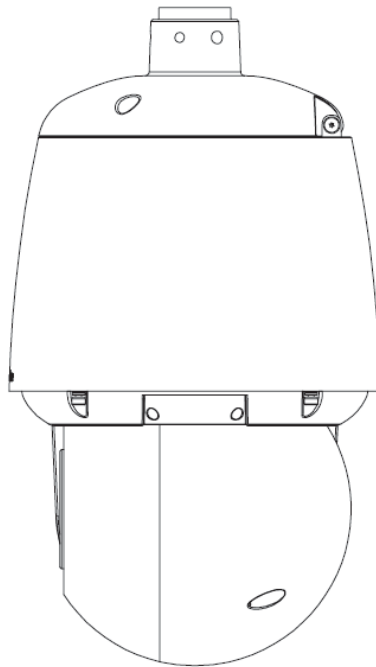




**Illustra Flex 2MP Indoor and Outdoor
IR PTZ Cameras
Quick Start Guide**



Notice

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

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Warning

- The Indoor unit operates at PoE+ IEEE 802.3at or 24Vac. The Outdoor unit operates at PoE Ultra 802.3bt or 24Vac. **WARNING:** If you do not use an injector which is standard 802.3bt then the camera wont work.
- Installation and service should be performed only by qualified and experienced technicians and comply with all local codes and rules to maintain your warranty.
- The camera is not intended to be directly connected to an external network and the video coax connections should only be connected intra-building.
- 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.
- 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, outdoor = 3A minimum , indoor = 2A minimum and 50 degrees Celsius.
- Ensure that the safety cable is connected with one end to the ceiling and the other to the safety cable screw on the unit.
- Avoid operating or storing the unit in the following locations:
 - Extremely humid, dusty, or hot/cold environments. Recommended operating temperature is:
 - Indoor IR PTZ Camera: -20°C to 50°C (-4°F to 122°F)
 - Outdoor IR PTZ Camera: -40°C to 50°C (-40°F to 122°F)
 - Near sources of powerful radio or TV transmitters.
 - Near fluorescent lamps or objects with reflections.
 - Under unstable or flickering light sources.

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



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 2MP Indoor and Outdoor IR PTZ Camera

This chapter provides product features, installation procedures, and connection information regarding the Illustra Flex Series 2MP Indoor and Outdoor IR PTZ cameras.

Product features

Lens cases require special care when handling and cleaning to avoid scratches. For information on camera head 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 Flex IR PTZ cameras. Product code and description of the camera is provided in the table below.

Table 1 Product code and description of the Flex IR PTZ camera

Product Code	Description
IFS02P6INWIT	Illustra Flex 2MP IR PTZ camera, 30x, indoor, vandal, white, TDN, TWDR
IFS02P6ONWIT	Illustra Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR

Figure 2 Physical dimensions of the Flex IR PTZ cameras (mm)

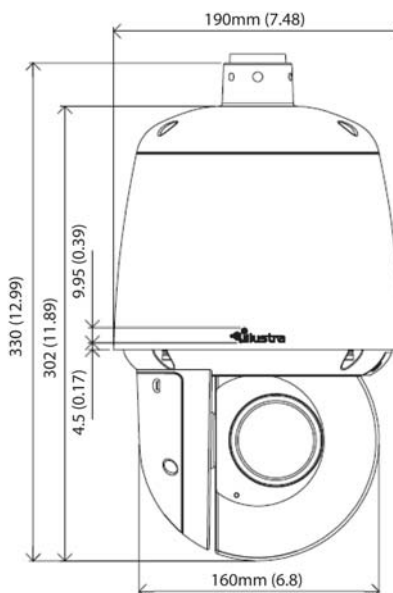


Figure 3 Physical dimensions of the mount adapter

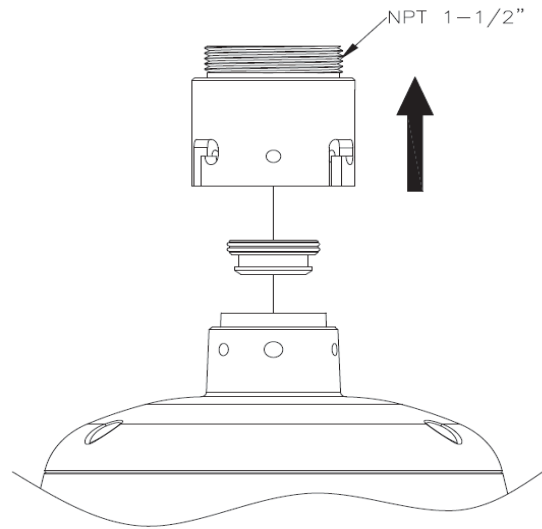


Figure 4 Pictorial index of the camera

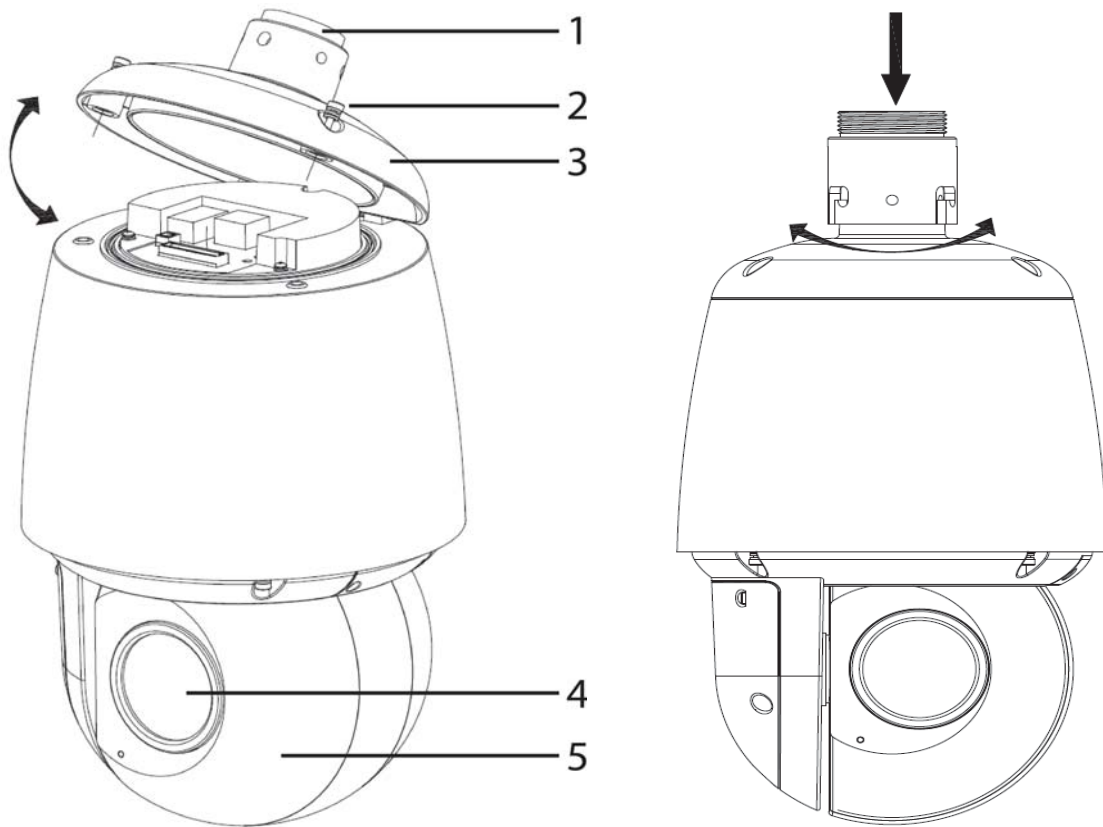
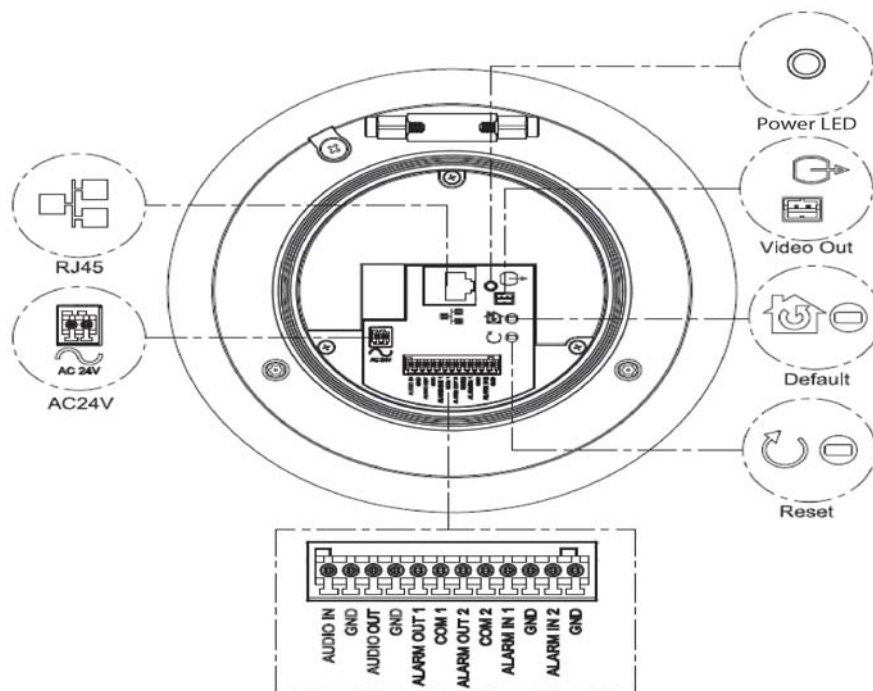


Table 5 Pictorial index descriptions

Index number	Description
1	NPT Pendant Cap
2	Screws (x2) to open and lock the top cover.
3	Top cover
4	Camera lens
5	Camera head

Figure 6 Pin definitions 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.

Table 7 Interior button descriptions




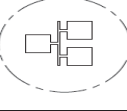

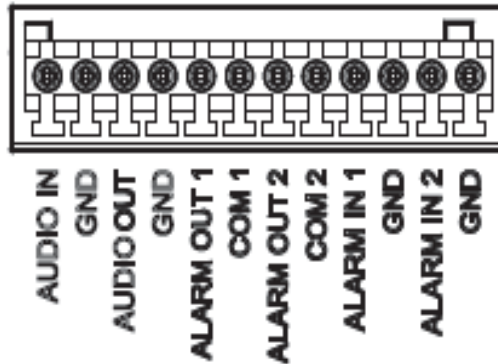
Button and Connectors	Description
	Resets to factory default by pressing and holding the button for five seconds.
	Reboots the unit.
	Analog out port.
	Ethernet Port / PoE+
	Power Connector

Figure 8 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 IR PTZ Camera
- 1 printed Quick Start Guide
- 1 printed Regulatory document
- 1 NTSC/PAL output female BNC cable
- 1 2 position 3mm euro style plug
- 1 Torx 20 Security L-Key
- 1 Torx 6 Security L-Key
- 1 12-pin terminal connector for I/O function
- 1 Safety cable (Pre-attached to the camera)

Contact your dealer if any item is missing.

Installation tools

The following tools assist with installation:

- a drill
- screwdrivers
- wire cutters

Checking appearance

When first unboxing, check 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 the box on page 9.

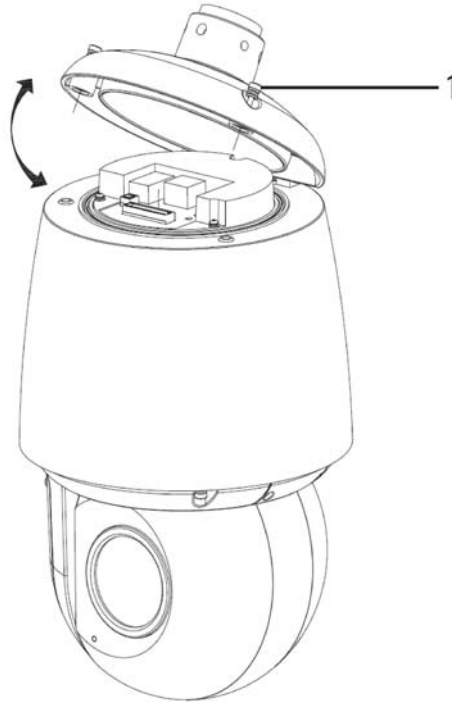
Procedure 1 Accessing the connector pins

Refer to Figure 9 on page 10 for a pictorial index of accessing the connector pins.

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

- | | |
|---|--|
| 1 | Remove the two screws below (1) located on the top cover to open it. |
|---|--|

Figure 9 Accessing the connector pins



- End -

Procedure 2 Connecting the wires

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

This unit supports one of the following options as power supply:

- | | |
|---|---|
| 1 | Connect a power source: <ul style="list-style-type: none"> a AC24V wired to connector and separate RJ45 Ethernet. OR b PoE through RJ45 connector. |
| 2 | Connect any optional audio or digital inputs or outputs. |

Note: The power source needs to be NEC Class 2 or LPS. The Indoor (PoE+ IEEE 802.3at or 24Vac) and Outdoor (PoE Ultra 802.3bt or 24Vac) connections 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 Refer to the Illustra mounting accessories webpage (<https://www.illustracameras.com/products/accessories/mounts/>) for assistance with this procedure.

Note:The following mount accessory part numbers are applicable with the Illustra Flex 2MP IR PTZ camera: IFIRPTZWRECMT, IFIRPTZC2X2, RHOSW, RHOLW, RHOTR, ROTRF, RHOWCA, ROENDC.

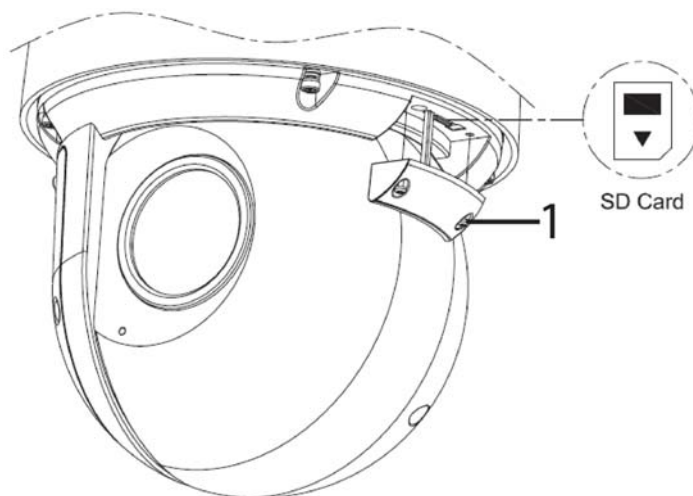
- End -

Procedure 4 Inserting or removing the micro SD Card

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

- 1 Remove the two screws below (1) located on the micro SD card cover.
- 2 Carefully pull open the micro SD card cover to insert or remove the micro SD card into the camera.

Figure 10 Inserting or removing the micro SD Card



Note:It is advised that you reboot the camera after inserting the micro SD card.

- 3 Secure the two screws located on the micro SD card cover.

- End -

IR PTZ Camera Topology

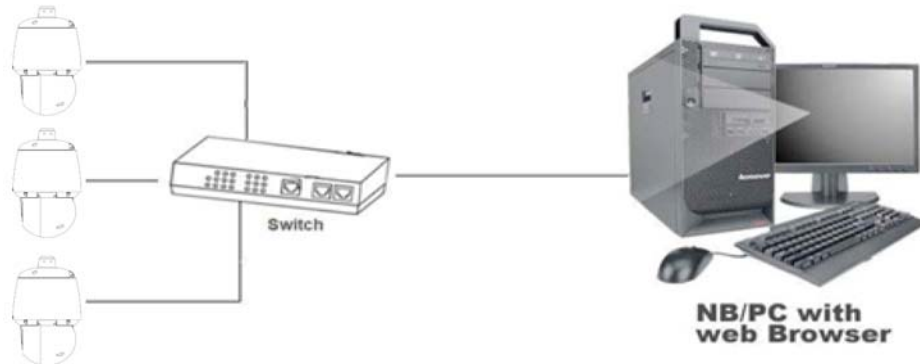
The IR PTZ camera delivers video images in real-time using the internet and intranet. It is equipped with an Ethernet RJ-45 network interface.

The following images illustrate the network topologies of the cameras.

Figure 11 Flex IR PTZ Cameras Network Topology Type I



Figure 12 Flex IR PTZ Cameras Network Topology Type II



Network Connection

Default IP Address

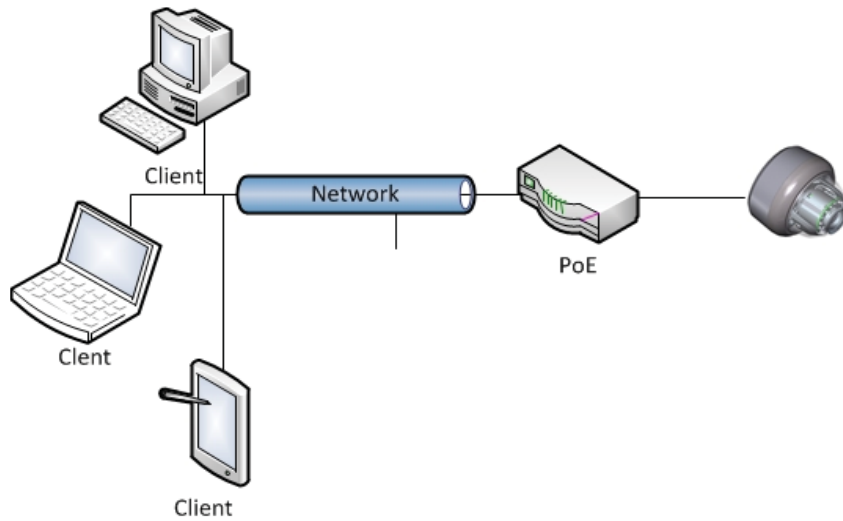
Since this is a network-based unit, an IP address must be assigned at the very first bootup. The default IP address of the unit is 192.168.1.168 and sub mask is 255.255.255.0.

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 13 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 5 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"> a Start a command prompt. b 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 6 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 7 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 8 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 9 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 10 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 -

Appendix A: Technical Specifications

The table below lists technical specifications of the Flex 2MP Indoor and Outdoor IR PTZ cameras.

General Features		
Model Type	Indoor IR PTZ camera	Outdoor IR PTZ camera
Model No.	IFS02P6INWIT	IFS02P6ONWIT
Camera Body Color	White	White
Vandal Resistant Rating	IK10	IK10
Mechanical Features		
Dimensions	Ø190x330mm	Ø190x330mm
Weight	approximately 5.2kg	approximately 5.2kg
Pan Rotation Angle	360° continuous, no end stop	360° continuous, no end stop
Tilt Angle	-15° ~ +90°	-15° ~ +90°
Z-axis Rotation	N/A	N/A
Housing Material	Aluminum Alloy	Aluminum Alloy
Other Housing Material	PC	PC
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	1/3" CMOS	1/3" CMOS
Capture Method	Rolling	Rolling
Scan Method	Progressive	Progressive
Lens		
Design Type	Motorized vari-focal electronic zoom	Motorized vari-focal electronic zoom
Aperture Range	F/1.6(W) ~ F/4.7(T)	F/1.6(W) ~ F/4.7(T)
Focal Length Range	4.3 ~ 129mm	4.3 ~ 129mm

Focal Means	Motorized	Motorized
Focal Type	Varifocal	Varifocal
Focus Type	Motorized	Motorized
Auto Focus	Continuous Auto focus or Manual Focus	Continuous Auto focus or Manual Focus
IR Correction	Optical corrected	Optical corrected
Day/Night	True D/N with ICR	True D/N with ICR
Horizontal Angle of View	59° (Wide); 2.1° (Tele)	59° (Wide); 2.1° (Tele)
Vertical Angle of View	45° (Wide); 1.6° (Tele)	45° (Wide); 1.6° (Tele)
Format	1/3"	1/3"
Illuminator		
Wavelength	850nm	850nm
IR Distance	25m (IEEE 802.3at Type2)	150m (IEEE 802.3bt Type 4)
Smart IR	N/A	N/A.
Adaptive IR	Yes. Adaptive IR refers to lens position to adjust the IR intensity of both narrow and broad IR LEDs to have better exposure balance.	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	2	6
Power Supply		
PoE	PoE+ IEEE 802.3at (25W) Class 4	PoE Ultra 802.3bt Type 3 (60W) Class 6
24 VAC Current Draw Amps	2A	3.8A
24 VAC Wattage	30W	65W
24 VAC Line Frequency Range	47 to 63 Hz	47 to 63 Hz
Video Codecs		
Frame Rate Range	1 to 60 ips	1 to 60 ips
Maximum Resolution and Rate	2MP @ 60 ips	2MP @ 60 ips
Video Imaging		
Dynamic Range Method	True WDR	True WDR

Minimum Illumination	Color: 0.2 lux 1/30s; 0.03 lux 1/4s B&W 0.001 lux 1/4s	Color: 0.2 lux 1/30s; 0.03 lux 1/4s B&W 0.001 lux 1/4s
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
Audio Features	Streaming Output, Streaming Input, Stored Audio Clips with replay	Streaming Output, Streaming Input, Stored Audio Clips with replay
Encoding Method	G.711 u-law and a-law	G.711 u-law and a-law
Sampling Rate	8 khz	8 khz
Sampling Bits	16bit	16bit
Frequency Response Range	100 to 3,600 Hz	100 to 3,600 Hz
Input Connector	1 (No built in mic)	1 (No built in mic)
I/O Interfaces		
SD Card	SDXC slot up to 128GB	SDXC slot up to 128GB
Alarm Inputs	2	2
Auxiliary Outputs	2	2
Video Output	Yes	Yes
IP Connector	RJ-45	RJ-45
LED Indicators	Green LED	Green LED
Reset Buttons	Reboot and Return to Defaults	Reboot and Return to Defaults
Environmental		
Operating Temperature Range	-20° ~+50°C	-40° ~ +50°C

Start-up Temperature Range	-20° ~+50°C	-40° ~ +50°C
Water/Dust Intrusion	IP66	IP66
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

Table 14 Flex 2MP IR PTZ Stream Tables

		TWDR Off	TWDR
Resolution	Codec	FPS range	FPS range
Stream 1			
(1920 x 1080) 1080p 16:9	H264/H264 IntelliZip	1-60	1-30
(1664 x 936) 16:9	H265/H265 Intellizip		
(1280 x 720) 720p 16:9	MJPEG		
Stream 2			
(1280 x 720) 720p 16:9	H264/H264 IntelliZip H265/H265 Intellizip MJPEG	1-30 or 1-15 *1	1-30
(1024 x 576) PAL+ 16:9			
(640 x 360) nHD 16:9			
(480 x 360) 480 4:3			
(384 x 288) 4:3			
Stream 3			
(640 x 360) nHD 16:9	MJPEG *2	7-15	7-15
(480 x 360) 480 4:3			
(384 x 288) 4:3			

Note:*1 - Stream 2 is restricted to 15 FPS when Stream 1 is greater than 30 FPS

Note:*2 - Stream 3 is restricted to MJPEG only.

Note:A maximum of five concurrent streams are supported by each camera, this includes shared streams. (Example: Stream 1 can be shared three times along with a running Stream 2 and Stream 3, or Stream 1 can be shared five times).

Note:TWDR limits the stream to not exceed 30 FPS even if the stream is configured to 31+ FPS.

Note:TWDR 3x is not supported for the PTZ camera.