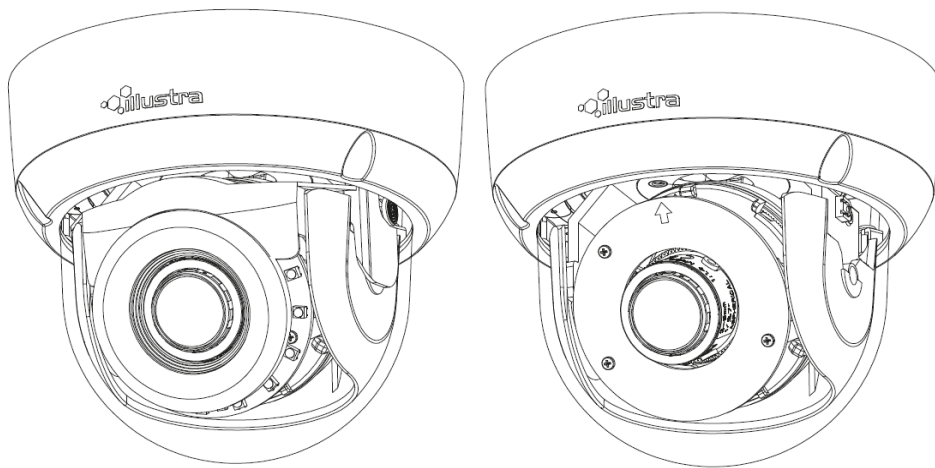




**Illustra Flex Series 3MP and 8MP Indoor and Outdoor
Dome Cameras
Quick Start Guide**



Notice

Please read this manual thoroughly and save it for future use before attempting to connect or operate this unit.

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

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Warning

- These units operate at AC 24V/ PoE.
- Installation and service should be performed only by qualified and experienced technicians and comply with all local codes and rules to maintain your warranty.
- To reduce the risk of fire or electric shock, do not expose the product to rain or moisture.
- Wipe the camera with a dry soft cloth. For tough stains, slightly apply with diluted neutral detergent and wipe with a dry soft cloth.
- Do not apply benzene or thinner to the camera, which may cause the surface of the unit to be melted or lens to be fogged.
- Avoid aligning the lens to very bright objects (for example, light fixtures) for long periods of time.
- ITE is to be connected only to PoE networks without routing to the outside plant.
- The power supply shall be approved for ITE NEC Class 2 or LPS with a rating of 24VAC, 550mA minimum and 50 degrees Celsius.
- Video Out connection should be intra-building only.
- Avoid operating or storing the unit in the following locations:
 - Extremely humid, dusty, or hot/cold environments. Recommended operating temperature is:
 - Indoor Minidome: -20°C to 50°C (-4°F to 122°F)
 - Outdoor Minidome: -50°C to 50°C (-58°F to 122°F)
 - Power over Ethernet (PoE) does not support heater.
 - Near sources of powerful radio or TV transmitters.
 - Near fluorescent lamps or objects with reflections.
 - Under unstable or flickering light sources.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN		THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.			THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.



WEEE (Waste Electrical and Electronic Equipment). Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Illustra Flex Series 3MP and 8MP Indoor Dome Camera

This chapter provides product features, installation procedures, and connection information regarding the Illustra Flex Series Indoor Dome cameras.

Product features

Len cases require special care when handling and cleaning to avoid scratches. For information on bubble handling and cleaning, see *8200-1174-01 Bubble Clearing Procedure Application Note*.

Go to <https://illustracameras.com/products>.

From the Products page, select your camera product range and then select your camera model. Click **Downloads** and search for *Bubble Handling and Cleaning Procedure*.

Product overview

This chapter explains the features and installation of the Illustra Flex Indoor Dome cameras. Product code and description of the camera is provided in the table below.

Table 1 Product code and description of the Illustra Flex Indoor Dome camera

Product Code	Model Name	Description
IFS03D1ICWTT	Illustra Flex 3MP Indoor Mini-Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, indoor, vandal, clear, white, TDN, TWDR
IFS03D1ICWTTA	Illustra Flex 3MP Indoor Mini-Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, indoor, vandal, clear, white, TDN, TWDR
IFS08D2ICWTT	Illustra Flex 4K Indoor Mini-Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, indoor, vandal, clear, white, TDN, TWDR

Figure 2 Physical dimensions of the Illustra Flex Indoor Dome camera (mm)

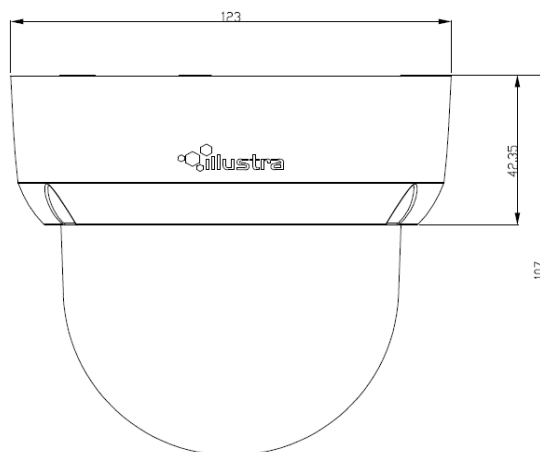


Figure 3 Physical dimensions of the Illustra Flex Indoor Dome camera

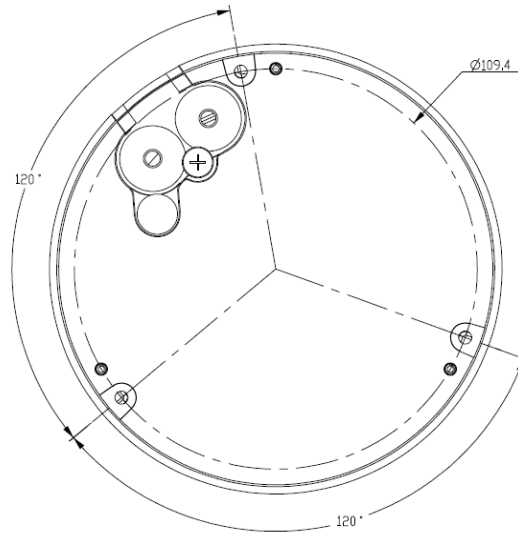


Figure 4 Pictorial index of the camera

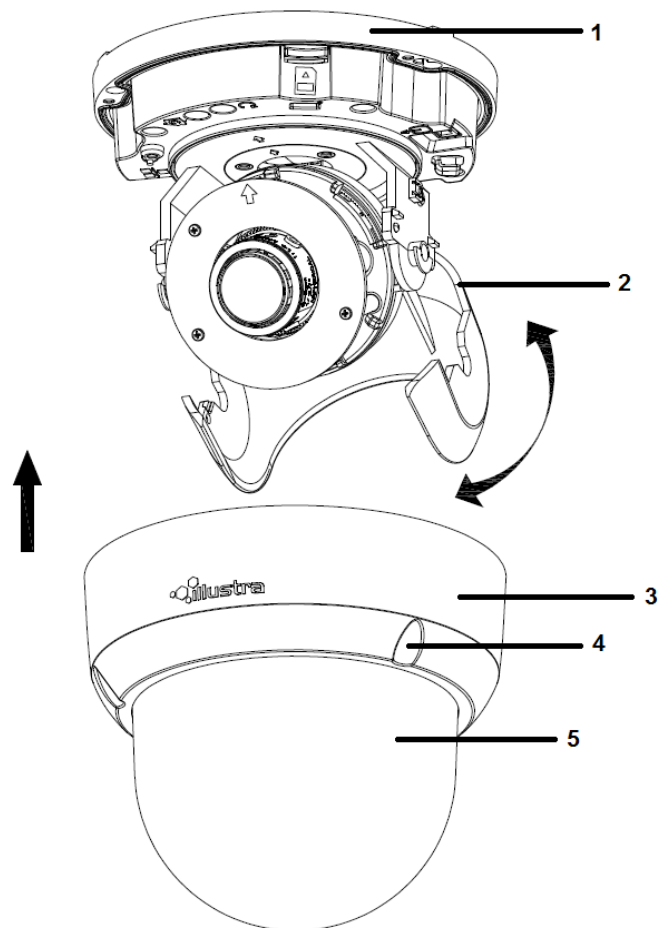


Table 5 Pictorial index descriptions

Index number	Description
1	Camera bottom case
2	Tilt adjustment bracket
3	Loosen the screw to take off camera housing
4	Camera housing
5	Dome cover

Figure 6 Pin definitions of the unit

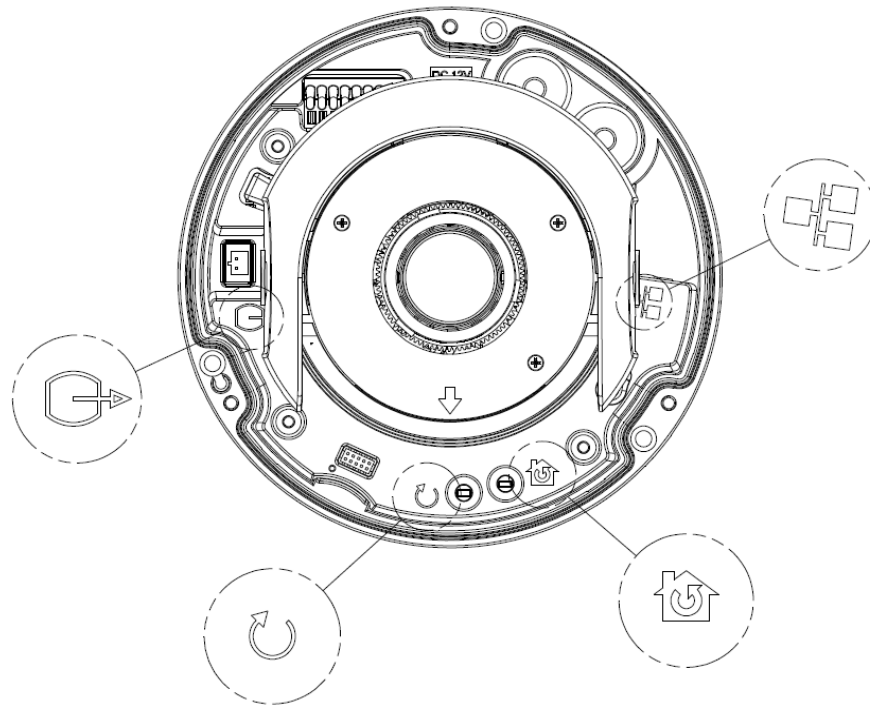


Table 7 Interior button descriptions





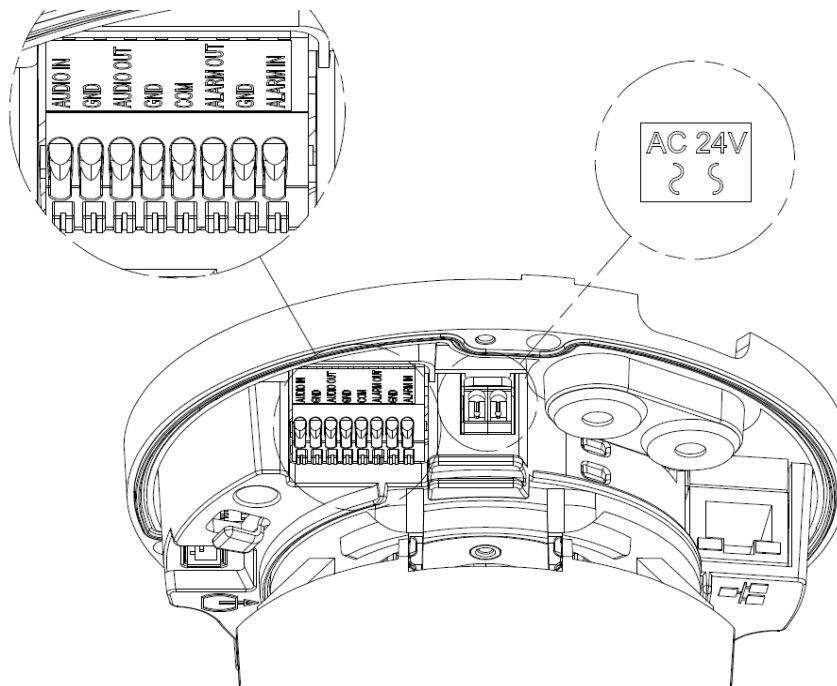
Interior button	Description
	Resets to factory default by pressing and holding the button for five seconds.
	Reboots the unit.
	Analog out port.
	Power over Ethernet (PoE) port.

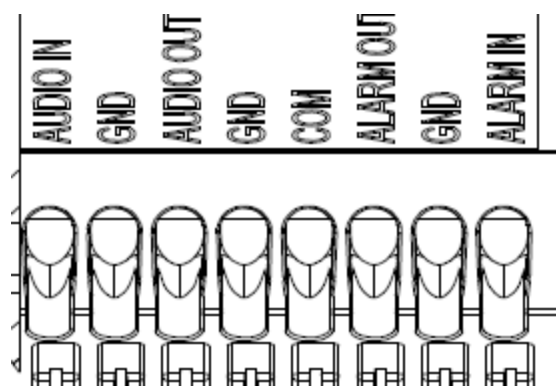
Figure 8 Connectors of the camera



NOTE

Connectors and field wiring terminals for external Class 2 circuits provided with marking indicating minimum Class of wiring to be used. Class 2 shall be marked adjacent to the field wiring terminals.

Figure 9 Audio and alarm pin definitions



Installation

In the box

Check everything in the packing box matches to the order form and the packing slip. In addition to this guide, items below are included in the packing box:

- 1 Network Illustra Flex Indoor Dome Camera
- 1 printed Quick Start Guide
- 1 printed Regulatory document
- 1 NTSC/PAL output female BNC cable
- 1 adapter plate (for pendant cap)
- 3 7mm adapter plate screws
- 1 Torx 10 Security L-Key
- 3 18mm plastic anchors and screws
- 1 installation template sticker
- 2 8mm pendant cap screws
- 1 Molded Cap

Contact your dealer if any item is missing.

Note: The adapter plate is for an installation with a ADCi6DPCAPI (W/B) pendant cap and can also be used to mount to a standard dual gang electrical box.

Installation tools

The following tools assist with installation:

- a drill
- screwdrivers
- wire cutters

Checking appearance

When first unboxing, check whether if there is any visible damage to the appearance of the unit and its accessories. The protective materials used for the packaging should be able to protect the unit from most types of accidents during transportation.

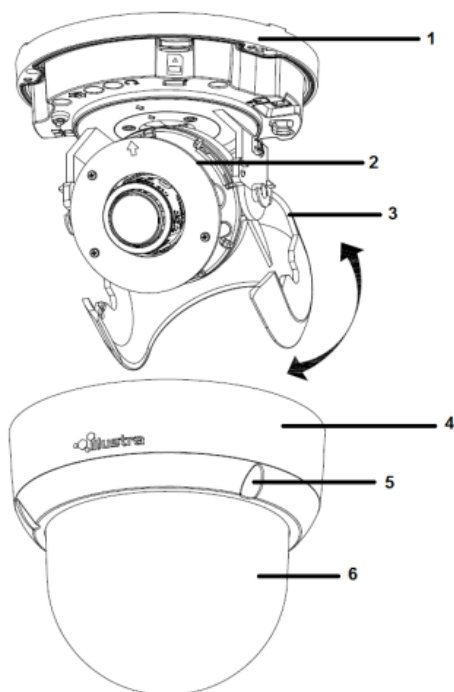
Remove the protective part of the unit when every item is checked in accordance with the list in In the box on page 5.

Procedure 1 Disassembling the camera

Refer to Figure 10 on page 6 for a pictorial index of disassembling the camera.

Step	Action
1	Remove the screws (5) to take off camera housing.
2	Gently remove the camera housing (4) and dome cover (6) and set aside.

Figure 10 Disassembling the camera



- End -

Procedure 2 Connecting the wires

Step	Action
This unit supports one of the following options as power supply:	
1	AC 24V:
a	Connect 24V (~) cables to terminals ~ AC 24V
2	PoE:

- a Connect the RJ-45 jack to a PoE compatible network device that supplied power through the Ethernet cable.
- 3 Insert Audio cable and alarm cable to the unit, and connect the network cable to the RJ-45 terminal of a switch.

Note: The power source needs to be NEC Class 2 or LPS. The PoE connection should be provided by a UL Listed product and the connections shall be made in accordance with Article 800 of the NEC or local regulations.

- End -

Procedure 3 Mounting the camera

Step	Action
1	Mark holes that correspond to the camera base on the mounting surface
2	Drill holes.
3	Fasten the anchors to the mounting surface with screws.
4	Connect the Safety Wire (fall prevention wire, not supplied) with one end to the ceiling and the other to the safety-cord screw of the unit.
5	Secure the unit bottom case to the wall or ceiling with tapping screws.
6	Adjust the viewing angle. Refer to Adjusting the Position on page 7 for information regarding how to adjust the viewing angle.

WARNING	Depending on the material of your mounting surface, you may require different screws and anchors than those as supplied. To prevent the unit from falling off, ensure that it is secured to a firm place (ceiling slab or channel) with a safety wire (not supplied) strong enough to sustain the total weight of the unit. Pay attention to the finishing at the end of the wire. Never turn the lens more than 360°, which should disconnect or break internal cables.
----------------	--

CAUTION	Safety wire must be connected with one end to the ceiling and the other to the safety-cord screw of the unit.
----------------	---

- End -

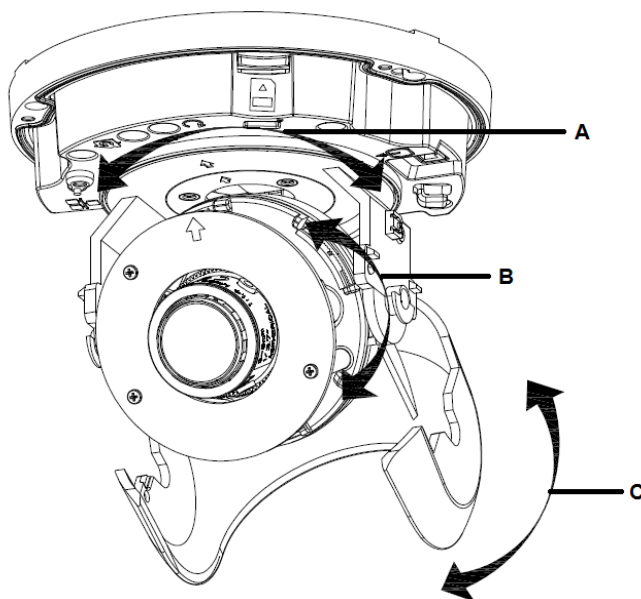
Procedure 4 Adjusting the Position

The unit has three axes for positioning, refer to Figure 11 on page 8. While monitoring, adjust the position as below:

Step	Action
1	Pan Adjustment (A). For Wall Mount and Tilted Ceilings <ol style="list-style-type: none"> a Rotate the lens base (maximum 375°) until you are satisfied with the field of view.
2	Horizontal Rotation (B) <ol style="list-style-type: none"> a Rotate 3D assembly in the base. Do not turn assembly more than 360° as this assembly may cause the internal cables to twist and disconnect or break.
3	Tilt Adjustment (C): <ol style="list-style-type: none"> a Tilt the lens base (maximum 90°) until you are satisfied with the field of view.

CAUTION	<p>Limitation for three axes position:</p> <ul style="list-style-type: none"> • Pan range: 375° • Tilt range: 90° • Rotate range: Motorize Lens 356°
----------------	---

Figure 11 Adjusting the position of the camera



- End -

Procedure 5 Locking the Camera

Step	Action
1	Use a soft, lint-free cloth to wipe the dome cover and remove fingerprints.
2	Attach the inner liner and camera housing.
3	Turn the power on after you have install the unit.
- End -	

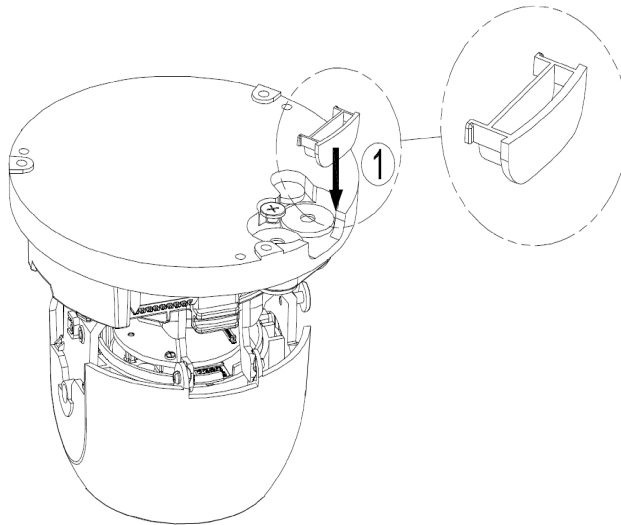
Procedure 6 Installing the molded cap on the camera bottom case

The molded cap is only applicable in installations that don't need the gap for cables.

Step	Action
------	--------

- | | |
|---|---|
| 1 | Install the molded cap (1) on the camera bottom case and ensure that it is securely attached. |
|---|---|

Figure 12 Installing the molded cap



- End -

Illustra Flex Series 3MP and 8MP Outdoor Dome Camera

This chapter provides product features, installation procedures, and connection information regarding the Illustra Flex Series Outdoor Dome cameras.

Product features

Len cases require special care when handling and cleaning to avoid scratches. For information on bubble handling and cleaning, see *8200-1174-01 Bubble Clearing Procedure Application Note*.

Go to <https://illustracameras.com/products>.

From the Products page, select your camera product range and then select your camera model. Click **Downloads** and search for *Bubble Handling and Cleaning Procedure*.

Product overview

This chapter explains the features and installation of the Illustra Flex Outdoor Dome camera. Product code and description of the camera is provided in the table below.

Table 13 Product code and description of the Illustra Flex Outdoor camera

Product Code	Model Name	Description
IFS03D1OCWIT	Illustra Flex 3MP Outdoor Mini-Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS03D1OCWITA	Illustra Flex 3MP Outdoor Mini-Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS08D2OCWIT	Illustra Flex 4K Outdoor Mini-Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, outdoor, vandal, clear, white, TDN w/IR, TWDR

Figure 14 Physical dimensions of the Illustra Flex Outdoor Dome camera (mm)

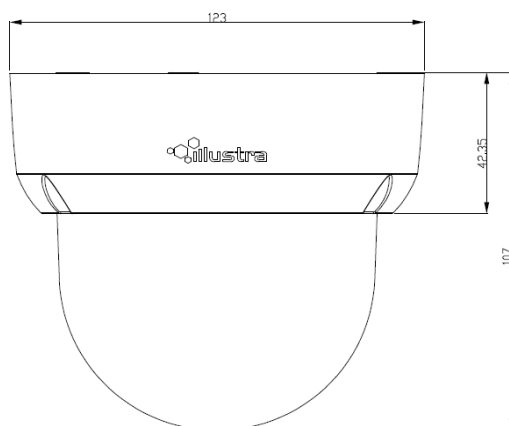


Figure 15 Physical dimensions of the Illustra Flex Outdoor Dome camera

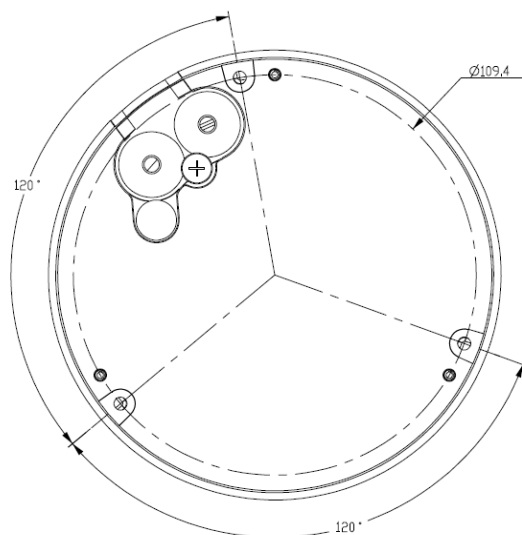


Figure 16 Pictorial index of the Illustra Flex Outdoor Dome camera

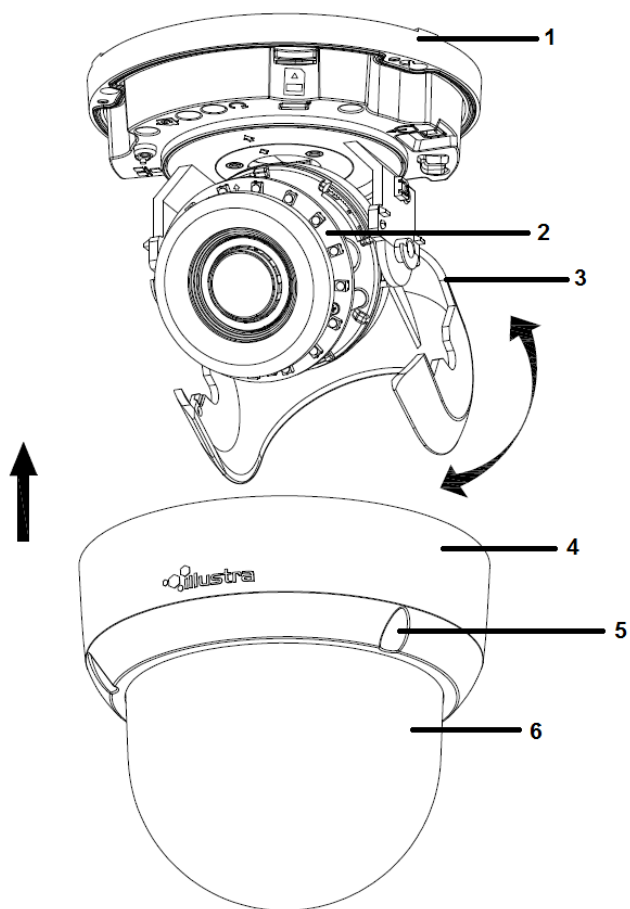


Table 17 Pictorial index descriptions

Index number	Description
1	Camera bottom case
2	IR board
3	Tilt adjustment bracket
4	Camera top case
5	Loosen the screw to take off camera housing
6	Dome cover

Figure 18 Pin definitions of the unit

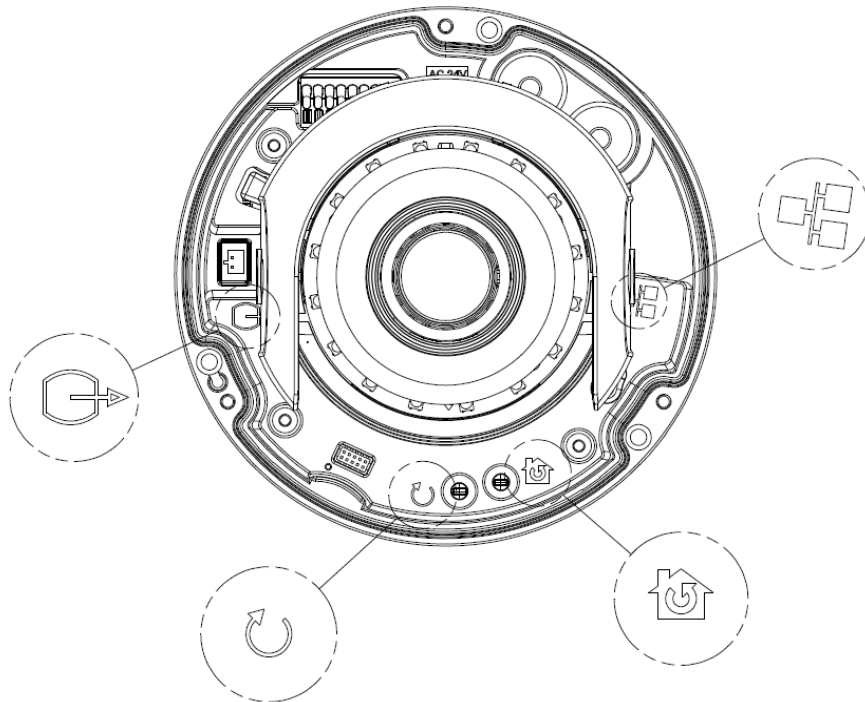




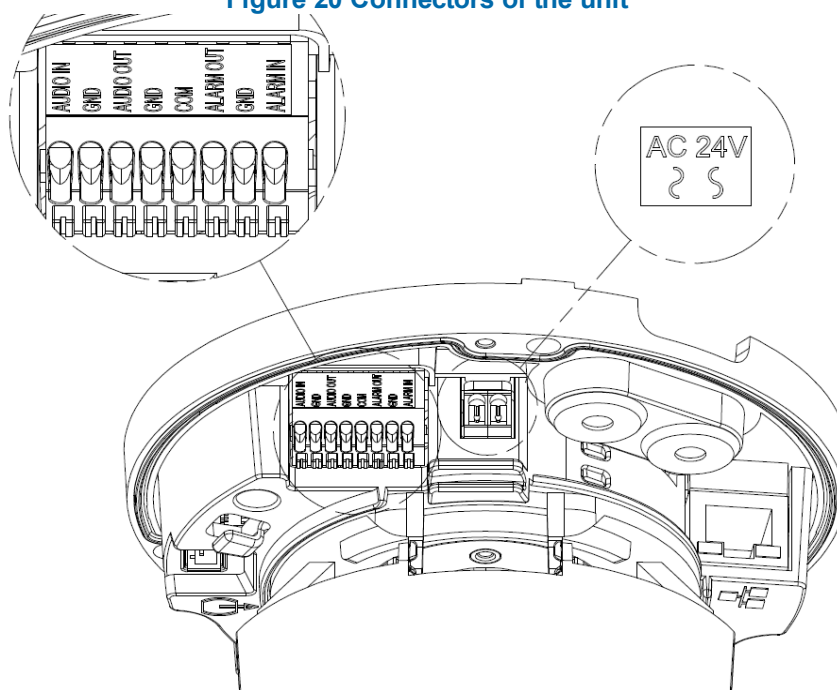


Table 19 Interior button descriptions

Interior button	Description
	Resets to factory default by pressing and holding the button for five seconds.
	Reboots the unit.
	Analog out port.
	Power over Ethernet (PoE) port.

Note: The connector cable of the Outdoor Dome Camera should be contained in a conduit suitable for outdoor use.

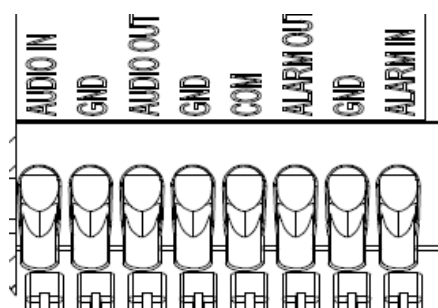
Figure 20 Connectors of the unit



NOTE

Connectors and field wiring terminals for external Class 2 circuits provided with marking indicating minimum Class of wiring to be used. Class 2 shall be marked adjacent to the field wiring terminals.

Figure 21 Audio and alarm pin definitions



Installation

In the box

Check everything in the packing box matches to the order form and the packing slip. In addition to this guide, items below are included in the packing box.

- 1 Network Illustra Flex Outdoor Dome Camera
- 1 printed Quick Start Guide
- 1 printed Regulatory document
- 1 NTSC/PAL output female BNC cable
- 1 adapter plate (for pendant cap)
- 3 7mm adapter plate screws
- Desiccant
- 1 Torx 10 Security L-Key
- 3 18mm plastic anchors and screws
- 1 installation template sticker
- 2 8mm pendant cap screws
- 1 Molded Cap

Contact your dealer if any item is missing.

Note: The adapter plate is for an installation with a ADCi6DPCAPI (W/B) pendant cap and can also be used to mount to a standard dual gang electrical box.

Installation tools

The following tools assist with installation:

- a drill
- screwdrivers
- wire cutters

Checking appearance

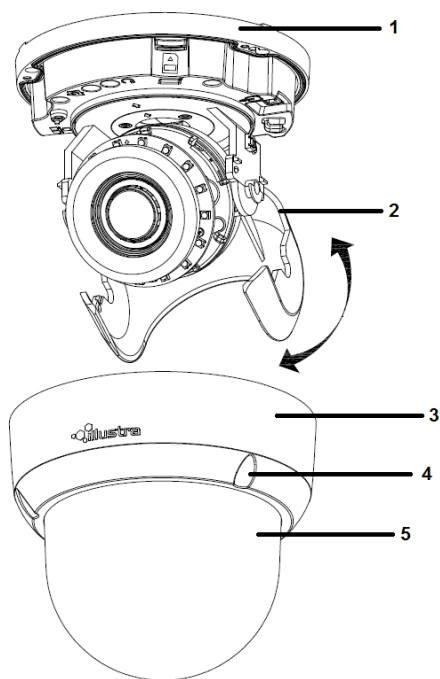
When first unboxing, check whether if there is any visible damage to the appearance of the unit and its accessories. The protective materials used for the packaging should be able to protect the unit from most types of accidents during transportation.

Remove the protective part of the unit when every item is checked in accordance with the list in In the box on page 14.

Procedure 7 Disassembling the Camera

Step	Action
1	Remove the screws (4).
2	Gently remove the camera housing (3) and dome cover (5).
3	Set the camera housing aside.

Figure 22 Disassembling the outdoor camera



- End -

Procedure 8 Connecting the wires

Connect the power cable to the power plugs with one of the following options:

Step	Action
1	AC 24V: <ul style="list-style-type: none"> a Insert the power cable for AC 24V. b Connect 24 V (~) cables to terminals ~AC 24V.
2	PoE:

- a Connect the RJ-45 jack to a PoE compatible network device that supplies power through the Ethernet cable.

Note: The power source needs to be NEC Class 2 or LPS. The PoE connection should be provided by a UL Listed product and the connections shall be made in accordance with Article 800 of the NEC or local regulations.

- End -

Procedure 9 Mounting the camera

Step	Action
------	--------

- | | |
|---|--|
| 1 | Mark holes that correspond to the camera base on the mounting surface |
| 2 | Drill holes. |
| 3 | Fasten the anchors to the mounting surface with screws. |
| 4 | Connect the Safety Wire (fall prevention wire, not supplied) with one end to the ceiling and the other to the safety-cord screw of the unit. |
| 5 | Secure the unit bottom case to the wall or ceiling with tapping screws. |
| 6 | Adjust the viewing angle. |

WARNING

Depending on the material of your mounting surface, you may require different screws and anchors than those as supplied. To prevent the unit from falling off, ensure that it is secured to a firm place (ceiling slab or channel) with a safety wire (not supplied) strong enough to sustain the total weight of the unit. Pay also attention to the finishing at the end of the wire. Never turn the lens more than 360°, which should disconnect or break internal cables.

CAUTION

Safety wire must be connected with one end to the ceiling and the other to the safety-cord screw of the unit.

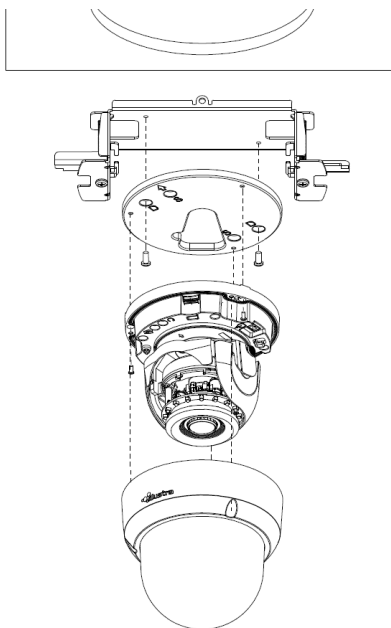
- End -

Procedure 10 Optional - 4S Electrical Junction Box

Step	Action
------	--------

- | | |
|---|---|
| 1 | Secure the mounting kit (optional) to 4S Electrical box using 2 appropriate screws. |
| 2 | Secure the unit case to mounting kit using 2 appropriate screws. |
| 3 | Tuck the cables in the 4S Electrical box. |
| 4 | Adjust the view angles. |
| 5 | Attach the unit housing. |
| 6 | Turn the power on after you install the unit. |

Figure 23 Mounting the camera with the junction box



NOTE	<p>The mounting kit called out in Figure 23 on page 17 is not supplied with the unit.</p> <p>Keeping tilt angle over 25 degrees is recommended when IR-LED light is used. If tilt angel is below 25 degrees from the horizontal, the image would be flashed by the reflection of IR-LED light.</p>
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- End -

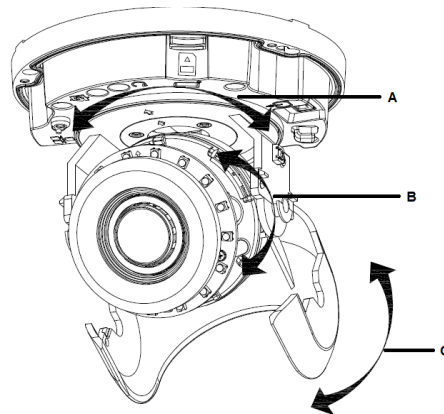
Procedure 11 Adjusting the Position

The unit has three axes for positioning, refer to Figure 24 on page 18. While monitoring, adjust the position as below.

Step	Action
1	Pan Adjustment (A) For Wall Mount and Tilted Ceilings:
	a Rotate the lens base (maximum 375°) until you are satisfied with the field of view.
2	Horizontal Rotation (B):
	a Rotate 3D assembly in the base. Do not turn assembly more than 360° as this assembly may cause the internal cables to twist and disconnect or break.
3	Tilt Adjustment (C):
	a Tilt the lens base (maximum 90°) until you are satisfied with the field of view.

CAUTION	<p>Limitation for three axes position:</p> <ul style="list-style-type: none"> • Pan range: 375° • Tilt range: 75° • Rotate range: Motorize Lens 356°
----------------	---

Figure 24 Adjusting the position of the camera



NOTE	For outdoor Dome camera series: Users can adjust zoom level and focus level using the Illustra Connect Web User Interface.
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- End -

Procedure 12 Locking the Camera

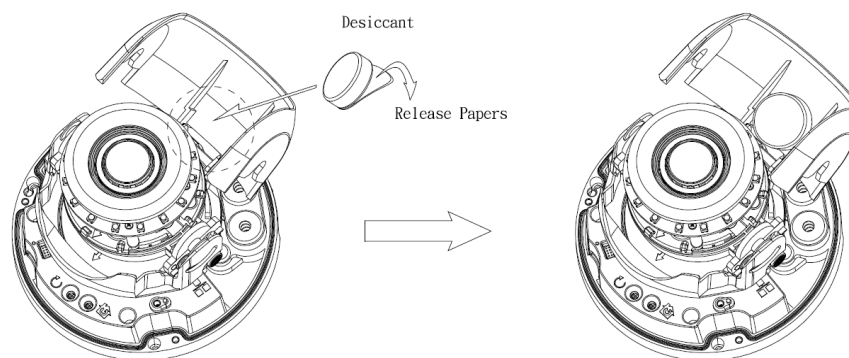
Step	Action
1	Use a soft, lint-free cloth to wipe the dome cover and remove fingerprints.
2	Attach the inner liner and camera housing.
3	Turn the power on after you have install the unit.

- End -

Procedure 13 Applying the desiccant

Step	Action
1	Remove the papers from the back of the desiccant.
2	Attach to the interior side of the tilt adjuster as seen in the image below.

Figure 25 Location for desiccant application



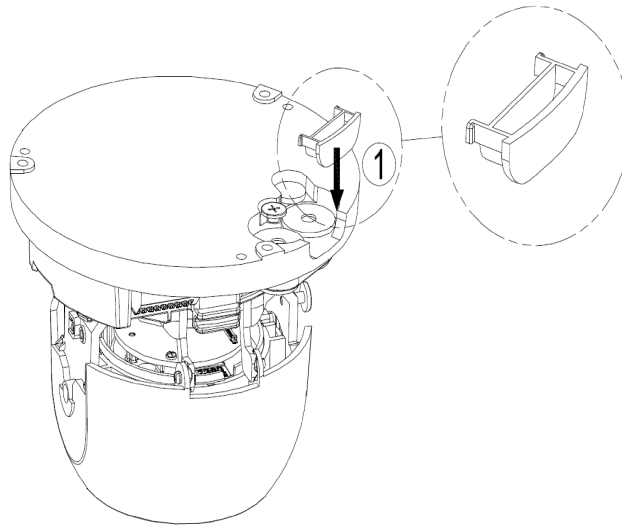
Procedure 14 Installing the molded cap on the camera bottom case

The molded cap is only applicable in installations that don't need the gap for cables.

Step	Action
------	--------

- | | |
|---|---|
| 1 | Install the molded cap (1) on the camera bottom case and ensure that it is securely attached. |
|---|---|

Figure 26 Installing the molded cap



- End -

System requirements

The below table lists the minimum requirements to implement and operate Illustra Flex Indoor and Outdoor Dome cameras.

Table 27 System Requirements

System hardware	
CPU	Intel Pentium 4 2.4GHz or equivalent
RAM	1 GB or above
Display	NVIDIA GeForce 6 Series or ATI Mobility Radeon 9500
System software	
Browser	Microsoft Internet Explorer 9 or above, Firefox, Safari, Chrome
Unit	
Power Supply	AC 24V / PoE
Networking	
Wired	10/100BASE-T Ethernet (RJ-45 connector) NOTE: A switch is required for surveillance on multiple units.
NOTE	All the installation and operations should comply with your local electricity safety rules.
CAUTION	To avoid damage to the unit, never connect more than one type of power supply (PoE IEEE802.3 Ethernet Class 0 or AC24V power plug) at the same time. If using PoE, this camera is to be connecting only to PoE networks without routing to heterogeneous devices.

Network Connection

Default IP Address

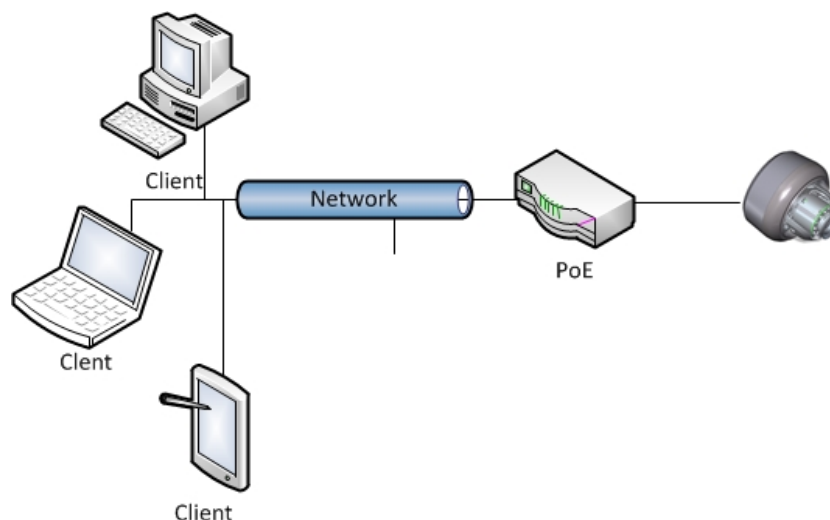
Since this is a network-based unit, an IP address must be assigned at the very first bootup. The default IP address of the unit is 192.168.1.168 and sub mask is 255.255.255.0.

However, if you have a DHCP server in your network, the unit obtains an IP address automatically from the DHCP server so that you do not need to change the IP address of the camera.

Note: If you assign the camera a Static IP address prior to DHCP being enabled, the camera first reboots for approximately 30 seconds and then remains accessible at its Static IP until it connects to a DHCP server.

- Connect to a PC directly: Directly connect the camera to a PC using a standard Ethernet cable. This requires POE switch or injector.
- Connecting a camera to a Local Area Network (LAN): To add the camera to an existing LAN, connect the camera to the POE hub or switch on your network.

Figure 28 Network connection diagram



Default camera settings

The following table describes the default camera settings.

Network Settings	Defaults
DHCP	Enabled
Static IP Address	192.168.1.168
Default Username	admin
Default Password	admin

Note: At first login the user is prompted to change the default username and password.

Procedure 15 Connecting from a computer

Step	Action
1	Ensure the camera and your computer are in the same subnet.
2	Check whether if the network is available between the unit and the computer by pinging the default IP address. <ol style="list-style-type: none"> Start a command prompt. Type "Ping 192.168.1.168". If the message "Reply from..." appears, it means the connection is available.
3	Start Internet Explorer and enter IP address: 192.168.1.168. A login window appears. In the window, enter the default user name: admin and password: admin to log in.
- End -	

DHCP

On initial camera startup, and after a hardware factory reset, Dynamic Host Configuration Protocol (DHCP) is enabled by default and remains enabled until the camera receives either a DHCP address or is assigned a Static IP address.

Procedure 16 Enable DHCP

Step	Action
1	Select Setup on the Web User Interface banner to display the setup menus.
2	Select the TCP/IP tab in the Basic Configuration menu.
3	Select the Enable DHCP check box to enable DHCP and disable manual settings.
4	Select Apply to save the settings.
The camera searches for a DHCP server. If one is found it connects to that server. If no connection is made to a DHCP server within two minutes, the camera goes to the default IP address 192.168.1.168, but continues to search for a DHCP address.	
Note: If you assign the camera a Static IP address prior to DHCP being enabled, the camera first reboots for approximately 30 seconds and then remains accessible at its Static IP until it connects to a DHCP server.	
- End -	

Procedure 17 Disable DHCP

Step	Action
1	Select Setup on the Web User Interface banner to display the setup menus.
2	Select the TCP/IP tab in the Basic Configuration menu.
3	Clear the Enable DHCP check box to disable DHCP and allow manual settings to be entered. The default setting is 'Enabled'.
4	If Enable DHCP has been disabled:

- a Enter the IPv4 Address in the **IPv4 Address** text box in the form xxx.xxx.xxx.xxx. The default setting is '192.168.1.168'
 - b Enter the Network Mask in the **Network Mask** text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0'
 - c Enter the Gateway IP address in **Gateway** text box xxx.xxx.xxx.xxx.
 - d Enter the Primary DNS Server in the **Primary DNS Server** text box xxx.xxx.xxx.xxx.
- 5 Select **Apply** to save the settings.

- End -

Managing cameras with the Illustra Connect tool

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 the IP addresses
- show connection status
- manage firmware upgrades
- bulk configuration

Procedure 18 Connecting to the camera using Illustra Connect

Note:

Illustra Connect can only discover devices on the same subnet as its host computer. Therefore, the camera and the computer being used to configure it must be on the same subnet.

Step	Action
1	Using a computer which is connected to the same network and subnet, install the Illustra Connect software. The Illustra Connect software and the Illustra Connect manual are available to download on www.illustracameras.com
2	When the installation is complete, run Illustra Connect. It searches the network and displays all compliant devices.
3	Select the camera you want to configure, locating it by its unique MAC address.
4	Right-click the camera and select Launch Web GUI Configuration. The camera Web User Interface displays.

- End -

Procedure 19 Connecting to the camera using the static IP address

Step	Action
1	The camera attempts to obtain an IP Address from the DHCP Server. When no DHCP Server is available the camera is assigned a Static IP address of 192.168.1.168.
2	Open Microsoft Internet Explorer and enter the URL of the camera as 192.168.1.168. The camera sign in page displays.

Note:

The computer you use to configure the camera must have an IP address on the same subnet.

- End -

Procedure 20 Logging on to the camera web user interface

Step	Action
1	When you select the camera, the sign in page displays. Select your preferred language from the drop-down menu.
2	Enter the username in the Username text box. The default username is admin.
3	Enter the password in the Password text box. The default password is admin.
4	Select Log in .

Note: The first time that you access the camera or after a factory reset the following two pop up windows are visible: A pop up window that requests the user to **Define a Host ID** and a pop up window that requests the user to select a **Security Type**. Please refer to the user manual for further information on this.

5 The Live view page is visible. This displays the current view of the camera.

Note:

At first login the user is prompted to change the default username and password.

- End -

Procedure 21 Enabling the correct video orientation for a wall mounted camera

Step	Action
1	Log on to the camera web user interface.
2	Select Setup on the camera web user interface banner to display the setup menus.
3	Select the Picture Basic tab from the Basic Configuration menu.
4	Select the required Orientation setting: <ul style="list-style-type: none"> • Mirror • Flip
5	The video pane updates to display the new settings.

- End -

Network Topology

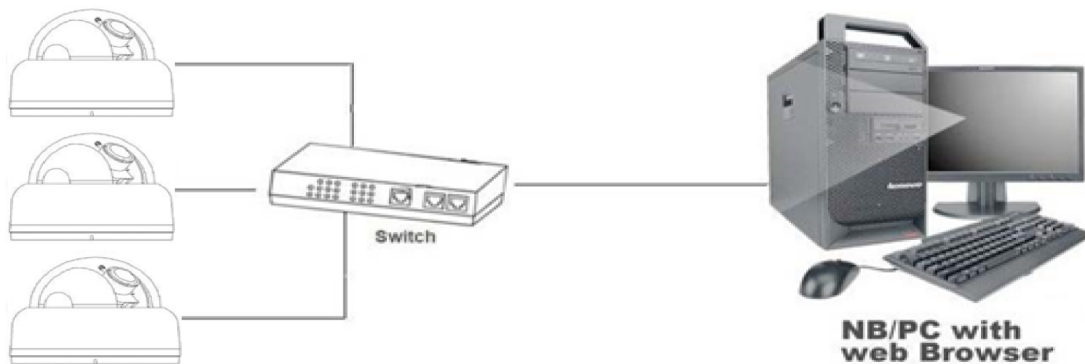
The Illustra Flex cameras deliver video images and audio in real-time using the Internet and Intranet. It is equipped with an Ethernet RJ-45 network interface.

The following images illustrate the network topologies of the cameras.

Figure 29 Illustra Flex Dome Cameras Network Topology Type I



Figure 30 Illustra Flex Dome Cameras Network Topology Type II



Appendix A: Technical Specifications

The table below lists technical specifications of the Illustra Flex Indoor and Outdoor Dome camera.

General Features		
Model Type	Indoor Mini-dome camera	Outdoor Mini-Dome camera
Model No.	IFS03D1ICWTT / IFS03D1ICWTTA / IFS08D2ICWTT	IFS03D1OCWIT / IFS03D1OCWITA / IFS08D2OCWIT
Camera Body Color	White	White
Vandal Resistant Rating	IK10	IK10
Mechanical Features		
Dimensions	Ø123x107mm	Ø123x107mm
Weight	approximately 0.7kg	approximately 0.7kg
Pan Rotation Angle	375°	375°
Tilt Angle	90°	75°
Z-axis Rotation	356°	356°
Housing Material	Aluminum Alloy	Aluminum Alloy
Bubble Trim Ring Material	ADC12	ADC12
Other Housing Material	PC/KE-951U	PC/KE-951U
Video Processor		
ROM/Flash Size	256 Mbytes	256 Mbytes
RAM Size	512 Mbytes	512 Mbytes
RTC Hold Up Time	24 hours	24 hours
Image Sensor		
Format	1/2.8" CMOS	1/2.8" CMOS
Capture Method	Rolling	Rolling
Scan Method	Progressive	Progressive
Lens		
Design Type	Varifocal	6 groups 8 elements (1 aspheric glass lens)
Mount	Phi 14mm	Phi 14mm

Aperture Range	F/1.4(W) ~ F/2.7(T)	F/1.4(W) ~ F/2.7(T)
Focal Length Range	2.8-12 mm	2.8-12 mm
Focal Means	Motorized	Motorized
Focal Type	Varifocal	Varifocal
Focus Type	Motorized	Motorized
Auto Focus	One-Touch	One-Touch
IR Correction	N/A	Optical corrected
Day/Night	True D/N with ICR	True D/N with ICR
Horizontal Angle of View	98° (Wide); 35° (Tele)	98° (Wide); 35° (Tele)
Vertical Angle of View	71° (Wide); 26° (Tele)	71° (Wide); 26° (Tele)
Format	1/2.7"	1/2.7"
Illuminator		
Wavelength	N/A	850 nm
IR Distance	N/A	25m
Smart IR	N/A	Yes. When Smart IR is ON, AE luma target will be reduced slightly and applies some dWDR.
Adaptive IR	N/A	Yes. Adaptive IR refers to lens position to adjust the IR intensity of both narrow and broad IR LEDs to have better exposure balance.
Number of IR LED devices	N/A	16PCS
Power Supply		
Power Requirement	AC 24V, PoE IEEE 802.3af class 3	AC 24V, PoE IEEE 802.3af class 3
Current Draw Amps	0.338mA	0.688mA
Wattage	5.9W	11.9W
Line Frequency Range	47 to 63 Hz	47 to 63 Hz
Video Codecs		
Frame Rate Range	1 to 60 fps	1 to 60 fps
Maximum Resolution and Rate	IFS03D1ICWTT / IFS03D1ICWTTA - 2048x1536 @ 30 fps	IFS03D1OCWIT / IFS03D1OCWIT - 2048x1536 @ 30 fps
Maximum Resolution and	IFS08D2ICWTT- 3840x2160 @ 15 fps	IFS08D2OCWIT - 3840x2160 @ 15 fps

Rate		
Video Imaging		
Dynamic Range Method	3MP includes WDR, TrueWDR, TWRD3x 8MP does not include TWDR3x	3MP includes WDR, TrueWDR, TWRD3x 8MP does not include TWDR3x
Audio		
Sampling Bits	16-BIT	16-BIT
Input Type	SE/Line/MIC	SE/Line/MIC
Input Impedance	20K/Attenuation = 0 dB	20K/Attenuation = 0 dB
Maximum Input Level	2Vp-p	2Vp-p
Input connector	Terminal Block	Terminal Block
Output Type Impedance	Hi impedance	Hi impedance
Maximum Output	2Vp-p	2Vp-p
I/O Interfaces		
Micro SD Card	Micro SD/SDXC slot up to 128GB, Class 10 or higher. Card not included.	Micro SD/SDXC slot up to 128GB, Class 10 or higher. Card not included.
Alarm Inputs	1	1
Auxiliary Outputs	1	1
Video Output	Yes	Yes
IP Connector	RJ-45	RJ-45
LED Indicators	Network, Green LED, Orange LED	Network, Green LED, Orange LED
Reset Buttons	Reboot and Return to Defaults	Reboot and Return to Defaults
Environmental		
Operating Temperature Range	-20° ~+50°C	-50° ~ +50°C
Start-up Temperature Range	-20° ~+50°C	-40° ~ +50°C
Water/Dust Intrusion	N/A	IP66/67
Client Interfaces		
Browsers supported	IE 9 or above, Firefox, Safari, Chrome	IE 9 or above, Firefox, Safari, Chrome

Networking		
Languages supported	English (default), Arabic, Czech, Danish, German, Spanish, French, Hungarian, Italian, Korean, Japanese, Netherlands, Polish, Portuguese, Swedish, Turkish, Chinese Traditional, Chinese Simplified, Russian.	English (default), Arabic, Czech, Danish, German, Spanish, French, Hungarian, Italian, Korean, Japanese, Netherlands, Polish, Portuguese, Swedish, Turkish, Chinese Traditional, Chinese Simplified, Russian
Ethernet	10/100Base-T	10/100Base-T
Supported Protocols	TCP/IP, IPv4, IPv6, TCP, UDP, HTTP, FTP, DHCP, WS-Discovery, DNS, DDNS, RTP, TLS, Unicast, Multicast, NTP, SMTP, WSSecurity, IEEE 802.1x, PEAP, SSH, HTTPS, SSL, SOAP, WSAddressing, CIFS, SNMP, UPnP, RTSP, LLDP	TCP/IP, IPv4, IPv6, TCP, UDP, HTTP, FTP, DHCP, WS-Discovery, DNS, DDNS, RTP, TLS, Unicast, Multicast, NTP, SMTP, WSSecurity, IEEE 802.1x, PEAP, SSH, HTTPS, SSL, SOAP, WSAddressing, CIFS, SNMP, UPnP, RTSP, LLDP
Base Protocol	TCP/IP - RFC4614	TCP/IP - RFC4614
Internet Layer Addressing	IPv4 - RFC791 IPv6 - RFC2460	IPv4 - RFC791 IPv6 - RFC2460
Transport Layer	TCP - RFC973 UDP - RFC768	TCP - RFC973 UDP - RFC768
Data Transmission	HTTP/HTTPS - RFC2616 FTP - RFC959 SFTP	HTTP/HTTPS - RFC2616 FTP - RFC959 SFTP
Network Address Configuration	DHCP - RFC2131 Zeroconf - RFC3927 Static IP address LLDP	DHCP - RFC2131 Zeroconf - RFC3927 Static IP address LLDP
Time Synchronization	NTP - RFC1305 IETF NTP Working Group i minute poll rate	NTP - RFC1305 IETF NTP Working Group i minute poll rate
E-mail	SMTP - RFC5321 Authenticated SMTP - RFC4954	SMTP - RFC5321 Authenticated SMTP - RFC4954
Authentication and Security	IEEE.802.1x - TLS/PEAP HTTPS (HTTP over TLS) - RFC2818 WS-Security Multi-level password protection IP address filtering HTTPS encryption User access log	IEEE.802.1x - TLS/PEAP HTTPS (HTTP over TLS) - RFC2818 WS-Security Multi-level password protection IP address filtering HTTPS encryption User access log
Streaming	RTP - RFC3550 RTSP - RFC2326 Unicast Streaming Multicast RFC 1112 level 1	RTP - RFC3550 RTSP - RFC2326 Unicast Streaming Multicast RFC 1112 level 1
Firmware Upgrade	Browser/illustra Connect/ONVIF	Browser/illustra Connect/ONVIF

Appendix B: Stream Resolutions

Flex Gen 2 3MP and Flex 8MP Streaming Combinations

Table 31 on page 30 and Table 32 on page 31 provide information for the stream resolutions and supported FPS of the Flex Gen 2 3MP cameras herein. Table 33 on page 32 provides information for the stream resolutions and supported FPS of the Flex 8MP cameras.

Table 31 Flex 3MP Stream Set A (all resolution, codes and frame rate combinations of Stream 1, 2 and 3 are valid)

Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	TWDR Support
Stream 1			Stream 2			Stream 3			
2048x1536	H264/H264 IntelliZip H265/H26 IntelliZip	1-30	1280x720	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30	640x360	MJPEG	7-15	Yes (2x)
1920x1080	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30	1024x576	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30	480x360	MJPEG	7-15	Yes (2x)
1664x936	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30	640x360	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30	384x288	MJPEG	7-15	Yes (2x)
1280x720	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30	480x360	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30				Yes (2x)
			384x288	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-30				Yes (2x)

Table 32 Flex 3MP Stream Set B (all resolution, codes and frame rate combinations of Stream 1, 2 and 3 are valid)

Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	TWDR Support
Stream 1			Stream 2			Stream 3			
1920x1080	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	31-60	1280x720	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-15	640x360	MJPEG	7-15	No
1664x936	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	31-60	1024x576	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-15	480x360	MJPEG	7-15	No
1280x720	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	31-60	640x360	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-15	384x288	MJPEG	7-15	No
			480x360	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-15				No
			384x288	H264/H264 IntelliZip H265/H26 IntelliZip MJPEG	1-15				No

Note:A maximum of 5 concurrent streams are supported by the camera. This includes shared streams. So, for example, Stream 1 can be shared twice along with a running Stream 2 and Stream 3, or Stream 1 can be shared 4 times if Stream 2 and Stream 3 are not running.

Note:When frame-rate is more than 30fps the following restrictions apply:

- Stream 1 max resolution is 1920x1080.
- TWDR is disabled.
- Stream 2 has a maximum frame-rate of 15.

Table 33 Flex 8MP Indoor and Outdoor Dome Camera resolutions

Flex 8MP Indoor and Outdoor Dome camera resolutions					
Stream 1	FPS	Stream 2	FPS	Stream 3	FPS
(3840x2160) 4K 16:9	1-15	(1280x720) 720p	1-15 or 1-30	(640x360) nHD 16:9	7-15
(3264x1840) 16:9		(1024x576) PAL+ 16:9		(480x360) 480 4:3	
(2592x1944) 4:3		(640x360) nHD 16:9		(384x288) 4:3	
(2688x1520) 16:9		(480x360) 480 4:3			
(2048x1536) QXGA 4:3		(384x288) 4:3			
(1920x1080) 1080p 16:9	1-60				
(1280x960) SXGA 16:9					
(1280X720) 720p 16:9					

Note:Stream 2 is limited to a maximum of 15 FPS when: Stream 1 is set to **2048x1536** or above. Stream 1 is set to **1920x1080** or above with FPS greater than 30.

Note:Stream 2 automatically reconfigures to a maximum of 15 FPS if Stream 1 FPS is 30 or greater.

Note:Stream 2 supports 1-30 FPS when Stream 1 is set to 1920x1080 or below with FPS set to a maximum of 30.

Note:Codec MJPEG is not supported when the resolution is equal to or greater than 2048x1536.

Note:TrueWDR 2x. When TrueWDR2x is switch on, the following limits apply: For 2048x1536 and above, the framerate is limited to 15FPS (as it is when TrueWDR is off). For 1920x1080 and below, the framerate is limited to 30FPS.

Note:TrueWDR 3x is not available on 8MP units.