	
Wide Dynamic Range	On / Off	
Flickerless Control	Normal, 50Hz, 60Hz	
DSS (Sens-up)	2X ~ 16X, Off	

Day & Night	Removable IR cut filter	
OSD	Time stamp and text caption overlay	
Privacy Zone	4 configurable regions (Configure with IE only)	
Network		
Ethernet Standard	10 / 100 / Base-T	
Protocol	QoS Layer 3 DiffServ, TCP/IP, UDP/IP, HTTP, HTTPS, FTP, RTSP, RTCP, RTP/UDP, RTP/TCP, mDNS, UPnP™, SMTP, DHCP, DNS, DynDNS, NTP, SNMPv1/v2c, IGMP, ICMP, SSLv2/v3, TLSv1	
Security	Multi-level access with password protection	
NTP Time Synchronization Poll Rate	Once per 24 hours	
Integration		
Application Programming Interface	Software Development Kit(SDK) IAPI3 ONVIF 2.4 Profile S (or later)	
Event Sources	Video Motion Detection; Sensor(DI)	
Event Actions	File upload: E-mail, FTP, Notification: E-mail, FTP, HTTP, TCP Record : SD card storage, FTP Trigger-Alarm(DO)	
Event Metadata Streaming (RTSP/RTP)	Video Motion Detection(MD)	
Mechanical		
Material	Aluminum Die-Casting	
Weight	600g (1.32 lbs)	870g (1.92lbs)
Dimension	2.9” x 3.0” x 4.13”	3.5” x 3.4” x 11”
Protection Class	IP66, weather-proof	
Environment		
Operating Humidity	Humidity up to 85% RH (non-condensing)	
Operation Temperature	[DC12V] -20°C ~ 50°C (-4°F ~ 122°F) [PoE] -20°C ~ 50°C (-4°F ~ 122°F)	
Storage Temperature	-40° C ~ 60° C (-40° F ~ 140 ° F)	

Power		
Power Source / Consumption	DC 12V, PoE IEEE 802.3af Class 2 / max. 6W	DC 12V, PoE IEEE 802.3af Class 2 / max. 12W@DC12V
Tolerance (Voltage Variation)	± 10% (DC10.8V ~ 13.2V)	
Interface		
Edge Storage	1x mircoSD/microSDHC/microSDXC memory card slot (card not included) 64GB Capacity	
Regulatory		
Safety	UL60950-1 IEC 60950-1 CSA 22.2 No. 60950 EN60950-1	
Emission	FCC Part 15 Class A EN55022 Class A AS/NZS CISPR 22 Class A ICES-003/NMB-003 Class A	
Immunity	EN50130-4 EN55024 EN61000-6-1 IEC 62599-2 RoHS/WEEE	
Environment		

Network Connection and Configuration

Network Connection Types

There are many different ways that you can connect the camera to your network, depending on your applications requirements. You should always set the camera's network settings according to your network configurations. The following diagrams depict some typical applications with guidelines on network settings. For more information on network settings, always consult with your network administrator or ISP as required.

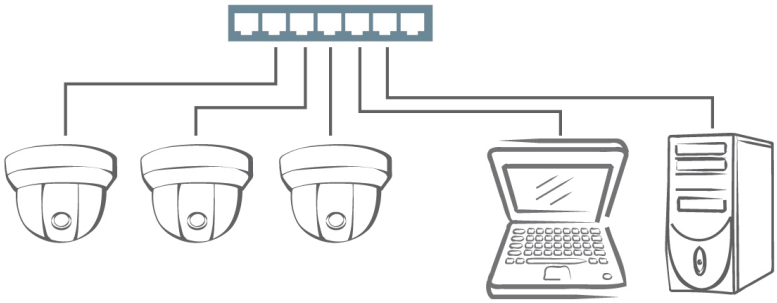
Type 1: Direct Connection to a PC

Connect the camera directly to a PC using a standard Ethernet cable connected to a LAN connector.

To access the camera, the PC must be on the same network as the camera. The default IP address of the camera is a static one (e.g. 192.168.1.168) with the subnet mask, 255.255.255.0. If the default static IP address cannot be used on your network, use Illustra Connect to reassign an IP address to your camera, or reassign the IP address of your PC to be on the same network as the camera. Then, you can access the camera from your PC.

Type 2: Connecting Camera(s) to a Local Area Network (LAN)

To add the camera(s) to an existing LAN, just connect the camera(s) to the hub or switch on your network.

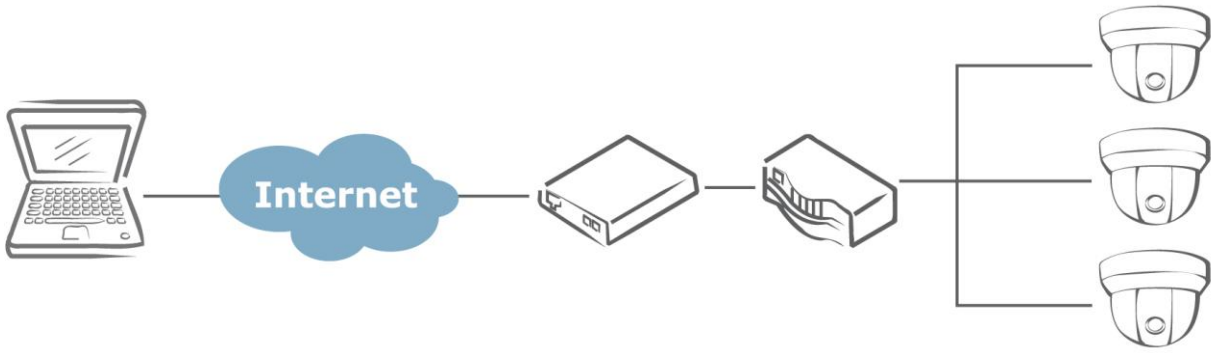


Your camera has DHCP enabled as a default, so IP address is supposed to be assigned by a DHCP server. However, if you do not have a DHCP server on your network or if your DHCP server fails to assign an IP address, the IP address of your camera will default to 192.168.1.168 with the subnet mask, 255.255.255.0. Use Illustra Connect to reassign an IP address to your camera if the IP address is not on the same network as your PC.

Type 3: Remote Connection via the Internet

If the network where the camera resides is connected to the Internet, you can also provide remote access to your camera over the Internet.

Typically a broadband router has built-in DHCP function to assign a local IP address to your camera. You can alternatively assign a fixed IP address to the camera to prevent it from frequent changing.



To access the camera from a local PC, simply use the local IP address of the camera.

To enable remote access, you must configure your router/firewall to forward an incoming request to that fixed local IP address of the camera. Therefore, when an external host sends a request to access your camera, the request will first reach the router's external IP address and then be forwarded to the local IP address of the camera.

Port forwarding is based on the service you want to provide. For example, forward HTTP port to enable remote web access to your camera, or RTSP port to enable access to video/audio streams from the camera.

Accessing the Camera for the First Time

The camera comes with a web-based setup utility, allowing you to view the video of the camera and configure the camera for optimal use in your environment.

To access the camera's web-based control utility, you need a PC that meets the following requirements:

- **Operating System**: Windows Vista or Windows 7, Windows 8 and Mac OS
- **Browser**: Internet Explorer Version 8.0 or later, Chrome, Safari and Firefox
- **CPU**: Intel Core 2 duo P8400 or higher
- **VGA**: DirectX 3D supported (*If Direct3D Acceleration is disabled, type 'dxdiag' from **Start >Run** on your computer, and check the DirectX Features.)
- **RAM**: DDR3 4GB or more
- **Others**: Java (http://java.com/en/download/index.jsp) + QuickTime

Then, take the following steps to connect your PC to the camera.

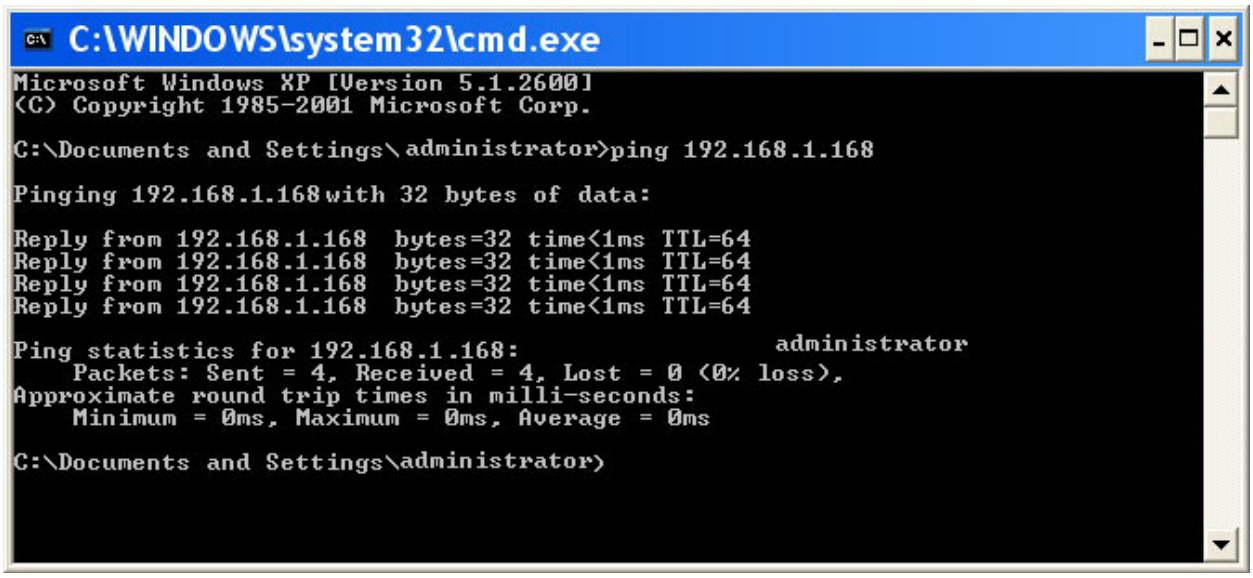
Step 1: Make the connection
For initial setup purpose, connect one end of an Ethernet cable to the RJ45 connector of the camera and the other end to the LAN port on your PC.

Step 2: Configure your PC's IP address

Configure the IP address of your PC referring to Network Connection Types on page 4.

Step 3: Verify the connection between the PC and the IP Cam

1. Launch Command Prompt by clicking the **Start** menu, **Programs**, **Accessories** and then **Command Prompt**.
2. At the prompt window, type ping x.x.x.x, where x.x.x.x is the IP address of the camera.
3. If the message of "**Reply from…**" appears, it means the connection is established.



Step 4: Access the camera from IE browser

Open the IE browser and enter the IP address of the camera in the URL field.

When user clicks on "Setup" or other menu items, then camera prompts the user for credentials and screenshot is different from IE: When prompted to login, enter the user name and the password. (The defaults: admin, admin). Note that the password is case-sensitive.

Using the Illustra Connect Tool to Manage Cameras

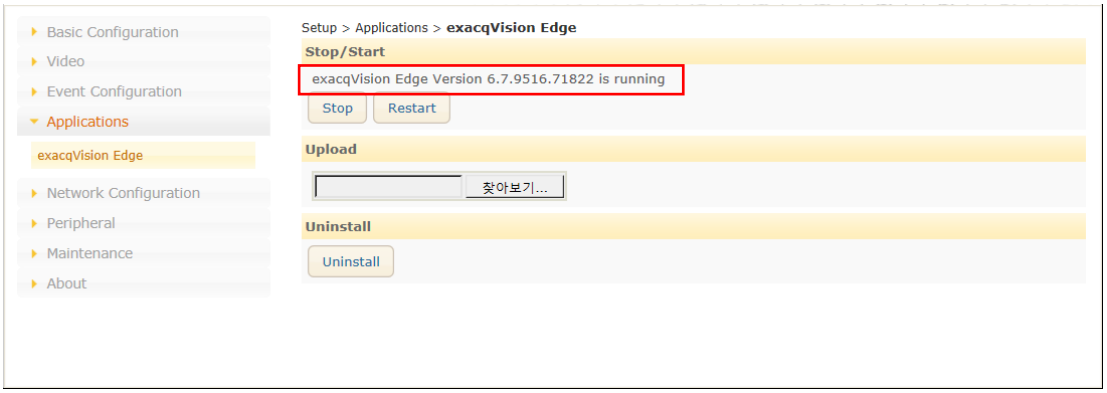
In addition to using the IE browser to access your camera, you can alternatively use the provided tool, Illustra Connect.

Illustra Connect is a management tool designed to manage your network cameras on the LAN. It can:

- help you find multiple network cameras.
- set IP addresses automatically resolving conflicts.
- show connection status.
- manage firmware upgrade.

Using exacqVision Edge

Features to install and manage exacqVision Edge server software on the camera are found in Setup > Applications > exacqVision Edge on the camera's web interface. The page will allow the installation or removal of Edge or if the software is installed, starting or stopping the server. exacqVision Edge cannot be run without a SD Card installed in the camera. If the Edge and a SD Card are present and Edge will not start, try removing and reinserting the SD Card or formatting the card from the Storage menu found at the top of the web interface.



If you need the instructions on running and updating of the exacqVision Edge application via the camera's webpage, refer to the camera's Configuration Manual for the details.