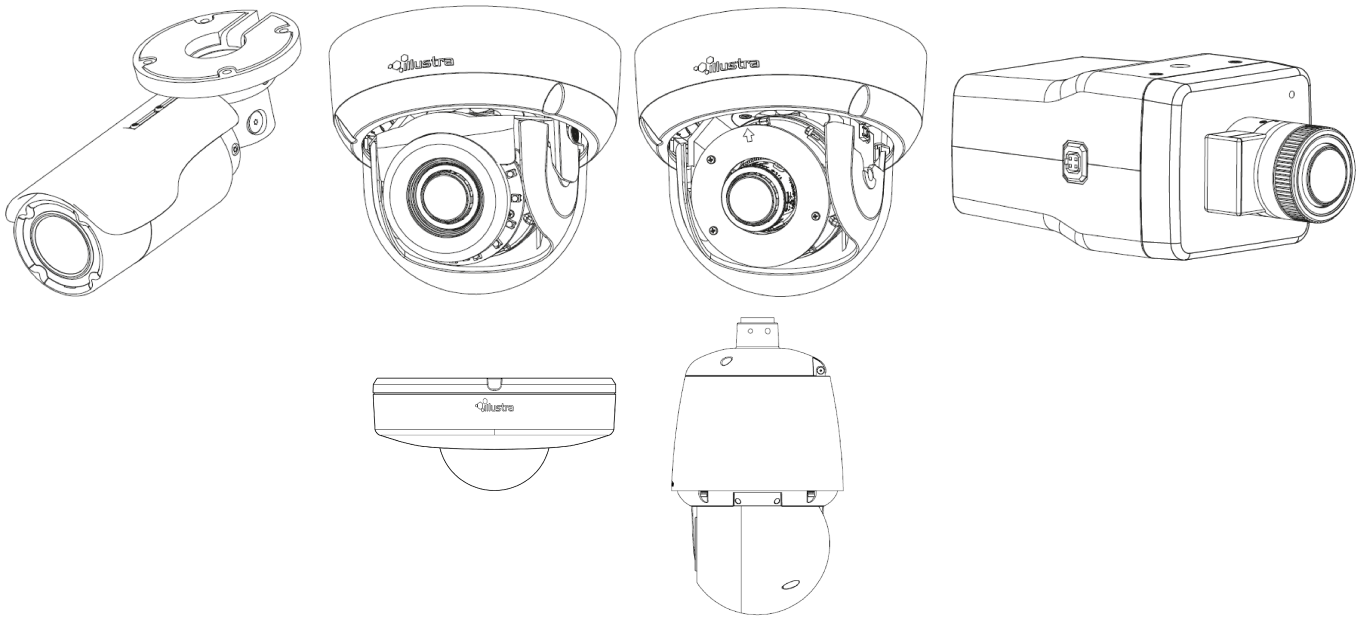
tyco | Illustra

Illustra Flex Series

Installation and Configuration Guide



Johnson Controls

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.

Copyright

Tyco Security Products

6600 Congress Avenue

Boca Raton, FL 33487 U.S.A.

Customer Service

Thank you for using American Dynamics products. We support our products through an extensive worldwide network of dealers. The dealer through whom you originally purchased this product is your point of contact if you need service or support. Our dealers are empowered to provide the very best in customer service and support. Dealers should contact American Dynamics at (800) 507-6268 or (561) 912-6259 or on the Web at www.americandynamics.net.

Trademarks

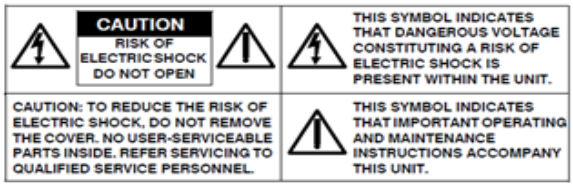
The trademarks, logos, and service marks displayed on this document are registered in the United States [or other countries]. Any misuse of the trademarks is strictly prohibited and Tyco Security Products will aggressively enforce its intellectual property rights to the fullest extent of the law, including pursuit of criminal prosecution wherever necessary. All trademarks not owned by Tyco Security Products are the property of their respective owners, and are used with permission or allowed under applicable laws.

Product offerings and specifications are subject to change without notice. Actual products may vary from photos. Not all products include all features. Availability varies by region; contact your sales representative.

Table of Contents

Warning

- These units operate at AC 24V/ PoE (the Box camera also supports DC12V). The Indoor IR PTZ unit operates at PoE+ IEEE 802.3at or 24Vac. The Outdoor IR PTZ unit operates at PoE Ultra 802.3bt or 24Vac. WARNING: For the IR PTZ cameras if you do not use an injector which is standard 802.3bt then the cameras wont work. The Compact Dome camera is powered by PoE (IEEE 802.3at Class 1).
- 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 Box, Bullet, Mini-Dome and IR PTZ cameras are not intended to be directly connected to an external network and the video coax connections should only be connected intra-building.
- To avoid damaging the Box, Bullet, Mini-Dome and IR PTZ cameras, never connect more than one type of power supply (PoE IEEE802.3 Ethernet Class 0) at the same time. If using any type of PoE, these cameras must be connecting only to PoE networks without routing to heterogeneous devices.
- 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.
- To meet EU EMC immunity requirements for security equipment the mains power for equipment powering the unit should be backed up by an uninterruptible power supply.
- 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.
- The power supply shall be approved for ITE NEC Class 2 or LPS with a rating of 24VAC, 550mA minimum and 50 degrees Celsius. The Compact Mini Dome power supply shall be approved for ITE NEC Class 2 or LPS, 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)
        - Bullet: -40˚C to 50˚C (-40˚F to 122˚F)
        - Box: -20˚C to 50˚C (-4˚F to 122˚F)
        - Compact Mini Dome: -40˚C to 50˚C (-40˚F to 122˚F)
        - Indoor IR PTZ (IS02P6INWIT / IFS02P6ISWITT): -20˚C to 50˚C (-4˚F to 122˚F)
        - Indoor non IR PTZ (IS02P6INWITT): -20˚C to 50˚C (-4˚F to 122˚F)
        - Outdoor IR PTZ (IFS02P6ONWIT): -50˚C to 50˚C (-58˚F to 122˚F)
        - Outdoor IR PTZ (IFS02P6ONWITA): -50˚C to 50˚C (-58˚F to 122˚F), extended temperature: up to 140°F (60°C) for 5 hours a day with IR illuminators OFF.
    - 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.



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.

Overview

This Illustra Flex Installation and Configuration Guide is a user manual which provides physical properties, installation, and configuration information of the cameras in Table 1 on Page 8.

Table 1 Product codes

Product Code	Model Name	Description
IFS03D1ICWTT	Illustra Flex 3MP Indoor Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, indoor, vandal, clear, white, TDN, TWDR
IFS03D1OCWIT	Illustra Flex 3MP Outdoor Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS03B1BNWIT	Illustra Flex 3MP Bullet	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, non-vandal, white, TDN w/IR, TWDR
IFS03B1ONWIT	Illustra Flex 3MP Bullet	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, vandal, white, TDN w/IR, TWDR
IFS03XNANWTT	Illustra Flex 3MP Box	Illustra Flex 3MP Box, no lens, indoor, non-vandal, white, TDN, TWDR
IFS03CFOCWST	Illustra Flex 3MP Compact Mini Dome	Illustra Flex 3MP Compact Dome, 2.8mm, outdoor, vandal, clear, white, SDN, TWDR
IFS08D2ICWTT	Illustra Flex 4K Indoor Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, indoor, vandal, clear, white, TDN, TWDR
IFS08D2OCWIT	Illustra Flex 4K Outdoor Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS08B2ONWIT	Illustra Flex 4K Bullet	Illustra Flex 8MP Bullet, 3.4-9mm, outdoor, non-vandal, white, TDN w/IR, TWDR
IFS08B2ONWITA	Illustra Flex 4K Bullet	Illustra Flex 8MP Bullet, 3.4-9mm, outdoor, vandal, white, TDN w/IR, TWDR
IFS08XNANWTT	Illustra Flex 4K Box	Illustra Flex 8MP Box, no lens, indoor, non-vandal, white, TDN, TWDR
IFS02P6INWIT	Illustra Flex 2MP Indoor IR PTZ	Illustra Flex 2MP IR PTZ camera, 30x, indoor, vandal, white, TDN, TWDR
IFS02P6ONWIT	Illustra Flex 2MP Outdoor IR PTZ	Illustra Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR
IFS02P6ONWITA	Illustra Flex 2MP Outdoor IR PTZ	Illustra Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR
IFS02P6ISWITT	Illustra Flex 2MP Indoor PTZ Smoke Bubble	Illustra Flex 2MP PTZ camera, 30x, indoor, non-vandal, non-IR, Smoked Bubble, white, TDN, TWDR

The first portion of this guide contains information pertaining specifically to the aforementioned cameras.

- For the Illustra Flex 3MP and 8MP Indoor Dome camera, refer to Illustra Flex Series 3MP and 8MP Indoor Dome Camera on page 10.
- For the Illustra Flex 3MP and 8MP Outdoor Dome camera, refer to Illustra Flex Series 3MP and 8MP Outdoor Dome Camera on page 19.
- For the Illustra Flex 3MP and 8MP Bullet camera, refer to Illustra Flex Series 3MP and 8MP Outdoor Bullet Cameras on page 29.
- For the Illustra Flex 3MP and 8MP Box camera, refer to Illustra Flex Series 3MP and 8MP Indoor Box Camera on page 38.
- For the Illustra Flex 3MP Outdoor Compact Mini Dome camera, refer to Illustra Flex 3MP Outdoor Compact Mini Dome Camera on page 43.
- For the Illustra Flex 2MP Indoor and Outdoor IR PTZ camera, refer to Illustra Flex Series 2MP Indoor and Outdoor PTZ Camera on page 52.

The second portion of this guide contains information regarding the Illustra User Web Interface and the web configuration of the aforementioned cameras. Refer to Configuration on page 69 for procedural information pertaining to camera configuration.

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 2 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
IFS08D2ICWTT	Illustra Flex 4K Indoor Mini-Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, indoor, vandal, clear, white, TDN, TWDR

Figure 3 Physical dimensions of the Illustra Flex Indoor Dome camera (mm)

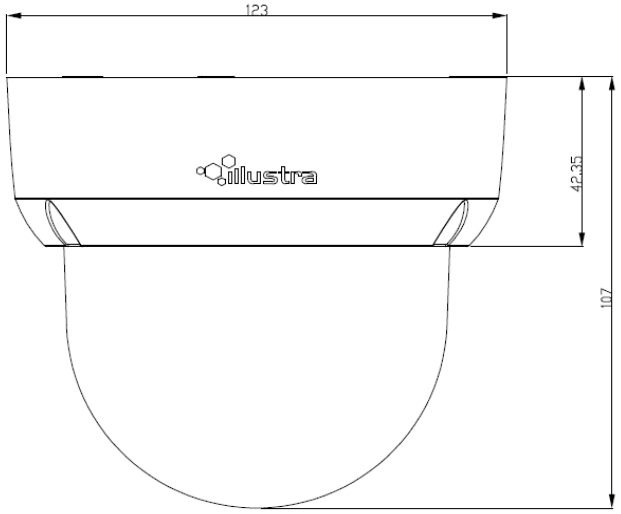


Figure 4 Physical dimensions of the Illustra Flex Indoor Dome camera

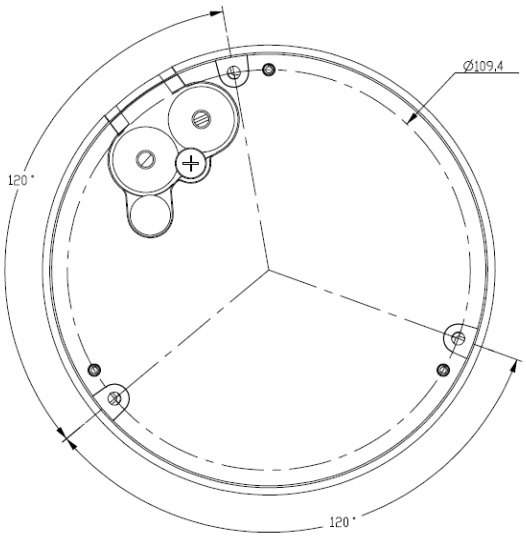


Figure 5 Pictorial index of the camera

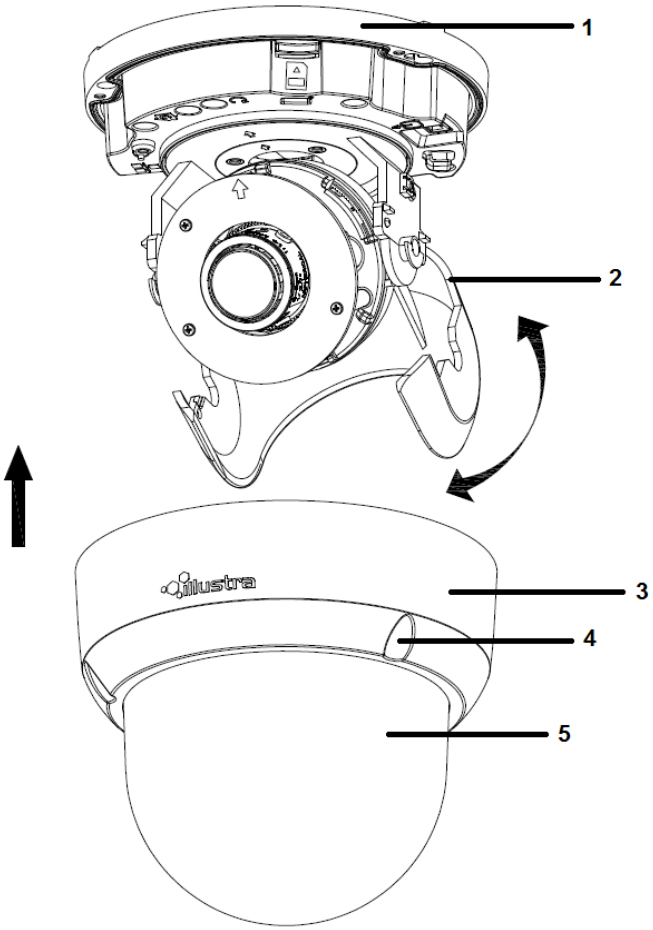


Table 6 Pictorial index descriptions

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 7 Pin definitions of the unit

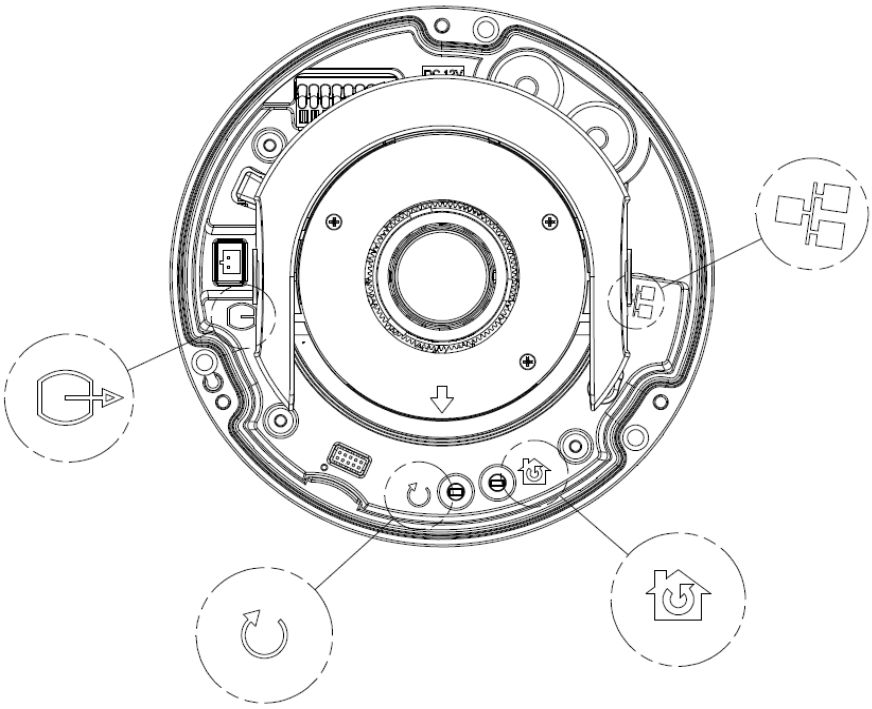


Table 8 Interior button descriptions

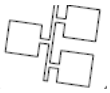
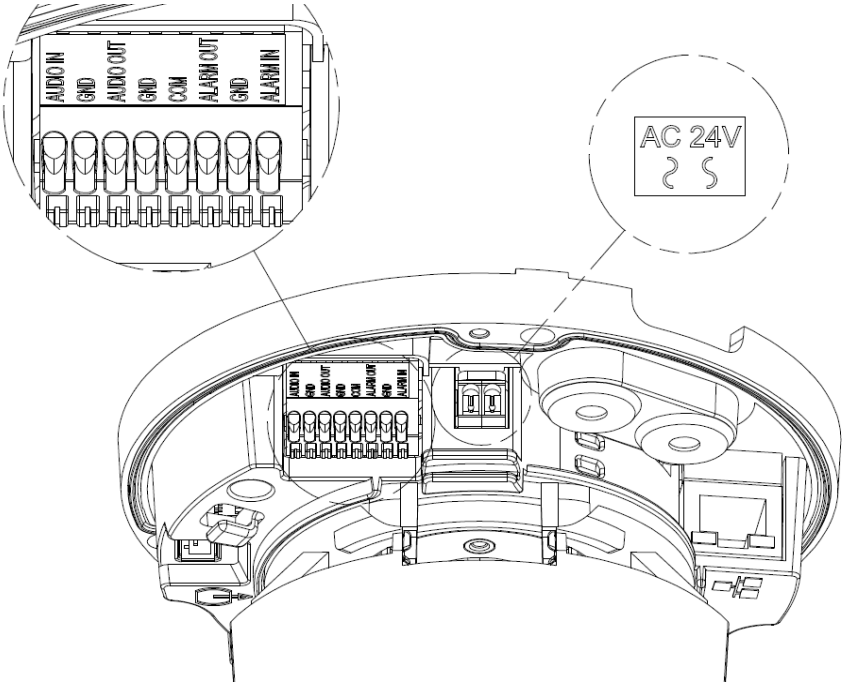
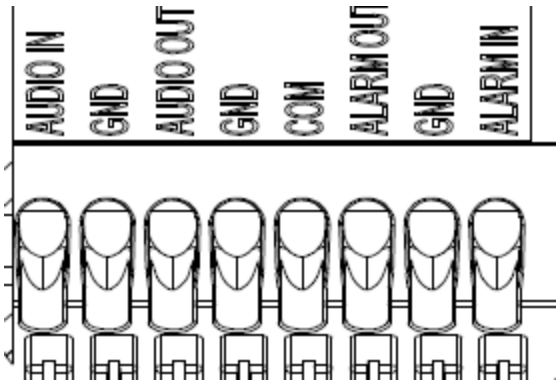
Interior button	Description
	Resets to factory default by pressing and holding the button for five seconds.
	Reboots the unit.
	Analog out port.
	Power over Ethernet (PoE) port.

Figure 9 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 10 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.

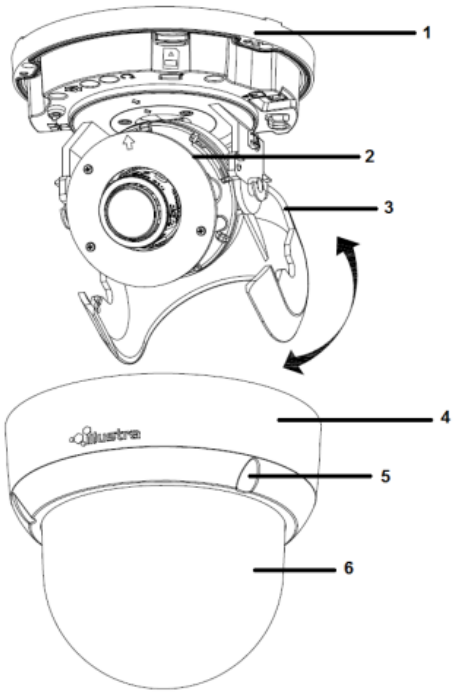
Remove the protective part of the unit when every item is checked in accordance with the list in In the box on page 14.

Procedure 1 Disassembling the camera

Refer to Figure 11 on page 15 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 11 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 16 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 -

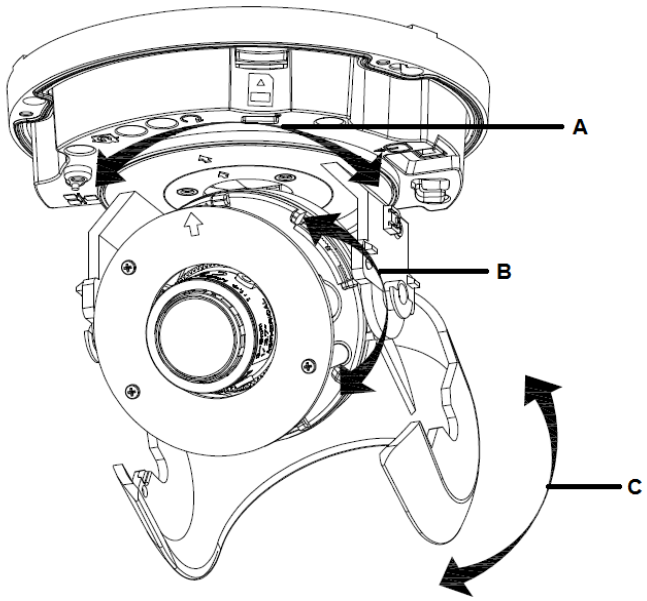
Procedure 4 Adjusting the Position

The unit has three axes for positioning, refer to Figure 12 on page 17. 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	Limitation for three axes position: • Pan range: 375° • Tilt range: 90° • Rotate range: Motorize Lens 356°

Figure 12 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.

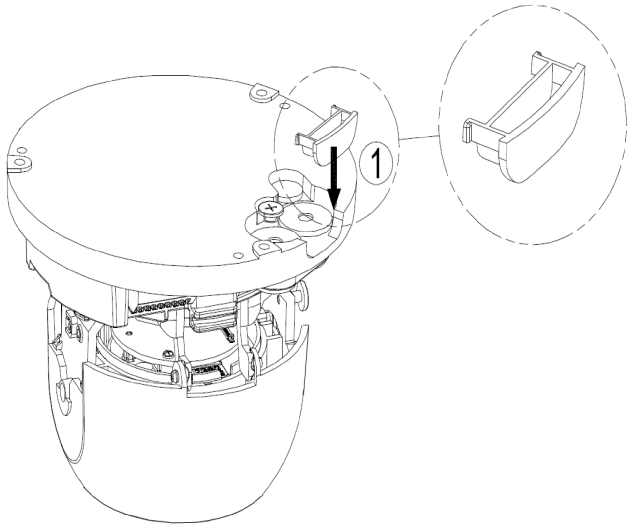
- End -

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 13 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 14 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
IFS08D2OCWIT	Illustra Flex 4K Outdoor Mini-Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, outdoor, vandal, clear, white, TDN w/IR, TWDR

Figure 15 Physical dimensions of the Illustra Flex Outdoor Dome camera (mm)

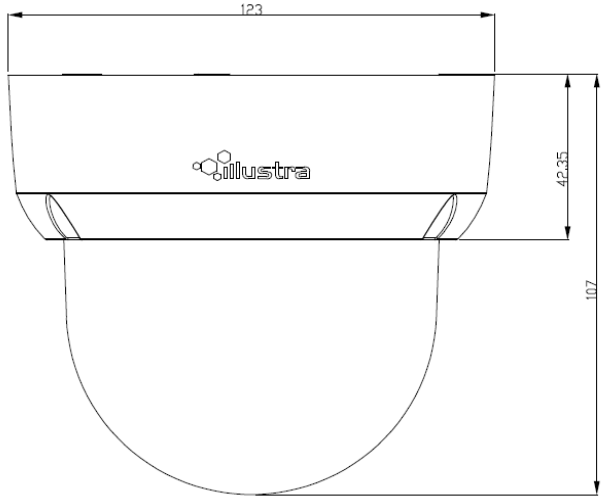


Figure 16 Physical dimensions of the Illustra Flex Outdoor Dome camera

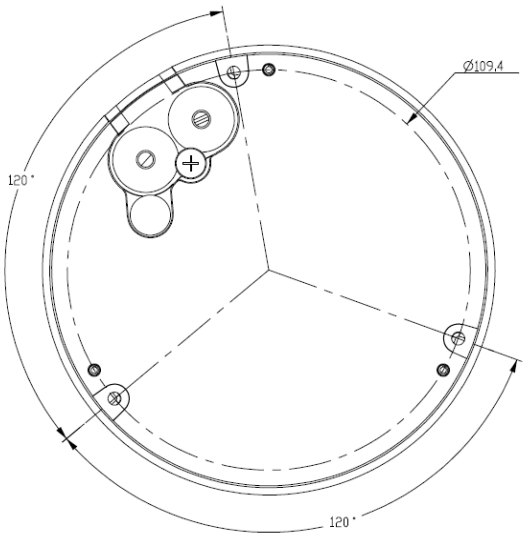


Figure 17 Pictorial index of the Illustra Flex Outdoor Dome camera

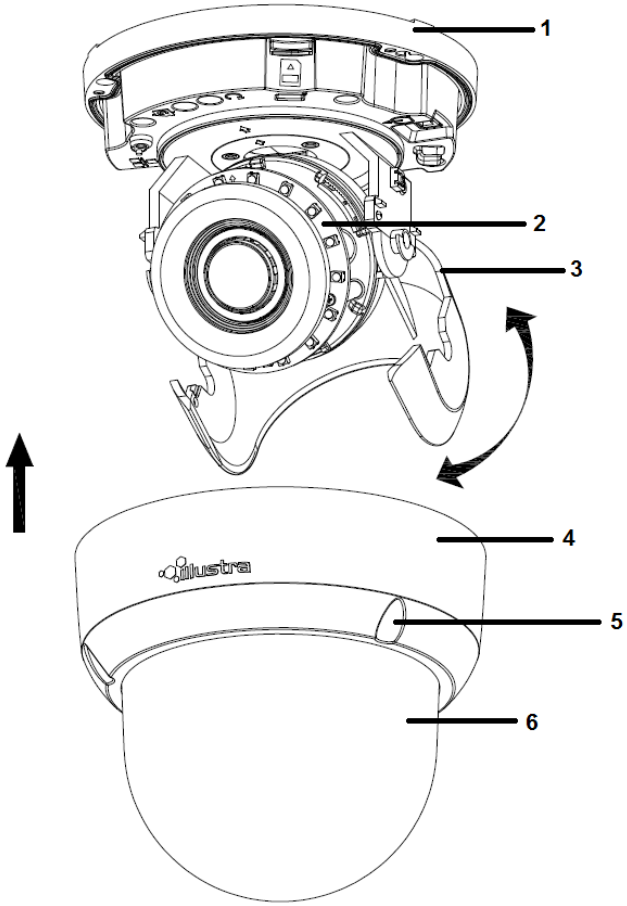


Table 18 Pictorial index descriptions

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 19 Pin definitions of the unit

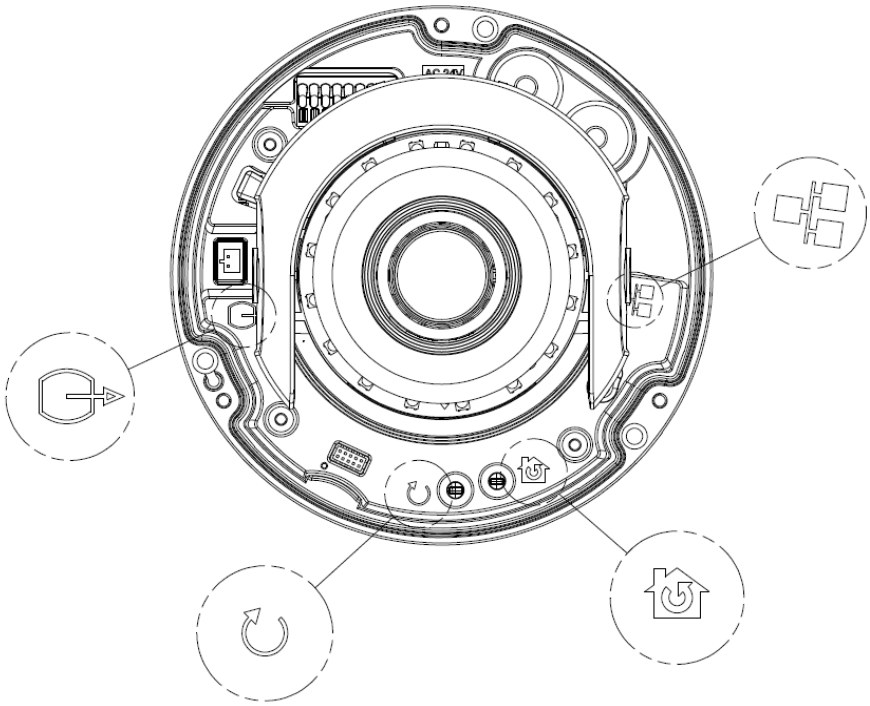
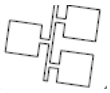
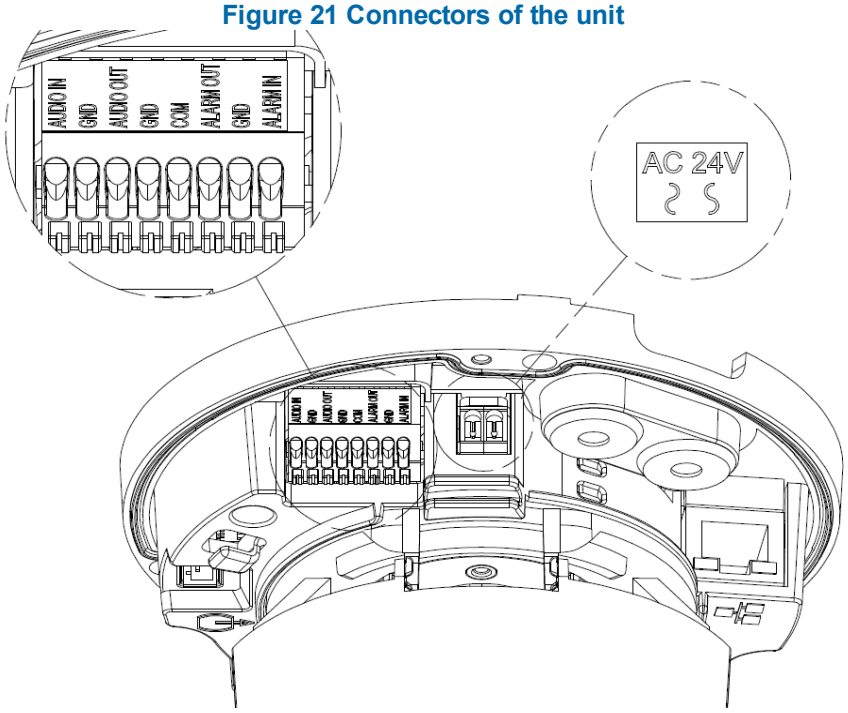


Table 20 Interior button descriptions

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.

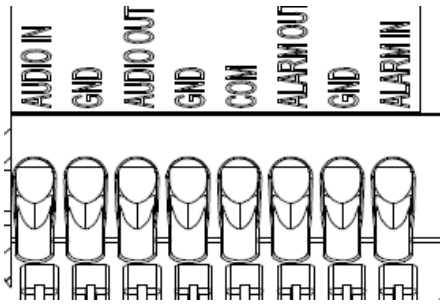
Note: The connector cable of the Outdoor Dome Camera should be contained in a conduit suitable for outdoor use.

Figure 21 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 22 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

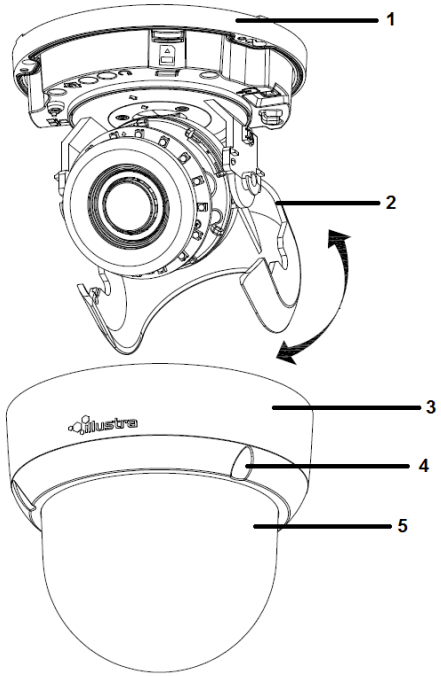
When first unboxing, check whether if there is any visible damage to the appearance of the unit and its accessories. The protective materials used for the packaging should be able to protect the unit from most types of accidents during transportation.

Remove the protective part of the unit when every item is checked in accordance with the list in In the box on page 23.

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 23 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: 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.

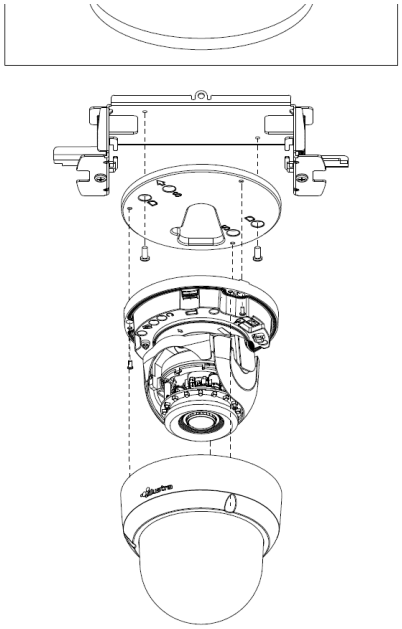
CAUTION	Safety wire must be connected with one end to the ceiling and the other to the safety-cord screw of the unit.

- 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 24 Mounting the camera with the junction box



NOTE	The mounting kit called out in Figure 24 on page 26 is not supplied with the unit. 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.

- End -

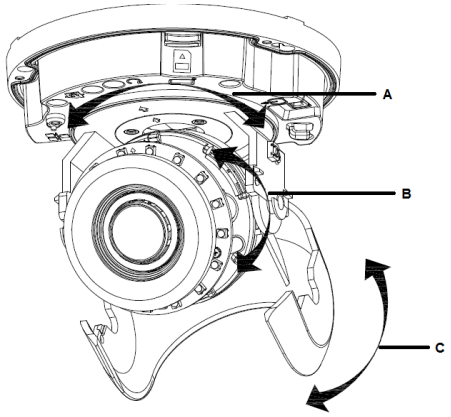
Procedure 11 Adjusting the Position

The unit has three axes for positioning, refer to Figure 25 on page 27. 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	Limitation for three axes position: • Pan range: 375° • Tilt range: 75° • Rotate range: Motorize Lens 356°

Figure 25 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.

- End -

Procedure 12 Locking the Camera

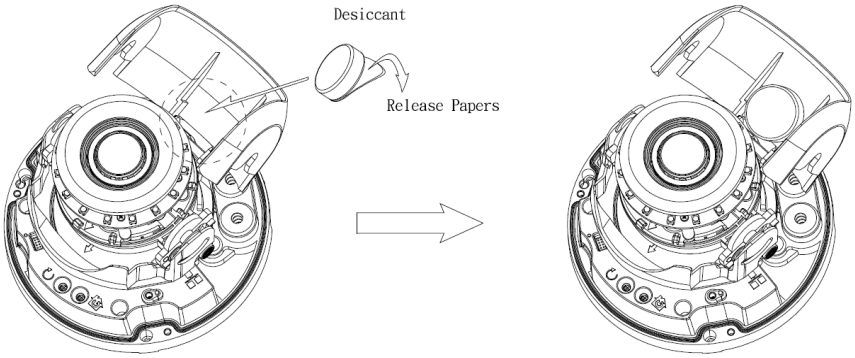
Step	Action
1	Use a soft, lint-free cloth to wipe the dome cover and remove fingerprints.
2	Attach the inner liner and camera housing.
3	Turn the power on after you have install the unit.

- 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 26 Location for desiccant application

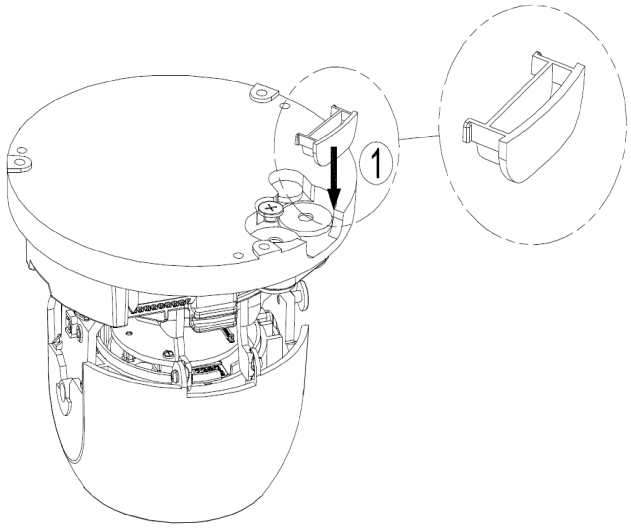


Procedure 14 Installing the molded cap on the camera bottom case

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 27 Installing the molded cap



- End -

Illustra Flex Series 3MP and 8MP Outdoor Bullet 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 Bullet cameras. Product code and description of the camera is provided in the table below.

Table 28 Product code and description of the Illustra Flex Bullet cameras

Product Code	Model Name	Description
IFS03B1BNWIT	Illustra Flex 3MP IK7 Bullet	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, non-vandal, white, TDN w/IR, TWDR
IFS08B2ONWIT	Illustra Flex 8MP IK9 Bullet	Illustra Flex 8MP Bullet, 3.4-9mm, outdoor, non-vandal, white, TDN w/IR, TWDR
IFS03B1ONWIT	Illustra Flex 3MP IK10 Bullet	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, vandal, white, TDN w/IR, TWDR
IFS08B2ONWITA	Illustra Flex 8MP IK10 Bullet	Illustra Flex 8MP Bullet, 3.4-9mm, outdoor, vandal, white, TDN w/IR, TWDR

Figure 29 Illustra Flex 3MP and 8MP Bullet Cameras

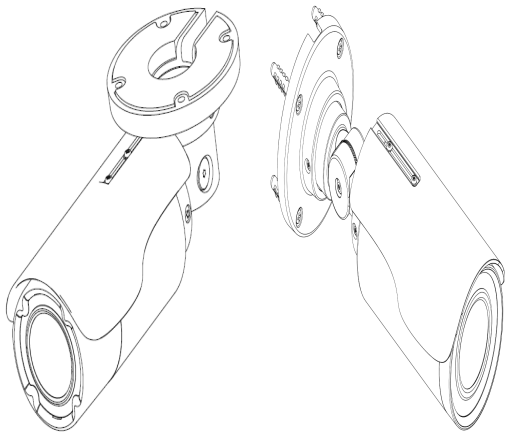


Figure 30 on page 30 and Figure 31 on page 31 illustrates dimensions and physical properties of the units as well as a pictorial index of the camera connectors. Descriptions of these connectors are available in Table 32 on Page 31.

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

Figure 30 3MP Camera (IFS03B1BNWIT) dimensions (mm) and pictorial index

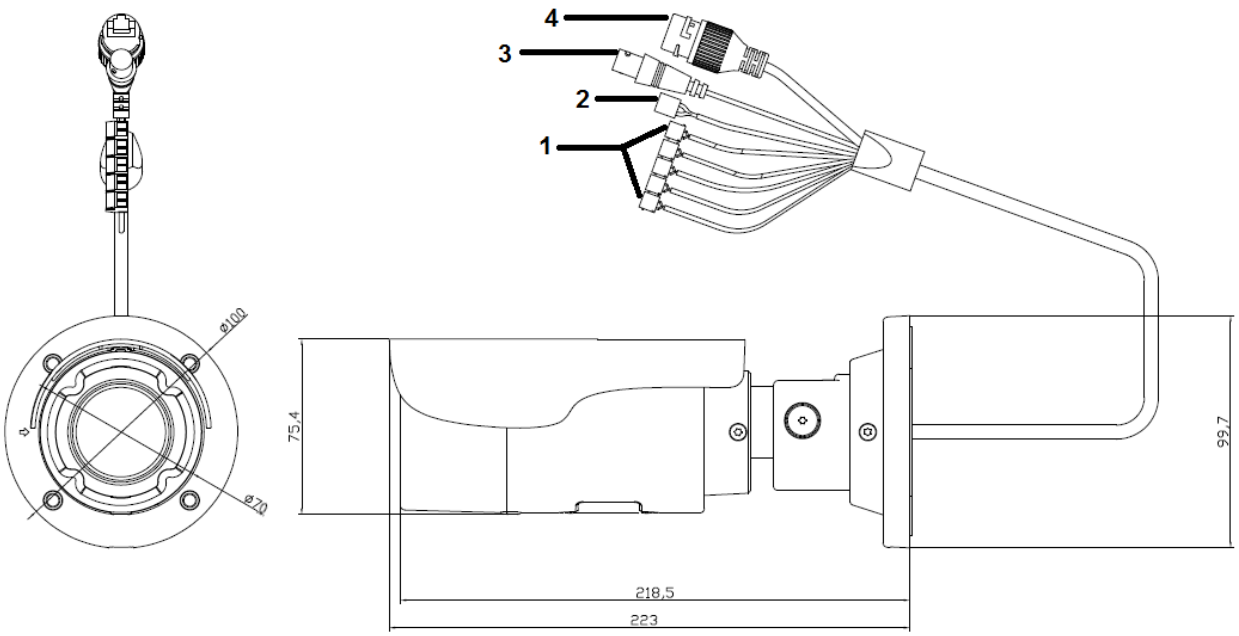


Figure 31 3MP (IFS03B1ONWIT) and 8MP Cameras dimensions (mm) and pictorial index

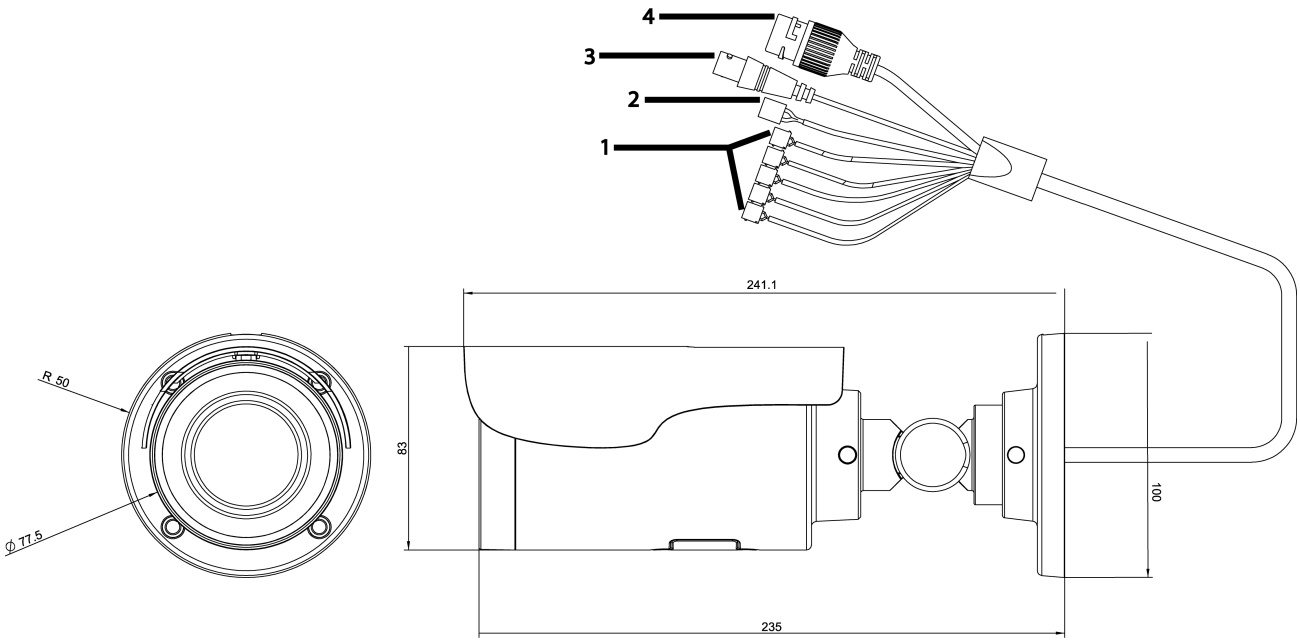


Table 32 Pictorial index descriptions

Index number	Name	Description
1	I/O connectors	Connection for Input/Output devices.
2	Power Connector	Connection to the external power source at AC 24V only.
3	BNC cable	Connection for a BNC cable for analog out.
4	RJ-45 Ethernet Connector/Power over Ethernet (PoE)	Connection for the RJ-45 cable for network connection as well as PoE.

The input and output cables of the Illustra Flex Bullet cameras are labeled with icons that designate their usage. Input/Output connector descriptions on page 32 illustrates and describes these icons.

Table 33 Input/Output connector descriptions

Icon	Description
	Alarm In
	Alarm Out
	Audio In
	Audio Out
	Power
	Ground

You can find the interior buttons and ports on the base of the Illustra Flex Bullet camera. Remove the two screws to open the cover for access to these pins. Refer to Figure 34 on page 32 and Table 35 on Page 33 for descriptions of these buttons and ports.

Figure 34 Interior buttons and ports of the Illustra Flex Bullet cameras

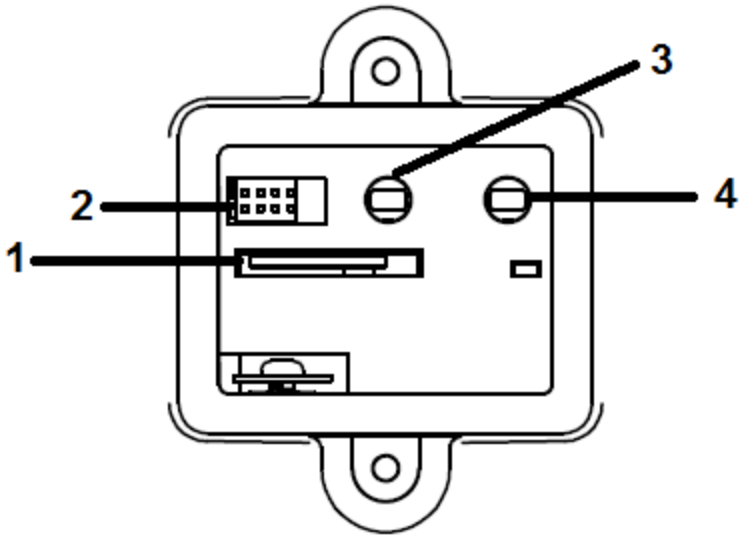


Table 35 Descriptions of the interior buttons and ports of the Illustra Flex Bullet camera

Index number	Name
1	Micro SD card slot
2	Serial port
3	Default: returns to factory default by pressing the button for five seconds
4	Reset: system restart

CAUTION	When removing the screws for the default/reset cover, ensure you replace and tighten the screws to avoid water leaking after adjustment.

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

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 IR Bullet Camera
- 1 printed Quick Start Guide
- 1 printed Regulatory document
- 4 31mm screws and anchors
- 1 installation template sticker
- 1 Torx 10 and 20 Security L-Key (3MP IK7 Bullet camera)
- 1 T10-T10 Security L-Key (3MP IK10 and 8MP IK9 & IK10 Bullet cameras)

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 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 33.

Procedure 15 Mounting the camera

Step	Action
1	Affix the mounting template to the surface. After you drill the holes, knock in 4 plastic anchors and then lock in the 4 self-tapping screws to fasten the camera to the surface.

Figure 36 Mounting the Illustra Flex 3MP (IFS03B1BNWIT) Bullet camera to a ceiling

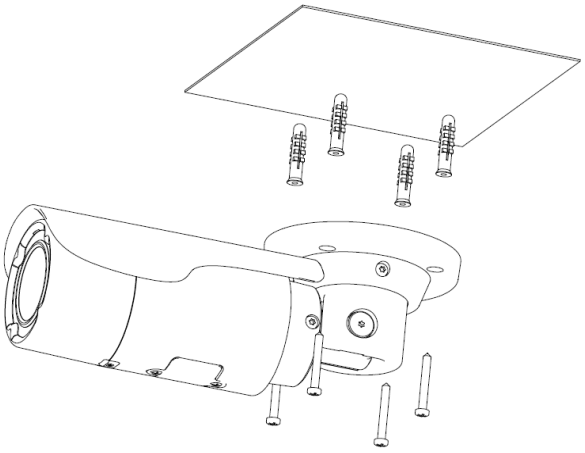
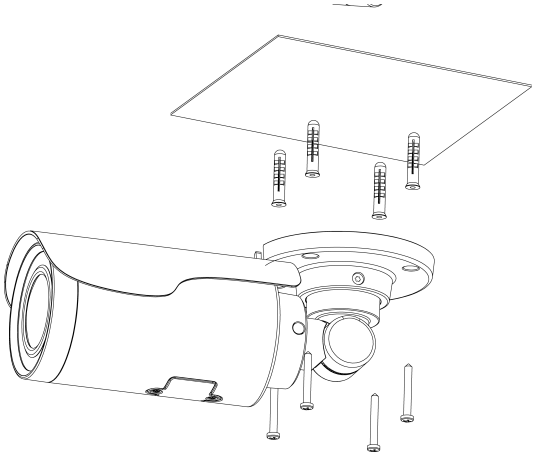


Figure 37 Mounting the Illustra Flex 3MP (IFS03B1ONWIT) and 8MP Bullet cameras to a ceiling



2	Mount the unit onto the ceiling and fasten it securely as seen in Figure 36 on page 34 and Figure 37 on page 34 or if mounting onto a wall refer to Figure 38 on page 35 and Figure 39 on page 35.

Figure 38 Mounting the Illustra Flex 3MP (IFS03B1BNWIT) Bullet camera to a wall

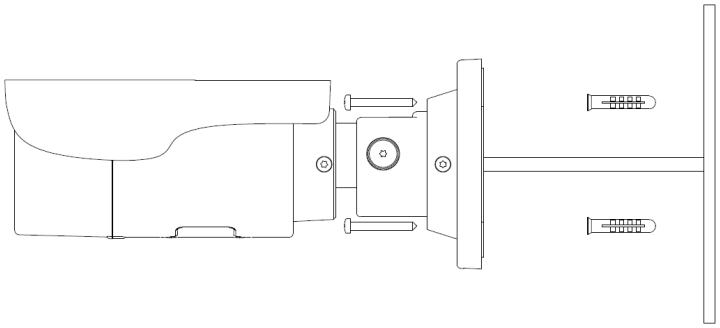
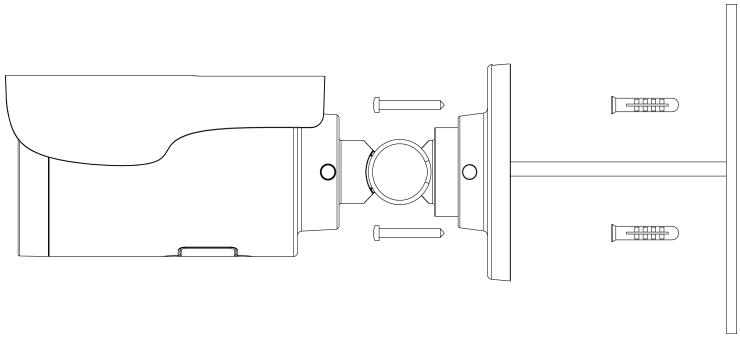


Figure 39 Mounting the Illustra Flex 3MP (IFS03B1ONWIT) and 8MP Bullet cameras to a wall



WARNING	Depending on the material of mounting surface, different screws and anchors than those supplied with the product may be required. To prevent the unit from falling off the surface, ensure that it is mounted to a firm location (ceiling slab or channel) using a safety wire strong enough to withstand the total weight of the unit. Be aware of the finishing at the end of the wire.

CAUTION	Safety wire should be connected, if supplied or ordered seperately, with one end the wall or ceiling and the other to the safety-cord screw of the unit. By cabling so, it is possible to prevent the unit from accidental falling in a sudden at any time.

- End -

Procedure 16 Connecting the wires

Step	Action
1	Attach the camera to the fixed surface.
2	Pass all the signal cables through the mounting bracket.
3	Connect the power cable to the power plugs with one of the following options: a AC 24V: Connect 24V (~) cables to terminals ~AC 24V. b PoE: Connect the RJ-45 jack to a PoE compatible network device that supplies power through the Ethernet cable.
4	Insert audio cable and alarm cable to the unit. Connect the network cable to the RJ-45 terminal of a switch. Refer to Input/Output connector descriptions on page 32 for further information regarding wiring.

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 17 Adjusting the camera position

Step	Action
1	Use the security key to loosen the security torx screw on both sides of the mount bracket so that you can tilt the camera.
2	Loosen the screw on the retaining ring to adjust the camera angle.
3	After adjustments, fasten the screws and retaining ring back to the camera.

Figure 40 Adjusting the 3MP (IFS03B1BNWIT) camera position

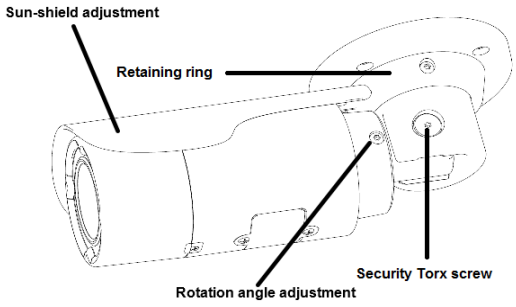
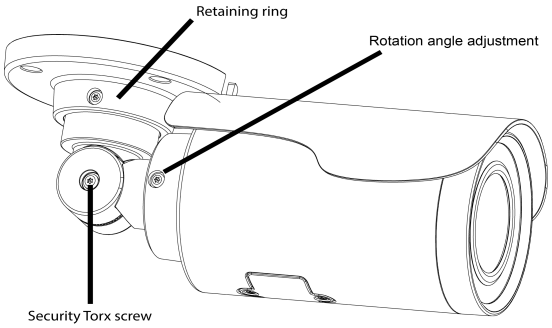


Figure 41 Adjusting the 3MP (IFS03B1ONWIT) and 8MP camera position



- End -

Procedure 18 Adjusting the sun shield hood

Step	Action
1	Move the sun shield hood forward and backward to adjust the position of sunshade.

CAUTION	• Ensure to adjust the sun shield hood in coordination with lens in case of sunshade problems. • To avoid damage to the housing of the unit, do not adjust the sun shield position excessively.

- End -

Illustra Flex Series 3MP and 8MP Indoor Box Camera

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*.

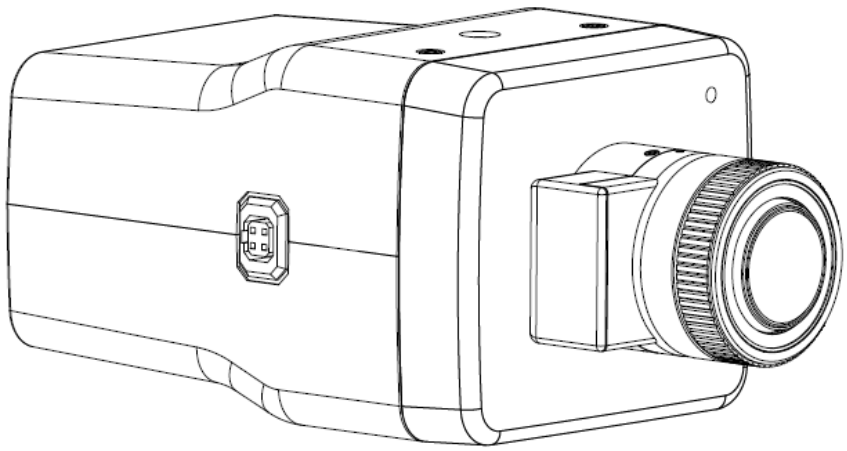
Product overview

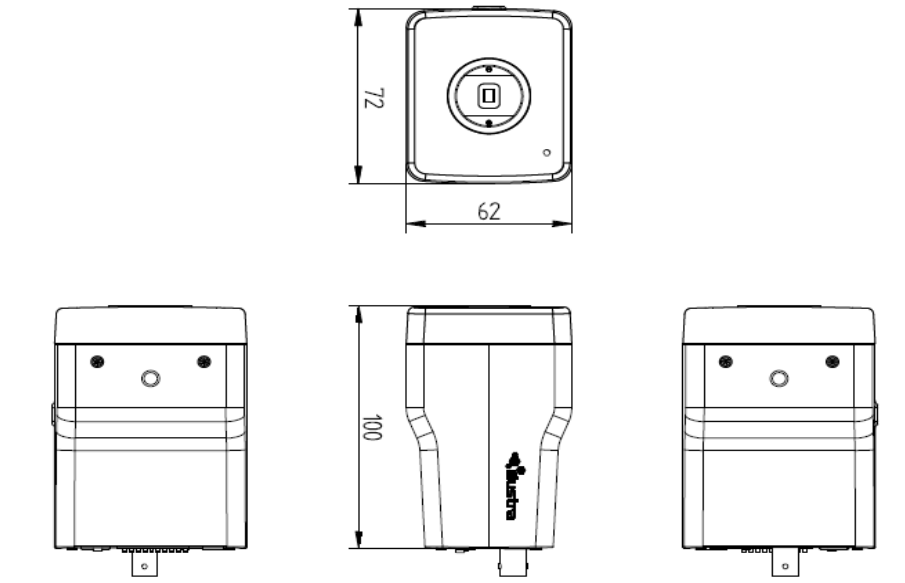
This chapter explains the features and installation of the Illustra Flex Indoor Box cameras. Product code and description of the cameras is provided in the table below.

Table 42 Product code and description of the Illustra Flex Indoor Box cameras

Product Code	Model Name	Description
IFS03XNANWTT	Illustra Flex 3MP Box	Illustra Flex 3MP Box, no lens, indoor, non-vandal, white, TDN, TWDR
IFS08XNANWTT	Illustra Flex 4K Box	Illustra Flex 8MP Box, no lens, indoor, non-vandal, white, TDN, TWDR

Figure 43 Camera dimensions





Camera connectors

Figure 44 on page 39 and Table 45 on Page 40 describe the connectors of the camera and their designations.

Figure 44 Camera connectors

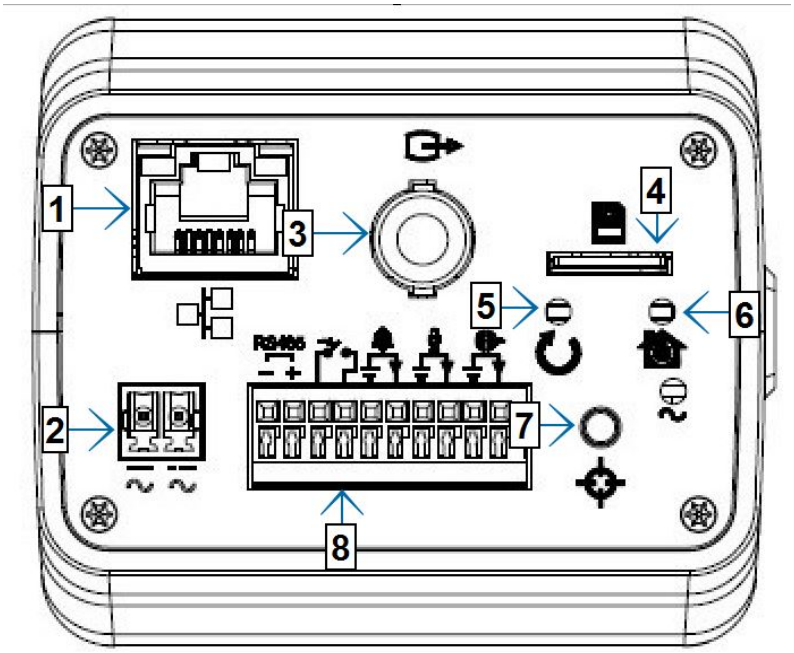


Table 45 Connector descriptions

Index	Name	Description
1	RJ-45 Ethernet Connector/PoE	To insert the RJ-45 cable for network connection as well as Power over Ethernet (PoE)
2	AC/DC	To use AC/DC power.
3	Video Out Connection	Analog out.
4	Micro SD Card Slot	To use a Micro SD card for recording and storage.
5	Reset Button	To reboot the unit.
6	Default Button	To reset all settings of the unit to factory default, press for 5 seconds.
7	Auto Focus Button	To apply backup focus.
8	I/O Connector	To connect Input/Output devices.

Figure 46 on page 40 and Table 47 on Page 40 describe the input and output connectors and icons on the unit.

Figure 46 I/O connectors

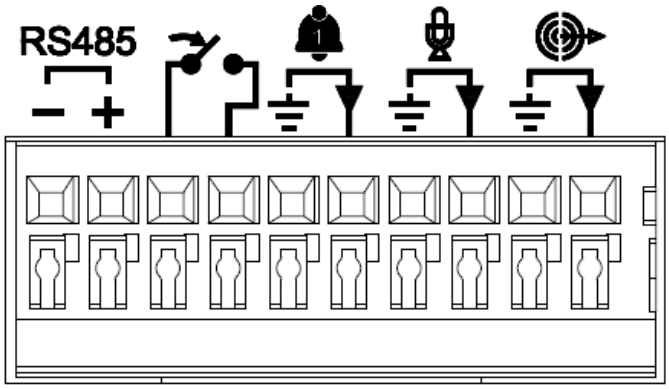


Table 47 I/O connectors icon descriptions

Icon	Description
	RS-485 input and output
	Alarm in
	Alarm out

Icon	Description
	Audio input
	Audio output

Installation

In the box

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

- 1 network Illustra Flex Box Camera
- 1 2 position 3mm Euro style plug
- 1 printed Quick Start Guide
- 1 printed Regulatory document

Please contact your dealer if any item is missing.

Installation tools

Use the following tools to complete the installation:

- Drill
- Screwdriver
- Wire cutters

Checking appearance

When first taking the camera out of the box, check if there is any visible damage to the appearance of the unit and its accessories. The protective materials used for the packaging should protect the unit from most potential accidents during transportation.

Procedure 19 Connecting the wires

To connect the wires to the correct tables, complete the following steps:

Step	Action
1	Connect the power cable to the power plugs with on of the following options: a DC 12V: Connect 12V(-) to terminal = DC 12V-, and connect 12V(+) to terminal =DC 12V+ b AC 24V: Connect 24V (~) cables to terminals ~AC 24V c PoE: Connect the RJ-45 jack to a PoE compatible network device that supplies power through the Ethernet cable.
2	Insert the 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.

CAUTION	If using DC supply, make sure the polarity is correct. Incorrect connection can cause malfunction and/or damage.

- End -

Procedure 20 Mounting the camera

To mount the camera, complete the following steps:

Step	Action
1	Attach the camera unit to a pendant mount (not supplied), and insert and tighten the screws on the tripod receptacle into the screw holes on the base.
2	Mount the camera unit onto the ceiling or wall and fasten securely.
3	Connect the Safety Wire (Fall Prevention Wire, not supplied). One end connects to the wall or ceiling and the other connects to the safety-cord screw of the camera unit.

NOTE	Depending on the material of the mounting surface, different screws and anchors than those supplied may be required. To prevent the unit from falling off, ensure that it is mounted to a firm place, such as a ceiling slab or channel, using a safety wire strong enough to withstand the total weight of the unit. Safety wire must be connected with one end the wall or ceiling and the other to the safety cord screw of the unit. This helps prevent the unit from falling.

- End -

Illustra Flex 3MP Outdoor Compact Mini Dome Camera

This chapter provides product features, installation procedures, and connection information regarding the Illustra Flex 3MP Outdoor Dome camera.

Product features

Lens 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 3MP Compact Mini Dome camera. Product code and description of the camera is provided in Table 48 on page 43.

Table 48 Product code and description of the Compact Mini Dome camera

Product Code	Description
IFS03CFOCWST	Illustra Flex 3MP Compact Dome, 2.8mm, outdoor, vandal, clear, white, SDN, TWDR

Figure 49 Physical dimensions of the Compact Mini Dome camera (mm)

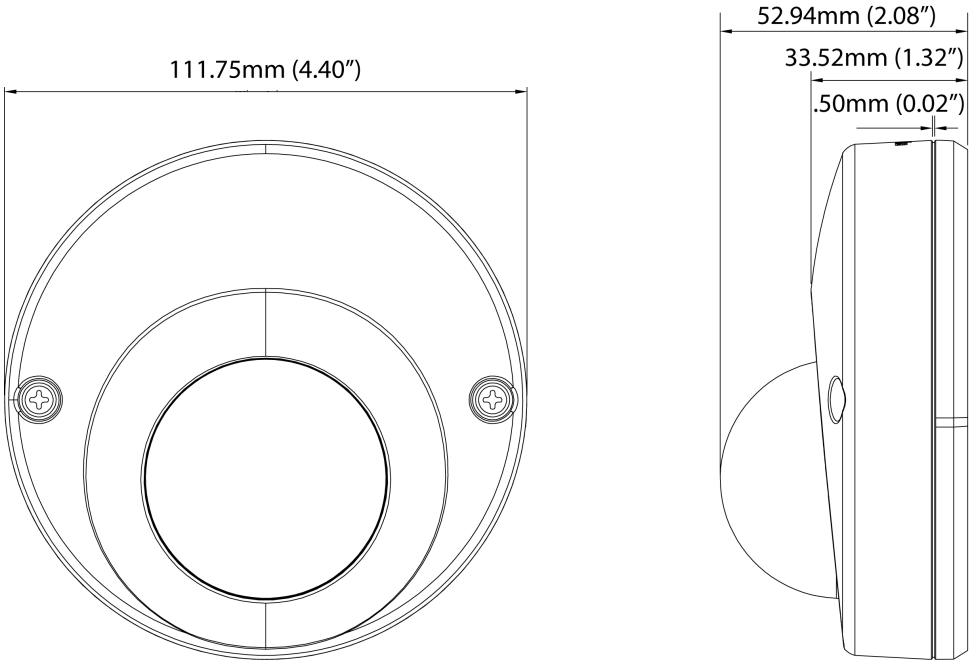


Figure 50 Physical dimensions of the Compact Mini Dome camera (mm)

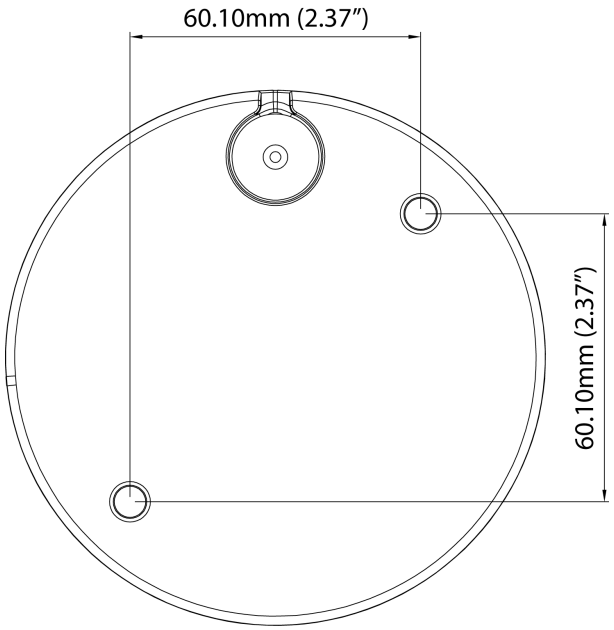


Figure 51 Pictorial index of the Compact Mini Dome camera

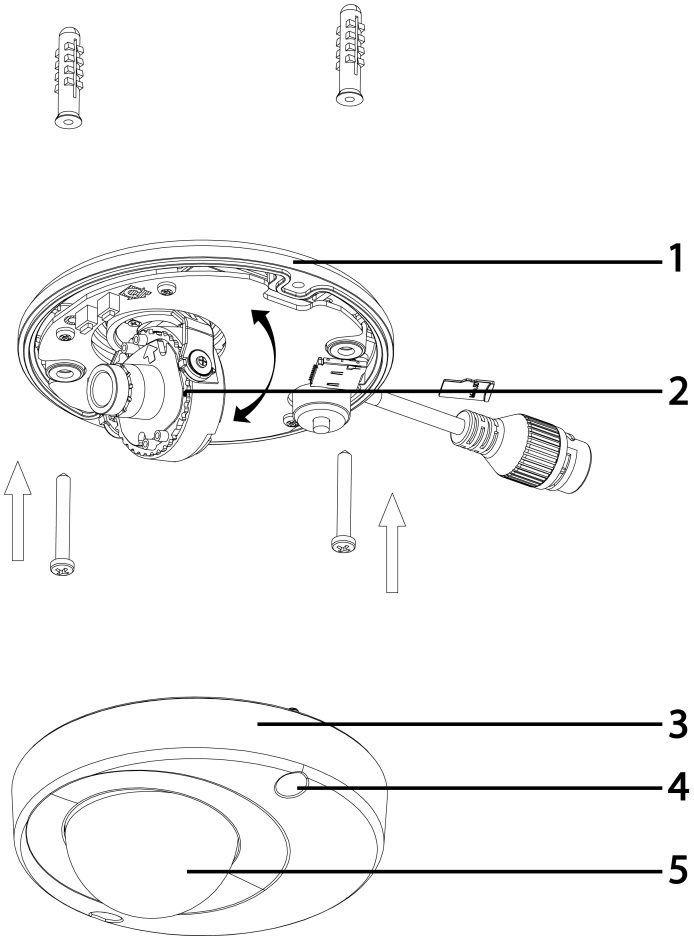


Table 52 Pictorial index descriptions

Index number	Description
1	Camera base
2	Lens Unit
3	Camera top case
4	Screw casing (Loosen the screws to take off the top cover)
5	Dome cover

Figure 53 Interior view and buttons of the unit

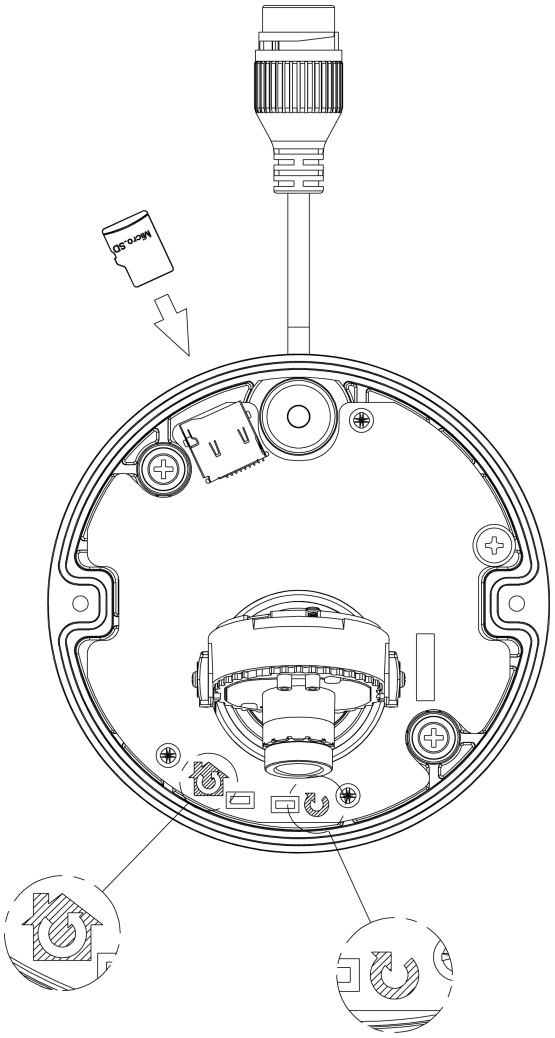


Table 54 Interior button descriptions

Interior button	Description
	Resets to factory default by pressing and holding the button for five seconds.
	Reboots the unit.

Note: The connector cable of the Compact Mini Dome camera should be contained in a conduit suitable for outdoor use

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.

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.

- 2 Plastic Anchors and screws 35mm
- 1 T20 Security Torx Wrench
- 1 Installation template sticker
- 1 printed Quick Start Guide
- 1 printed Regulatory document
- 1 Desiccant bag

Contact your dealer if any item is missing.

Installation tools

The following tools assist with installation:

- a drill
- screwdrivers
- wire cutters

Checking appearance

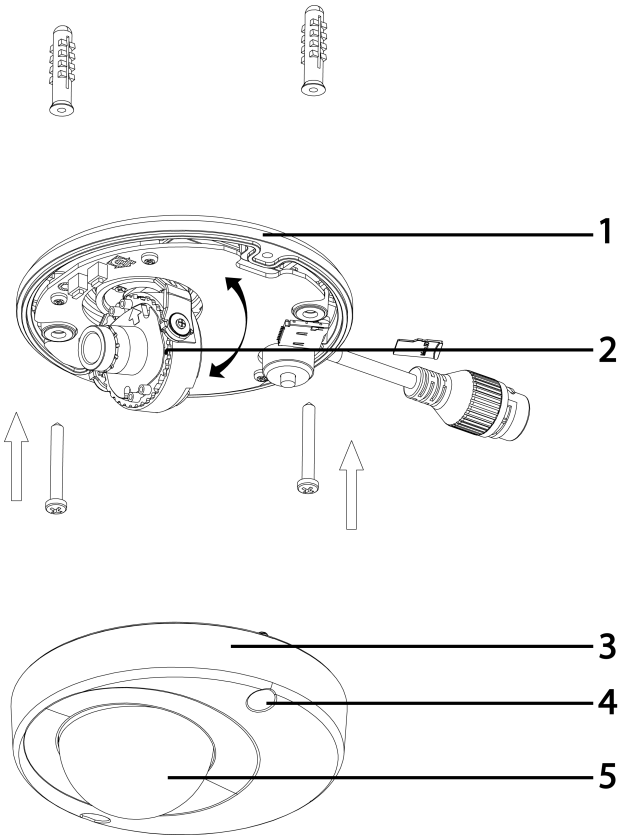
When first unboxing, check whether if there is any visible damage to the appearance of the unit and its accessories. The protective materials used for the packaging should be able to protect the unit from most types of accidents during transportation. Remove the protective part of the unit when every item is checked in accordance with the list in In the box on page 46.

Procedure 21 Disassembling the Camera

Step	Action
1	Remove the bungs from the camera base and remove the screws from the top of the camera with a safety screwdriver (4).
2	Gently remove the top cover (3).
3	Set the top cover aside.

Note: Unscrew the top cover safety wire to fully remove the top cover.

Figure 55 Disassembling the Compact Mini Dome camera



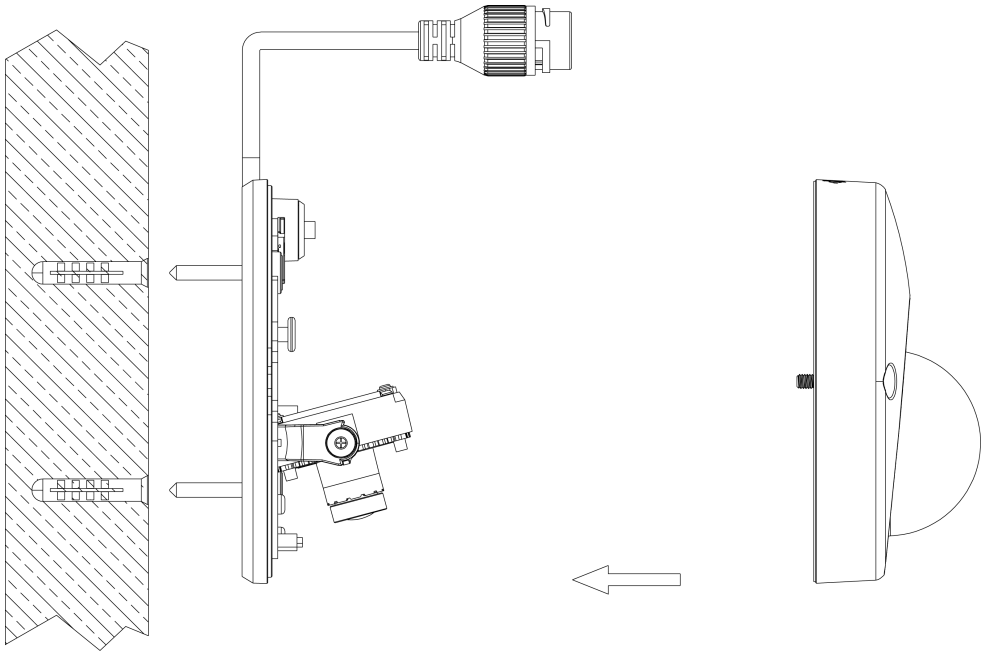
- End -

Procedure 22 Mounting the camera

Step	Action
1	Use the mounting template to 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	Secure the unit bottom case to the wall or ceiling with tapping screws.
5	Adjust the viewing angle.

6 Ensure that the top cover safety wire is connected and securely fit the top cover.

Figure 56 Mounting the camera



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 the safety wire (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	Ensure that the Safety wire is connected with one end to the ceiling and the other to the safety-cord screw of the unit.

- End -

Procedure 23 Adjusting the Position

The unit has three axes for positioning, refer to Figure 57 on page 49. 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 140°) 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 354° as this assembly may cause the internal cables to twist and disconnect or break.
3	Tilt Adjustment (C):
	a Tilt the lens base (maximum 125° from the frontal mounting surface) until you are satisfied with the field of view.

CAUTION	Limitation of three axis positions of lens centroid: • Pan range: 140° • Tilt range: 15° to 125° from frontal mounting surface • Rotate (z-axis): 354°

Figure 57 Adjusting the position of the camera

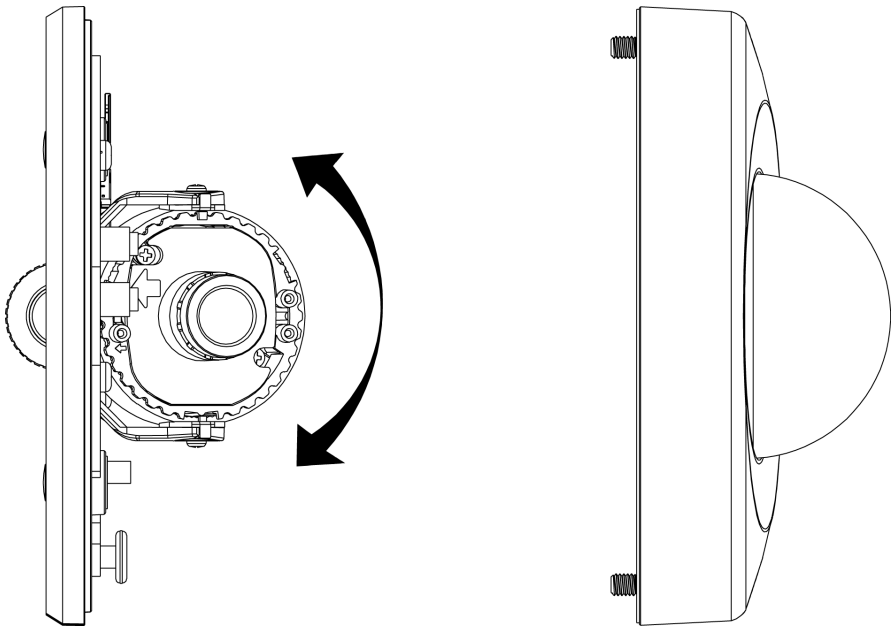
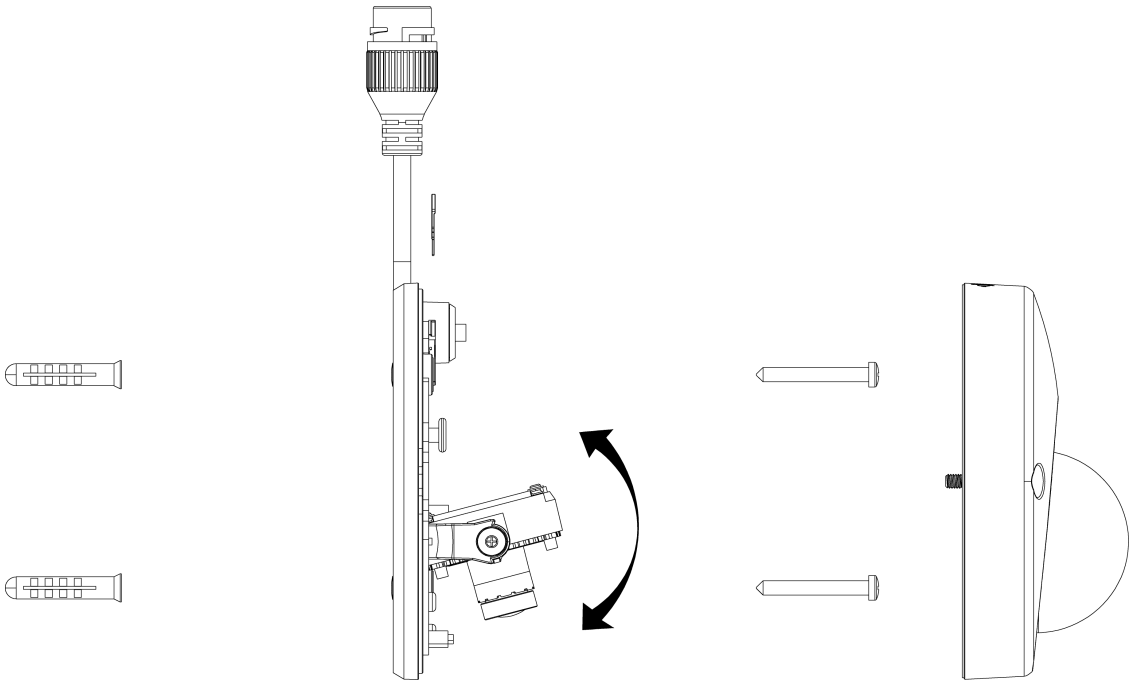


Figure 58 Adjusting the position of the camera



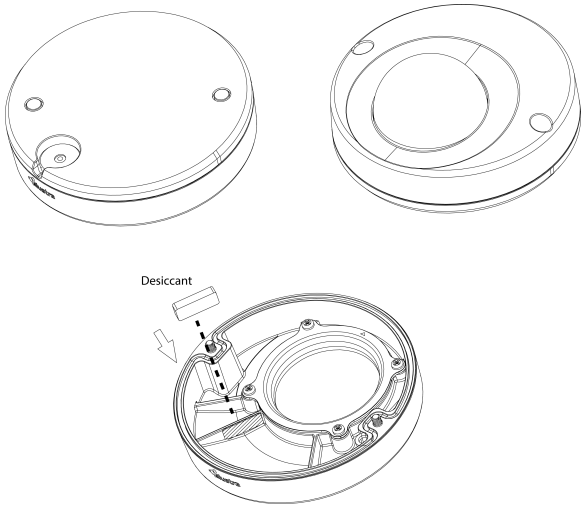
NOTE	For Compact Mini Dome camera series: The zoom level and focus are manually set in the factory.

- End -

Procedure 24 Installing the desiccant

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

Figure 59 Location for desiccant application



- End -

Procedure 25 Locking the Camera

Step	Action
1	Use a soft, lint-free cloth to wipe the dome cover and remove fingerprints.
2	Ensure that the top cover safety wire is connected and attach the inner liner and top cover.

- End -

Procedure 26 Powering up the camera

Step	Action

Connect the power cable to the power plugs as followings:

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

Note: 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 -

Illustra Flex Series 2MP Indoor and Outdoor PTZ Camera

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

Product overview

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

Table 60 Product code and description of the Flex 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
IFS02P6ONWITA	Illustra Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR
IFS02P6ISWITT	Illustra Flex 2MP PTZ camera, 30x, indoor, non-vandal, non-IR, Smoked Bubble, white, TDN, TWDR

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 x Network PTZ Camera
- 1 x Printed Quick Start Guide
- 1 x Printed Regulatory document
- 1 x NTSC/PAL output female BNC cable
- 1 x 2 position 3mm euro style plug
- 1 x Torx 20 Security L-Key
- 1 x Torx 6 Security L-Key
- 1 x Torx 10 Security L-Key
- 1 x 12-pin terminal connector for I/O function
- 1 x Safety cable (Pre-attached to the camera)

Contact your dealer if any item is missing.

Installation tools

The following tools assist with installation:

- 1 x Drill
- 1 x Screwdrivers
- 1 x Wire cutters

Quick Reference

- Default IP: 192.168.1.168 (DHCP enabled)
- Default Username and Password: admin

Note: For the PTZ units that include a bubble ensure that all bubble packaging is removed before powering up the unit. Also, remove the additional packaging inside the bubble cap.

Figure 61 Pictorial index of the camera (IFS02P6INWIT / IFS02P6ONWITA)

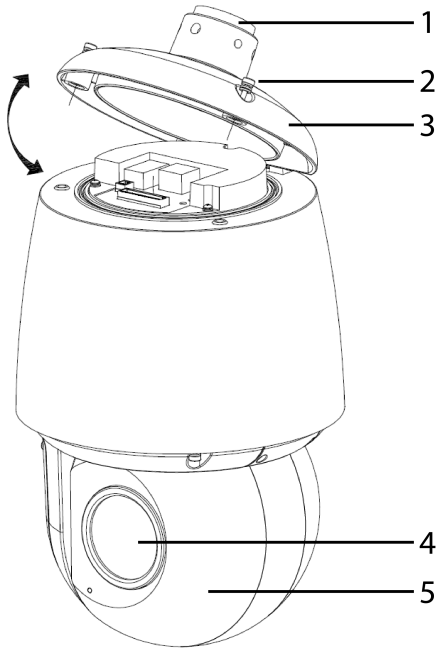


Table 62 Pictorial index descriptions

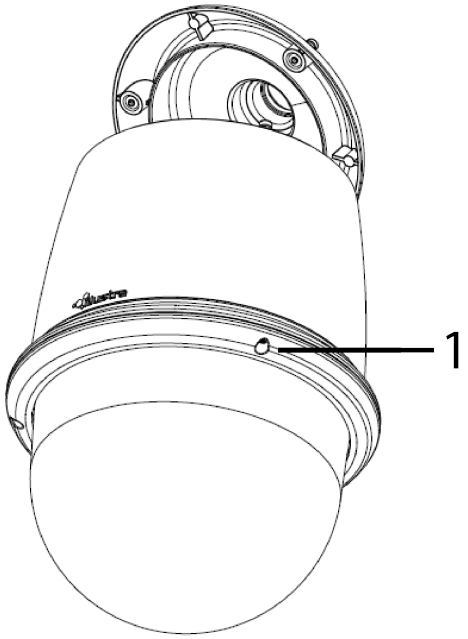
Button / Connections	Description
1	NPT Pendant Cap
2	Screws (x2) to open and lock the top cover
3	Top cover
4	Camera lens
5	Camera head

Procedure 27 Removing the bubble from the camera (IFS02P6ISWTT)

Note: This is only applicable to specific indoor units with bubble.

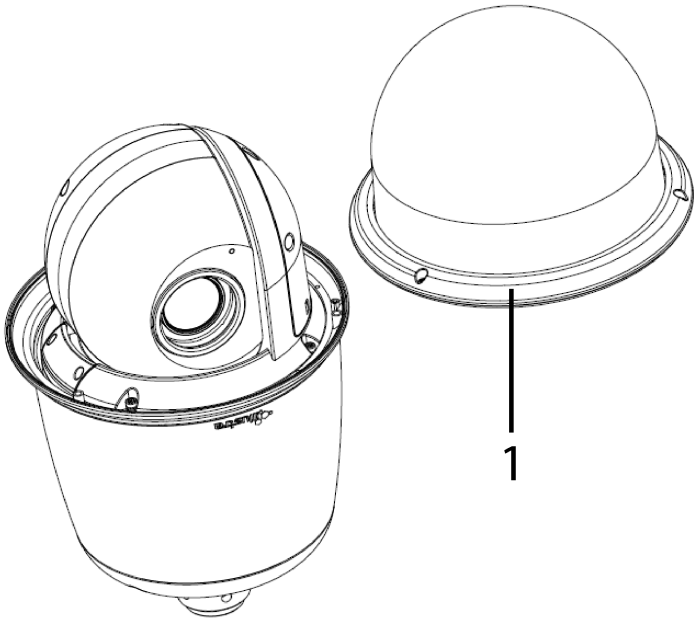
1 Remove the three screws located on the camera head (1) below.

Figure 63 Removing the camera head screws



2 Carefully remove the bubble unit (1) below.

Figure 64 Removing the bubble from the camera

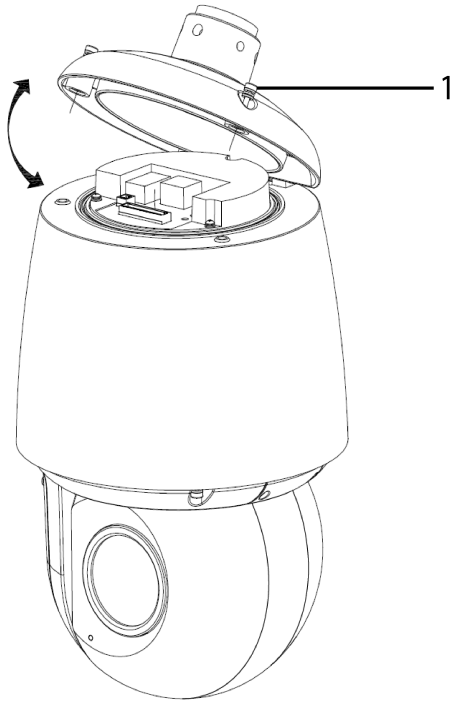


- End -

Procedure 28 Accessing the connector pins

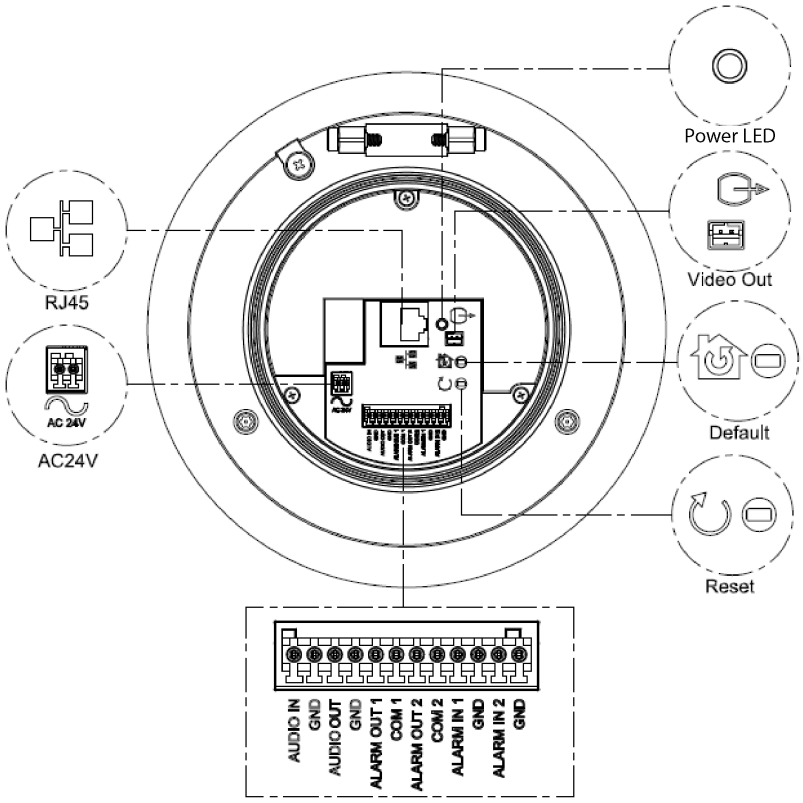
Step	Action
1	Remove the two screws below (1) located on the top cover to open it.

Figure 65 Accessing the connector pins



- End -

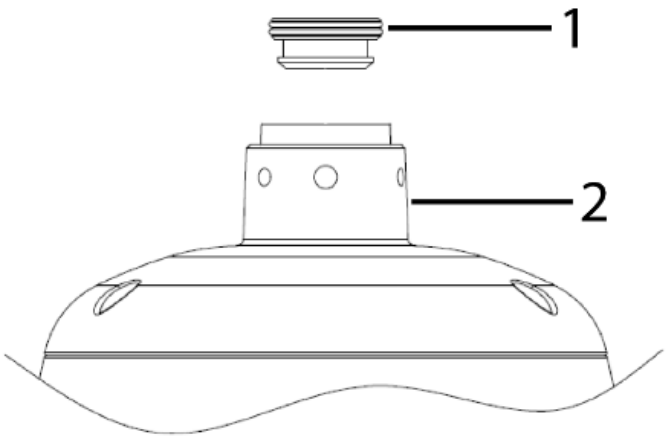
Figure 66 Location and descriptions of the camera buttons / connections



Procedure 29 Installing the rubber cable seal in to the NPT cap

Step	Action
1	Securely place the rubber cable seal (1) into the NPT pendant cap (2).

Figure 67 Installing the rubber cable seal in to the NPT pendant cap



- End -

Procedure 30 Connecting the wires

Step	Action

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

1 Connect a power source:

a AC24V wired to connector and seperate RJ45 Ethernet.

And / Or

b PoE through RJ45 connector. Indoor units operate with IEEE 802.3at PoE+ (25W). The outdoor unit operates with IEEE 802.3bt (51W).

2 Connect any optional audio or digital inputs or outputs.

Note: After connecting all cables ensure that the two screws on the top cover are securely attached.

- End -

Procedure 31 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 PTZ camera: IFIRPTZWRECMT, IFIRPTZC2X2, RHOSW, RHOLW, RHOTR, ROTRF, RHOWCA, ROENDC.

- End -

Procedure 32 Inserting or removing the micro SD Card

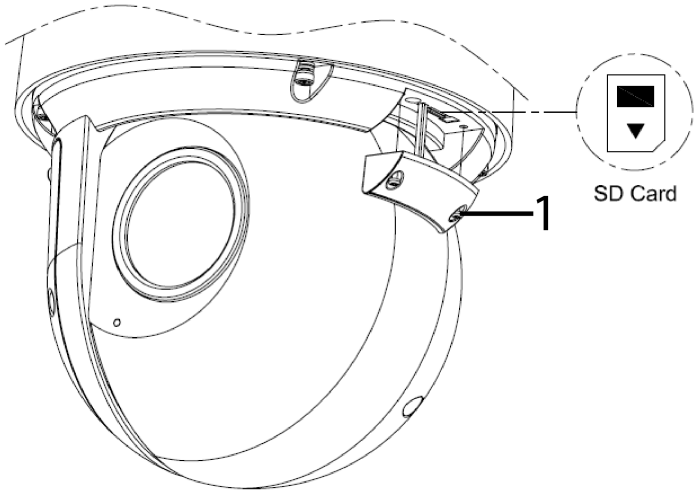
Note: For the PTZ units that include a bubble you must remove the bubble before accessing the micro SD card slot.

Step	Action

1 Remove the two screws below (1) located on the micro SD card cover.

2 Carefully pull open the cover to insert (or remove) the micro SD card into (or from) the camera.

Figure 68 Inserting or removing the micro SD Card



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

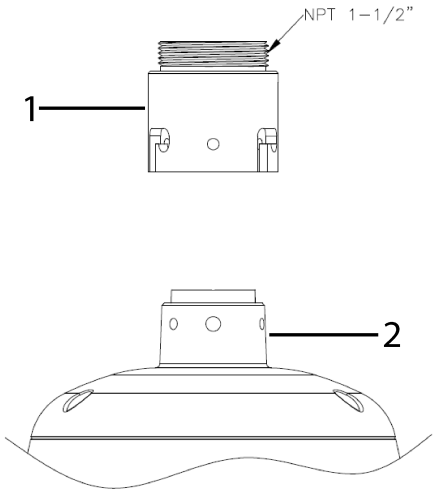
3 Secure the two screws located on the micro SD card cover.

- End -

Procedure 33 Installing the mount adaptor on to the NPT pendant cap

Step	Action
1	Place the mount adaptor (1) on to the NPT pendant cap (2) and align the holes on the mount adaptor with the holes on the NPT pendant cap.
2	Insert the five threaded screws into the five holes and use the Torx security L-Key to securely attach the scews and the mount adaptor to the NPT cap.

Figure 69 Installing the mount adaptor on to the NPT pendant cap



Note: To maintain the waterproof seal only pierce holes that are required for the installation

- End -

Network Topology

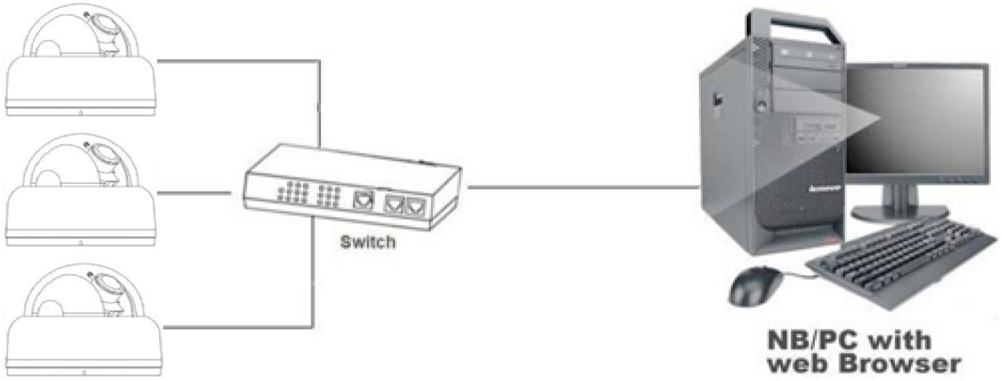
The Illustra Flex cameras deliver video images and audio in real-time using the internet and intranet. It is equipped with an Ethernet RJ-45 network interface.

The following images illustra the network topologies of the cameras.

Indoor and Outdoor Dome Camera Topology

Figure 70 Dome Cameras Network Topology Type I.

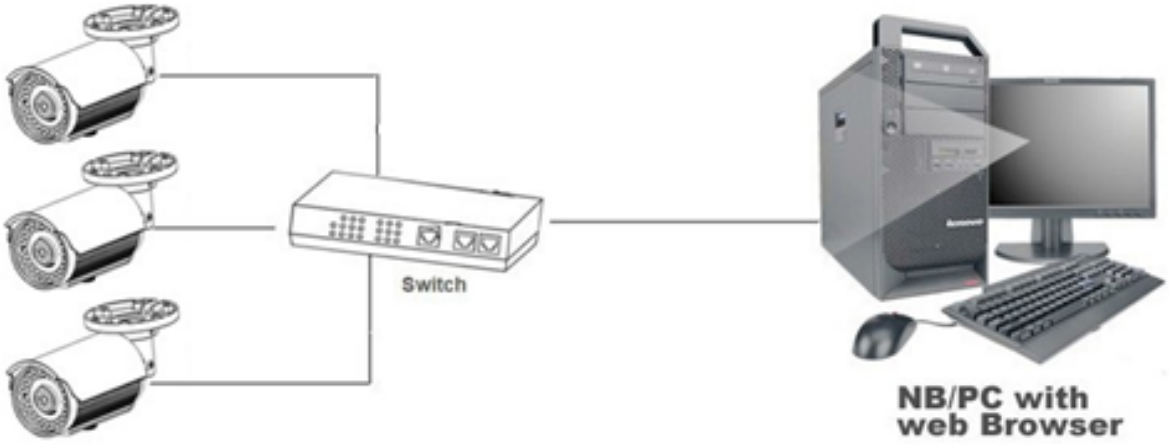
Figure 71 Dome Cameras Network Topology Type II



Bullet Camera Topology

Figure 72 Illustra Flex Bullet Camera Network Topology Type I

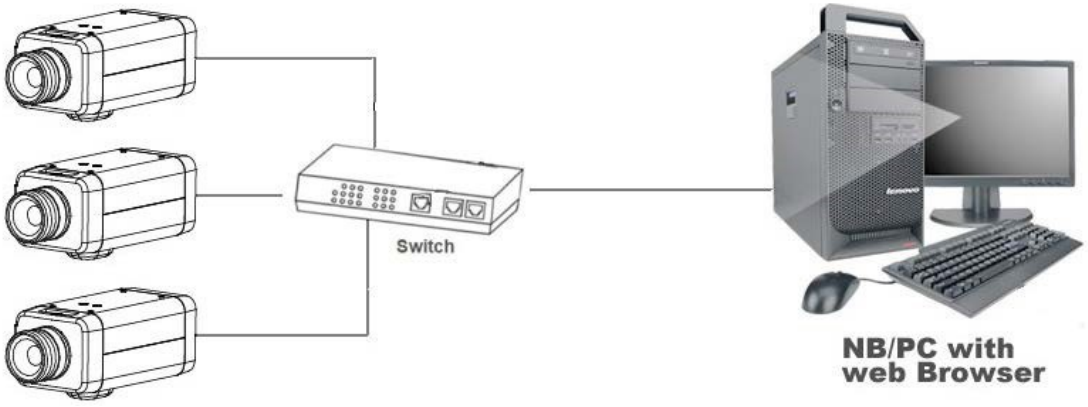
Figure 73 Illustra Flex Bullet Camera Network Topology Type II



Box Camera Topology

Figure 74 Illustra Flex Box Camera Network Topology Type I

Figure 75 Illustra Flex Box Camera Network Topology Type II



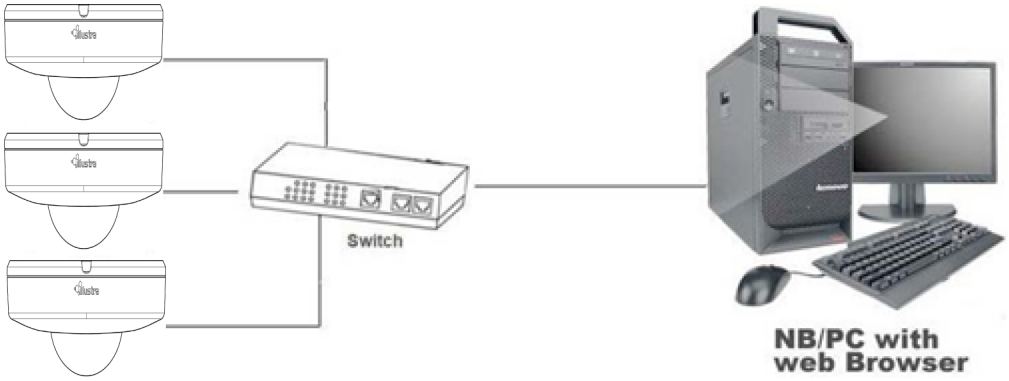
Compact Mini Dome Camera Topology

The Compact Mini Dome 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 76 Compact Mini Dome Cameras Network Topology Type I

Figure 77 Compact Mini Dome Cameras Network Topology Type II



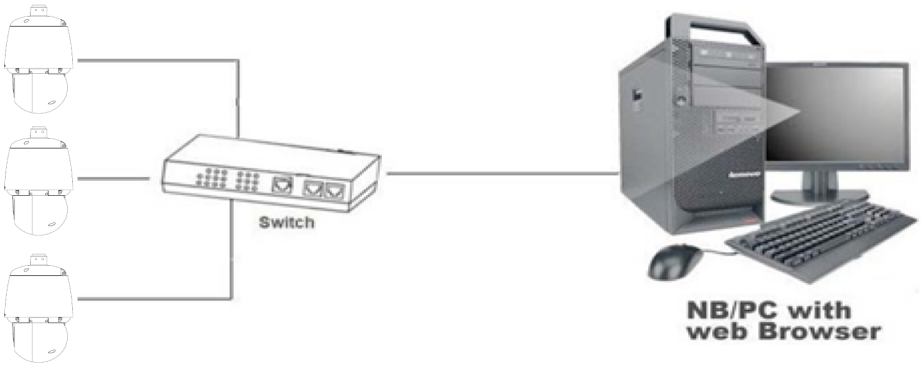
PTZ Camera Topology

The PTZ cameras deliver 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 78 Flex PTZ Cameras Network Topology Type I

Figure 79 Flex PTZ Cameras Network Topology Type II



Network Connection

Default IP Address

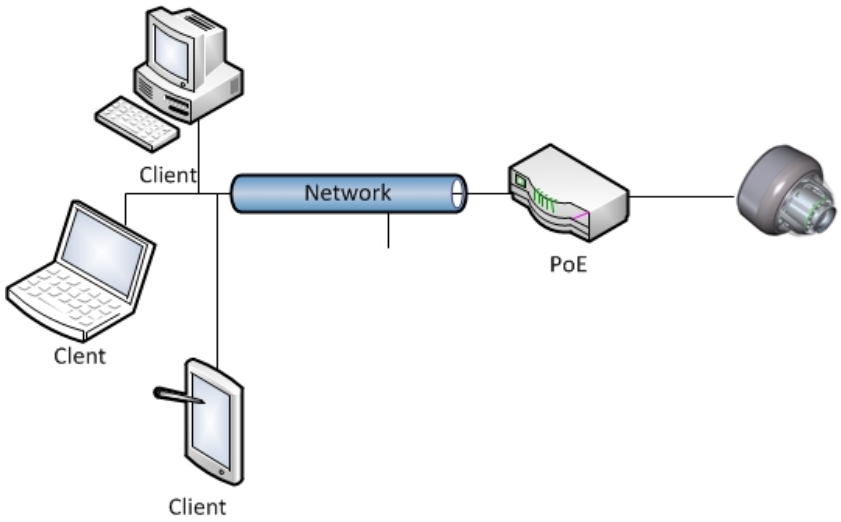
Since this is a network-based unit, an IP address must be assigned at the very first bootup. The default IP address of the unit is 192.168.1.168 and sub mask is 255.255.255.0.

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 80 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 34 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. 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 35 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 36 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

Refer to Configuration on page 69 for further information regarding using the Illustra Connect tool for configuring the cameras.

Procedure 37 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 38 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 39 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 40 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: • **Mirror** • **Flip**
5	The video pane updates to display the new settings.

- End -

Configuration

The following sections explain the how you can configure Illustra Flex cameras using the Web User Interface.

Security Mode Profiles for First Time Connection

The Illustra Flex cameras have features that allow for operation in a Standard Security mode or in an Enhanced Security mode.

The Enhanced Security mode of operation is used to control changes to the camera communication protocols HTTP, HTTPS, FTP, and SMTP. When the camera is in Enhanced Security mode, you require a complex seven character Administrator password to make changes to these protocols.

Refer to Summary of Security Modes on page 70 for further information regarding the differences between Standard and Enhanced Security modes.

Accessing the Illustra Flex Series Camera Web User Interface

Use the following procedure to access the camera Web User Interface.

Procedure 41 Logging in to the Camera

Step	Action
1	Refer to Network Connection on page 65 for details on how to connect the camera to your network or computer.
2	When you select the camera, the sign in page displays.
3	Select your preferred language from the drop-down menu. The default language is English.
4	Enter the default username and password when prompted - Username: admin, Password: admin.
5	Click **Log in**. The camera Web User Interface displays. The first time that you access the camera, or after a factory reset, you are prompted to **Define a Host ID** and **Select a Security Type**. • **Define a Host ID**: The admin user must enter a 6 character code for the Host ID that includes both letters and/or numbers. This unique password can be used to access the operating system files. The HostID is not stored on the camera for security reasons and must be presented to Illustra Technical Support when remote access to the operating system is required. • **Select a Security Type**: Standard Security or Enhanced Security.
6	If you select the Standard Security option, password change is mandatory.

Note: Password complexity is set to require a minimum of 5 characters, 'admin' cant be used.

7	If you select the Enhanced Security option, a default admin username and password change is mandatory.

Note: The password must meet the following requirements:
Be a minimum of eight characters long.

Have at least one character from each of the following character groups:
- Upper-case letters - ABCDEFGHIJKLMNOPQRSTUVWXYZ
- Lower-case letters - abcdefghijklmnopqrstuvwxyz
- Numeric characters - 0123456789
- Special characters - @ % + \ / ‘ ! # $ ^ ? : , ( ) { } [ ] ~ - _ `

Note: Once the above steps are complete, the Live view page is visible. This displays the current view of the camera.

- End -

Summary of Security Modes

Standard Security:

- A default admin password change is mandatory.
- Changes to communication protocols are available to all users with appropriate privileges.
- Passwords complexity is set to require minimum of any 5 characters, 'admin' cant be used.
- Authentication method is set to basic by default.

Enhanced Security:

- Unsecure Protocols are disabled by default until enabled by a user.
- When you select enhanced security you must change the default 'admin' username and password.
- Discovery protocols are disabled by default until enabled by a user.
- Changes in the protocols are only be available to a user with administrative privileges and require that user to reenter their password.
- Authentication method is set to Digest by default.
- HTTPS protocol is enabled by default.
- Passwords for all accounts will meet the following password complexity requirements:
    - Minimum characters: 8
    - The password cannot contain the username (case sensitive)
    - Have at least one character from each of the following character groups:
    - Upper-case letters - ABCDEFGHIJKLMNOPQRSTUVWXYZ
    - Lower-case letters - abcdefghijklmnopqrstuvwxyz
    - Numeric characters - 0123456789
    - Special characters - @ % + \ / ‘ ! # $ ^ ? : , ( ) { } [ ] ~ - _ `
    - Changing protocols require an administrator to re-enter their password
- Authentication method is set to Digest by default.

Changing the Camera Web User Interface Language

Use the following procedure to change the language used in the camera Web User Interface.

Procedure 42 Change the Camera Web User Interface Language

Step	Action
1	Open the camera sign in page. If you are already logged in to the Web User Interface, select Log Off to display the sign in page.
2	Select your preferred language from the drop-down menu: • English • Arabic • Czech • Danish • German • Spanish • French • Hungarian • Italian • Japanese • Korean • Dutch • Polish • Portuguese • Swedish • Turkish • Chinese Simplified • Chinese Traditional • Russian The default language is English.
3	Enter the Username.
4	Enter the Password.
5	Select Log in.

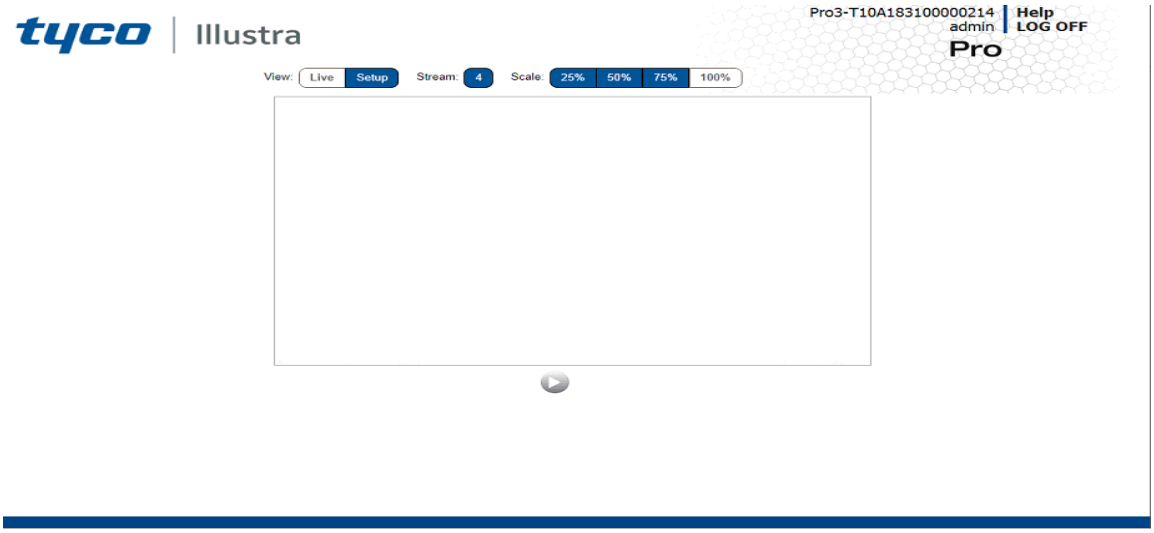
The camera web User Interface displays in the selected language.

- End -

Live menu

When you log in to the Illustra Web User Interface, the **Live** menu appears, as seen in Figure 81 on page 72.

Figure 81 Live menu page



Displaying the Live View Page

Display the live camera view page.

Procedure 43 Display Live View Page

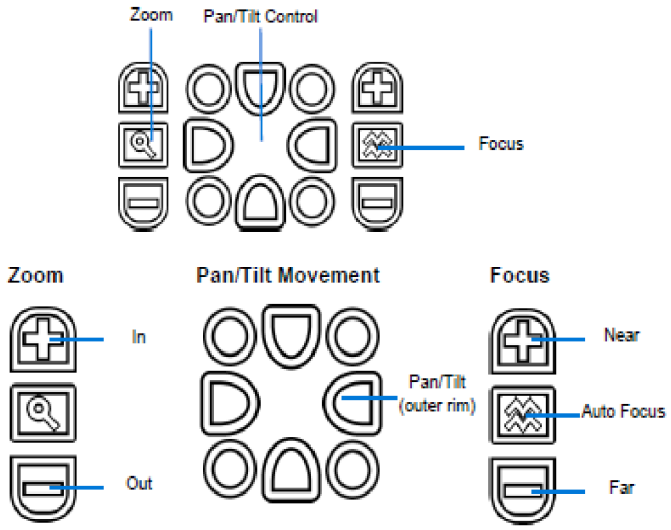
Step	Action
1	Select **Live** in the Web User Interface banner. The Live view page displays.
2	Select a video stream from **Stream** to view.
3	Select a percentage from **Scale** to change the display size of the video pane: • 25% • 50% • 75% • 100% The default setting is 50%.
	- End -

Controlling the PTZ camera using camera controls.

The PTZ camera can be controlled using the on-screen controls in the Live video pane.

GUI camera controls

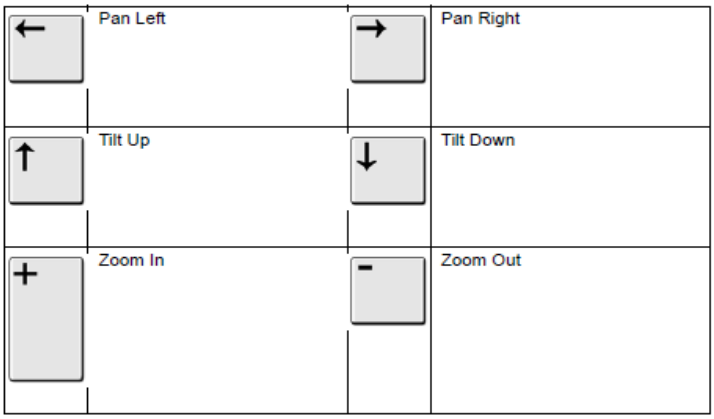
The following diagram provides information on the controls available for on-screen camera control. The camera control overlay is visible when video is displayed on the Live video pane.



Note: It is possible for two users to access live viewing at the same time. However, only one user may control the camera at any time. Camera control operates on a "last come, first served" basis. Therefore, when a new user logs into the camera from a different browser and starts a camera control session, the original user loses their camera control session.

Controlling the PTZ Camera with the keyboard shortcuts

You can use the following keyboard shortcuts to control the camera.



Controlling the PTZ camera with the camera controls

You can use the on-screen controls in the Live video pane to control the camera.

Procedure 44 Controlling the PTZ Camera through the Live video pane

Step	Action
1	Select to start the live web video. The live video pane displays the current camera view.
2	Select the camera control item on the overlay to activate the control. Refer to GUI Camera Controls for information on specific camera controls.

- End -

Controlling the Pan/Tilt Control through click and drag

You can use the mouse to control the camera, allowing slower camera movement and maximum accuracy.

Procedure 45 Controlling Pan/Tilt through click and drag using the Live video pane

Step	Action
1	Select to start the live web video. The live video pane displays the current camera view.
2	Move the cursor to the pan and tilt quick control icon in the center of the video pane control.
3	Click and drag the cursor to set the direction and speed of the camera. • A red arrow is visible showing the direction of camera movement.

- The camera's movement speed increases as the arrow is moved further from the cursor origin mark.

- End -

Zooming with the mouse scroll wheel

You can control the zoom function using a scroll wheel mouse.

Procedure 46 Zooming with the mouse scroll wheel using the Live Video Pane

Step	Action
1	Select  to start the live web video. The live video pane displays the current camera view.
2	Refer to Controlling the PTZ Camera with the Camera Controls or Controlling Pan/Tilt through click and drag using the Live video pane.
3	Scroll the mouse wheel upwards (zoom in) and downwards (zoom out).

- End -

Double-click to center using the mouse

Click on the live video pane to automatically center the camera display.

Procedure 47 Activate double-click to center

Step	Action
1	Select  to start the live web video. The live video pane will display the current camera view.
2	Using the mouse, double-click on the area of interest in the live video pane. The PTZ adjusts to display the area of interest in the center of the live video pane.
3	Repeat Step 2 to select a new area of interest.

- End -

PTZ to a Selected Area Using the Mouse

Draw a rectangle on the live video pane to have the camera PTZ adjust to the selected area of interest.

Procedure 48 Activate PTZ to a selected area using the mouse

Step	Action
1	Select  to start the live web video. The live video pane displays the current camera view.
2	Click and drag on the live video pane to highlight the area to display.

A red outline is visible identifying the selected area of interest.

3 Release the mouse button.

The PTZ adjusts to display the area of interest in the center of the live video pane.

4 Repeat Step 2 to select a new area of interest.

- End -

Accessing the Setup Menus from Live View

Setup menus within the Web User Interface are restricted by user account access levels. Refer to Appendix A: User Account Access on page 182 for details on the features which are available to each role.

Procedure 49 Access Setup Menus from Live View

Step	Action
1	On the **Live** menu, click the **Setup** tab.

Note: When an admin user logs in for the first time the Liven menu displays. After this, on each login the Stream page on the Video menu displays.

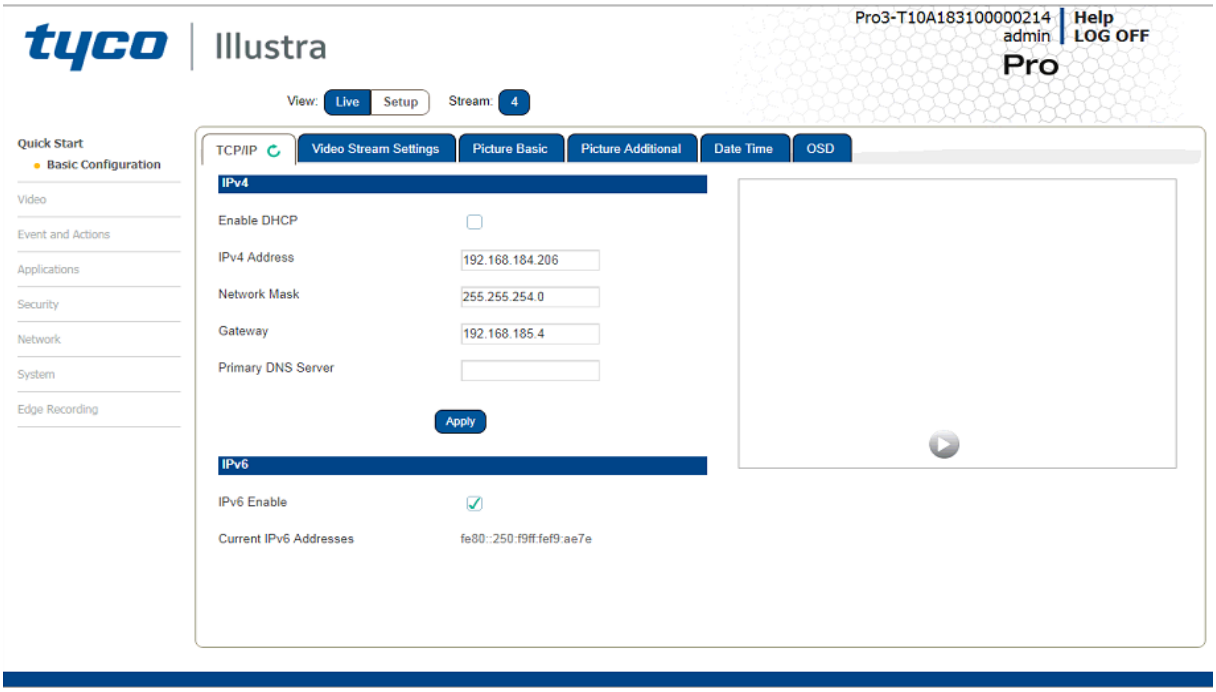
- End -

Quick Start Menu

When you select the Quick Start menu, the Basic Configuration Page displays, as shown in Figure 82 on page 77.

Note: When an admin user logs in for the first time the Basic Configuration page displays. After this, on each login the Video > Streams page displays.

Figure 82 Basic Configuration Menu



Basic Configuration

The **Basic Configuration** menu provides access to the most common features required when setting up a camera for the first time and is only available to an 'admin' user. The following tabs are displayed:

- TCP/IP
- Video Stream Settings
- Picture Basic
- Picture Additional
- Date Time
- OSD

TCP/IP

Configure the IPv4 and IPv6 network settings on the camera.

Note: When you perform a factory reset or reboot the unit searches for the last known IP address. If this is not available it reverts to the default IP address of 192.168.1.168. This could result in duplicate IP addresses. Refer to Quick Start Menu on page 77 for more information.

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 50 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 51 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 -

IPv4

Configure the IPv4 network settings for the camera.

Procedure 52 Configure the IPv4 Settings

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. OR Clear **Enable DHCP** 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 -

IPv6

Enable or disable IPv6 on the camera.

Procedure 53 Enable/Disable IPv6

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 **IPv6 Enable** check box to enable IPv6 on the camera. OR Clear the **IPv6 Enable** check box to disable IPv6 on the camera. The default setting is 'Enabled'. If IPv6 is enabled the Link Local and DHCP address display beside 'Current IPv6 Addresses' if available.

- End -

Video Stream Settings

You can configure three video streams on the camera: Stream 1, Stream 2, and Stream 3.

Configuring the Web Video Stream

Adjust the settings for each video stream.

Procedure 54 Configure the Video Stream settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Streams** tab in the **Basic Configuration** menu.
3	Select either **Stream 1**, **2** or **3** from the **Stream Number** drop-down menu.
4	Select the required **Codec** from the drop-down list: • **H264** • **H264 IntelliZip** • **H265** • **H265 IntelliZip** • **MJPEG** The default setting is 'H264'.

Note: When you select H264 or H264 IntelliZip you can set the Profile. If you do not select either of these options then contiune at step 6 below.

5	Select the required **Profile** from the drop-down list: • **Main** • **High** The default setting is 'Main'.
6	Select the required **Resolution** from the drop-down menu. The resolutions available depend on the Image Source selected:

Flex Gen 2 - 2MP, 3MP and Flex 8MP Streaming Combinations

Table 86 on page 84 provides information on the stream resolutions and FPS of the 2MP PTZ camera. Table 83 on page 81 and Table 84 on page 82 provides information for the stream resolutions and supported FPS of the Flex Gen 2 3MP cameras herein. Table 85 on page 83 provides information for the stream resolutions and supported FPS of the Flex 8MP cameras.

Table 83 3MP Camera 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 QXGA 4:3	H264/H264 IntelliZip H265/H265 IntelliZip	1-30	1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x480 SD 4:3	MJPEG	7-15	Yes (2x)
1920x1080 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	1024x576 PAL+ 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x360 nHD 16:9	MJPEG	7-15	Yes (2x)
1664x936 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x480 SD 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	480x360 480p 4:3	MJPEG	7-15	Yes (2x)
1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x360 nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	384x288 4:3	MJPEG	7-15	Yes (2x)
			480x360 480p 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30				Yes (2x)
			384x288 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30				Yes (2x)

Table 84 3MP Camera 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 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	640x480 SD 4:3	MJPEG	7-15	No
1664x936 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	1024x576 PAL+ 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	640x360 nHD 16:9	MJPEG	7-15	No
1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	640x480 SD 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	480x360 480p 4:3	MJPEG	7-15	No
			640x360 nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	384x288 4:3	MJPEG	7-15	No
			480x360 480p 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15				No
			384x288 4:3	H264/H264 IntelliZip H265/H265 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 85 Flex 8MP camera resolutions

Flex 8MP camera resolutions								
Stream 1	**Codec**	**FPS**	**Stream 2**	**Codec**	**FPS**	**Stream 3**	**Codec**	**FPS**
(3840x2160) 4K 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	(1280x720) 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15 or 1-30	(640x360) nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	7-15
(3264x1840) 16:9			(1024x576) 16:9			(480x360) 4:3		
(2592x1944) 4:3			(640x360) nHD 16:9			(384x288) 4:3		
(2688x1520) 16:9			(480x360) 4:3					
(2048x1536) QXGA 4:3			(384x288) 4:3					
(1920x1080) 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-60						
(1664x936) 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 that 30.

Note:Stream 2 automatically reconfigures to a maximum of 15 FPS if Stream 1 FPS is 31 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.

Table 86 2MP PTZ Camera Stream Resolutions

		TWDR Off	TWDR
Resolution	**Codec**	**FPS range**	**FPS range**
Stream 1			
(1920 x 1080) 1080p 16:9	H264/H264 IntelliZip H265/H265 Intellizip MJPEG	1-60	1-30
(1664 x 936) 16:9			
(1280 x 720) 720p 16:9			
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			
(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.

7 Use the slider bar to select the **Frame Rate (fps)**.

The settings for the 2mp and 3MP cameras are:

- **Stream 1 -** 1 - 60 fps, default 30. 60 fps is only available on Stream 1 with resolution 1920x1080 or lower.
- **Stream 2 -** 1 - 30 fps, default is 15 fps. This stream is limited to 15 fps if Stream 1 is 60 fps.
- **Stream 3** - 7 - 15 fps. Default is 15 fps.

The settings for 8MP cameras are:

- **Stream 1 -** 1 - 15 fps, or 1-60 fps depending on the resolution. Default is 15 fps. 60 fps is only available on Stream 1 with resolution 1920x1080 or lower.
- **Stream 2 -** 1 - 15 fps, or 1-30 fps depending on the resolution. The default is 15 fps. This stream is limited to 15 fps if stream1 is 60 fps.
- **Stream 3** 7 - 15 fps. The default is 15 fps.

Note:FPS varies depending on other features - refer to the Flex Gen 2 Release Notes for further information.

8 If MJPEG has been selected, MJPEG Quality is enabled. Use the slider bar to select the **MJPEG Quality**.

The default setting is 50.

OR

9 If H264 has been selected in step 4, Rate Control is enabled. Select the required **Rate Control** by selecting the radio buttons:

- **VBR (Variable Bit Rate)**
- **CBR (Constant Bit Rate)**
- **CVBR (Constrained Variable Bit Rate)**

The default setting is 'CVBR'.

a If you select VBR, VBR Quality is enabled. Select the required **VBR Quality** from the drop-down menu. The default setting is High.

- **Highest**
- **High**
- **Medium**
- **Low**
- **Lowest**

OR

b If you select CBR , CBR Bit Rate is enabled. Use the slider bar to select the **CBR Bit Rate**. The default setting is 1000.

OR

c If you select CVBR, Max Bit Rate is enabled. Use the slider bar to select the **Max Bit Rate**. The default setting is 8000.

Picture Basic

Adjust Picture Rotation, Focus / Zoom and Exposure displayed in the video pane.

Note: Please refer to the "PTZ Picture Basic settings" section if using the PTZ camera.

Picture Rotation

Configure the orientation and corridor mode settings. Both settings are optional.

Procedure 55 Configure Orientation Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select the required **Orientation** setting: • **Mirror** • **Flip** Mirror and Flip settings are not selected by default. The video pane updates to display the new settings. **Note:**When wall mounting the camera you should select Flip and Mirror to correct the lens orientation. **Note:**This setting is not supported on the PTZ cameras.

- End -

Focus / Zoom

You can configure the focus and zoom using the Web User Interface. You can use the plus and minus arrows to fine tune the image. The Zoom slider bar is used to manually zoom in and out to manually configure to picture. The table below describes the features supported by each camera.

Table 87 Lens features supported for the Indoor and Outdoor Dome, Bullet, Box and PTZ cameras

	Indoor Dome	Outdoor Dome	Bullet	Box	PTZ
Mechanical Focus				X	
Motorized Focus	X	X	X		X
Mechanical Zoom					
Motorized Zoom	X	X	X		X
Lens Calibration	X	X	X		
Lens Selection				X	
Auto One Touch	X	X	X	X **NOTE**: Auto back focus	
Configurable Continu-ous Auto-Focus					

Note: None of the options in Table 99 apply to the Compact Mini Dome.

Procedure 56 Adjust Camera Focus / Zoom

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Use the plus and minus arrows to manually configure the focus and the slider bar to adjust zoom settings until the image is clear. The video pane updates to display the new settings.

- End -

Procedure 57 Adjust Camera Focus using OneTouch Autofocus

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	In the **Focus/Zoom** section, click the **One Touch** button.The camera refocuses to the zoom level selected for the image. The video pane updates to display the new settings.

- End -

PTZ Picture Basic settings

The procedures and information in this section are applicable to the IR PTZ camera only.

Picture Basic

Configure the Auto Focus, Exposure, and Wide Dynamic Range (WDR) settings on the camera.

When Auto Focus is enabled, the camera automatically compensates for scene changes that affect focal length (focus) and light levels (iris).

Setting Exposure

Configure the exposure settings for the camera. Automatic Gain Control (AGC) and Open Shutter provide additional functionality to help compensate for low-light scenes.

Automatic Gain Control (AGC)

AGC amplifies the video signal in scenes when there is not enough light to produce full video levels. The maximum level of AGC is controlled by the Max Gain control. It is adjustable from 0dB (off) to 37dB. As gain is increased, the sensor noise is also amplified, which can result in more noticeable noise in the image.

Open Shutter

This is a technique that is used for really low light performance applications. It allows the shutter speed to be slowed down further than normal to allow the sensor to collect more light. The maximum level of Open Shutter is controlled by the Shutter Speed control. It is adjustable from 1/30 down to ½

second. The slower the Shutter Speed, the higher the chance for image blur which may affect moving object identification. It is only in effect during low-light situations where an image would not be obtainable otherwise and does not affect the camera performance in normal orbright light situations.

Max Gain

The Max Gain setting is an upper limit for how much gain can be increased when AGC is enabled. The trade-off between picture level (brightness) and noise may be adjusted by setting the Max Gain value. Lower values for Max Gain setting may result in a darker picture, but with less noise. Higher values for Max Gain setting may result in a brighter picture, but with more noise.

Procedure 58 Configure Exposure Settings

Step	Action
1	Select **Setup** on the GUI banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select to  start the video stream if it is not already active.
4	Select a **AGC/Shutter Setting** from the drop-down menu. • **AGC off** - produces the cleanest image with the least noise but the worst low-light performance. • **AGC on** - good low-light performance with the chance for some noise. • **openshutter** - best for low-light performance. However, there is a chance for some noise and some image blur. The default setting is ‘open shutter’.

Note: If you require “Real Time”video, open shutter must be turned off to ensure that the resulting video quality is acceptable for prosecution purposes.

5	If open shutter has been selected in Step 4, Max Exposure will be enabled. Select **Max Exposure (sec)** from the drop-down menu: • **1/2** • **1/4** • **1/8** • **1/15** • **1/30**
6	If AGC on or open shutter has been selected in Step 4, Max Gain Exposure will be enabled. Use the slider bar to select the **Max Gain (dB):** The settings are 0-37. The video pane will update to display the new settings.

- End -

Exposure

Configure the exposure settings for the camera.

Procedure 59 Configure Exposure Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select the **Exposure Mode** from the drop-down menu: • **P-Iris** • **Manual** • **Shutter Priority** • **Iris Priority**

Note: Settings available depend on the Exposure Mode configuration you choose. **P-Iris** and **Iris Priority** are not applicable to the PTZ camera.

5	Select the **Exposure Method** from the drop-down menu: • **Full Picture Weighted** • **Upper** • **Lower** • **Center Weighted** • **Spot** • **Left** • **Right** The default setting is center weighted.
6	Select the **Min Exposure** from the drop-down menu. The default setting is 1/10000s. **Note:**Min Exposure is not applicable to the PTZ camera.
7	Select the **Max Exposure** from the drop-down menu. The default setting is 1/8s. **Note:**Max Exposure is not applicable to the PTZ camera.
8	Select the **Exposure (sec)** from the drop-down menu. The default setting is 1/8s. **Note:**Exposure (sec) is only applicable to the PTZ camera.
9	Select the **Exposure Offset (F-Stops)** from the drop-down menu. The default setting is 0.
10	Select the **Max Gain** (or **Manual Gain** if configuring the PTZ camera) from the drop-down menu. The default setting is 51db.
11	Select the **Iris Level** from the drop-down menu. The default setting is 1.

Note: The Iris Level differs depending on the camera.

Note: **P-Iris** is not applicable to the PTZ camera.

12 Select the **Frequency** radio button for either **50Hz** or **60Hz**.
The default setting is 60Hz.

13 Select or clear the check box for **Flickerless Mode**.
This feature is not selected by default.

- When you select **Flickerless Mode**, the minimum and maximum exposure times are locked to 1/100 and 1/50 respectively (PAL) or 1/120 and 1/60 respectively (NTSC). This applies to all cameras referenced in this guide.

- End -

Procedure 60 Restore Exposure Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select **Exposure Defaults** to restore the default settings.

- End -

Setting Auto Focus

Enable or disable auto focus. **Continuous Auto Focus** is a PTZ camera feature that the user can use to control the camera auto-focusing on a static field of view. When auto-focus is on the camera focuses on the moving object.

Note: Continuous Auto Focus is applicable to the PTZ camera.

Procedure 61 Enable/Disable Auto Focus

Step	Action
1	Select **Setup** on the GUI banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select the **Auto Focus** check box to enable auto focus. OR Deselect the **Auto Focus** check box to disable auto focus. The default setting is 'Enabled'.

- End -

Picture Additional

Configure Wide Dynamic Range, Day Night Mode, and Picture Adjustments including Brightness, Contrast, White Balance, Saturation and Sharpness which displays in the video pane.

Wide Dynamic Range

Wide Dynamic Range (WDR) is a feature that supports the viewing of high contrast scenes that include both bright and low light areas in the same field of view (FOV).

WDR Level allows you to adjust the WDR level to favor a underexposed or overexposed image. By selecting the lower end of the control, the image is underexposed which provides more detail in areas of bright but less details in areas of darkness. Selecting the higher end of the control, the image is overexposed which provides more detail in the dark areas but less details in the bright areas.

A typical use for this feature would be viewing a scene with both indoor and outdoor lighting conditions simultaneously, for example, in a warehouse area with an open bay door.

Procedure 62 Disable/Enable Wide Dynamic Range (WDR)

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select the required WDR from the drop-down list: • **WDR:** Digital wide dynamic range, enhancing detail in darker areas • **True WDR**: Two shutter wide dynamic range, to compensate for bright and dark areas in the scene. • **True WDR3x:** Three shutter wide dynamic range, to compensate for bright and dark areas in the scene.

Note: TrueWDR3x does not apply to 8MP models.

Note:WDR and TrueWDR3x does not apply to the 2MP PTZ model.

The default setting is OFF.

4 Select the **WDR level** from the drop-down list:

- **Off**
- **Low**
- **Medium**
- **High**

- End -

Day Night Mode

IR/DayNight Mode utilizes a series of specific camera functions to dramatically enhance low light performance.

When needed, the True TDN mechanism removes an IR Cut Filter (IRCF) from in front of the images allowing the camera to see in black and white (BW) and utilize additional near-infrared energy found in many lighting sources like halogen, moonlight, etc.

This, along with slowing down another function, the shutter speed, significantly improves low light performance rendering clear images where none could be viewed previously.

IR Illuminator

When the camera is in B/W mode it can utilize or see near-IR illumination; something the human eye cannot do. This can be extremely powerful when the dome is paired with 850~950nm IR illuminators. With this combination a scene can be well lit with IR light that the dome can see but people cannot. This is great for areas where externally lighting is not allowed or there is a need for covert security.

Procedure 63 Enable / Disable IR Illuminator

This feature is not supported on the Indoor Dome or Box camera. Refer to product codes for feature support.

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select the **Enable IR Illuminator** check box to enable IR Illuminator. OR Clear the **Enable IR Illuminator**check box to disable **IR Illuminator**. The default setting is 'Enabled'.

- End -

Day Night Mode

The dome provides a black-and-white (B/W) mode to improve camera performance when the light level falls below certain thresholds. This allows clear images to be obtained under low-light conditions.

Procedure 64 Configure Day Night Mode

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select a **Day Night Mode** setting from the drop-down menu: • **Forced Color** - enable full-time color mode. • **Forced B&W** - enable full-time black and white mode. • **Auto Low**- camera will adjust between BW and Color depending on light levels. • **Auto Mid** - camera give a good balance of Color and BW depending on the scene. • **Auto High** - increases the chance of switching to BW mode as light levels drop. • **Manual** - a slider bar will display, the user can adjust the setting to suit the environment. The default setting is 'Auto Mid'.

- End -

Picture Adjustment

Adjust brightness, contrast and saturation of the image displayed on the video pane.

Procedure 65 Adjust the Brightness, Contrast and Saturation

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Use the slider bars to adjust: • **Brightness** • **Contrast** • **Saturation** • **Sharpness** • **Hue** The values range from 1% to 100%. The video pane updates to display the new settings. **Note:Brightness** and **Hue** are not supported by the PTZ camera.

- End -

Procedure 66 Restore Picture Balance Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select **Defaults** to restore the default settings. The default values are: • **Brightness:** 50% • **Contrast:** 50% • **Saturation:** 50% • **Sharpness:** 50% • **Hue:** 50%

- End -

White Balance

White balance, the ability to keep whites looking white, is normally compensated for automatically using the default Auto White Balance setting.

Manual White Balance is available when specific color temperature settings want to be set and preserved. This can be done using the red and blue slider adjustments set for optimal viewing.

Procedure 67 Configure Auto White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view.
4	Select the required **White Balance** from the drop-down menu: • **Auto Wide:** Suitable for a wider than normal range of lighting conditions **Note:**Auto Wide is not applicable to the PTZ camera. • **Auto Normal (or Auto if the PTZ camera is selected):** Suitable for a normal range of lighting conditions • **Manual:** Adjustable red and blue balance • **Indoor:**Suitable for indoor lighting conditions. • **Outdoor:**Suitable for outdoor lighting conditions. **Note:**Indoor and Outdoor are only applicable to the PTZ camera. The default setting is ‘Auto Normal’ or 'Auto' when the PTZ camera is selected.

- End -

Procedure 68 Manually Select White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view.
4	Select **Manual** from the White Balance drop-down menu. The Red and Blue slider bars display.
5	Use the slider bars to adjust the **Red** and **Blue** balance. The live video pane updates to display the new settings. The red and blue values range from 1% to 100%. If you change the configuration to **Manual**, the slider bar reads the real-time setting of the FOV.

- End -

Lens Calibration

Use the lens calibration process to recover focus and zoom after motor stalling has occurred. Motor step stalling is rare, but it can occur during shipping or through mishandling of the camera. If the One Touch focus at Wide or Tele is not working through the zoom range, the camera requires lens calibration. The lens calibration tool uses infinity focus curves to align the camera lens and correct problems focusing at Wide or Tele.

Lens calibration is automatic and you can run it from the **Lens Calibration** tab.

This feature applies only to the Illustra Flex 3MP Indoor Dome, Outdoor Dome, and Bullet cameras.

Procedure 69 Run a Lens Calibration

Step	Action
1	Select **Setup** on the Web Interface Banner to display the setup menus.
2	Select **Picture Settings** from the **Video** menu.
3	Select the **Lens Calibration** tab.
4	Select **Start Calibration** and wait for the camera lens initialization to complete.
5	To confirm the success of the lens calibration, select the **Picture Basic** tab from the **Picture Settings** menu and verify that the image is in focus through the zoom range. Use the **OneTouch** button to automatically focus the area.

- End -

Lens Selection

You can select the lens on the Illustra Flex Box camera. The lens models supported appear on the **Lens Selection** tab of the **Video** menu.

Procedure 70 Perform a Lens Selection

Step	Action
1	Select **Setup** on the Web Interface Banner to display the setup menus.
2	Select **Picture Settings** from the **Video** menu.
3	Select the **Lens Selection** tab.
4	In the **Lens Model** field, use the drop-down list to select the lens you installed.
5	When you change lenses, you are prompted to reboot the camera. All active sessions will be lost. Select **OK** to proceed with reboot.

- End -

Date / Time / OSD

Change the camera name, date and time and enable OSD.

Camera Name

The camera name displays on the Web User Interface banner and the on-screen display for the camera. This name also displays when using Illustra Connect or ONVIF.

Procedure 71 Changing the on screen camera text size

1 Select **Setup** on the Web User Interface banner to display the setup menus.

2 Select the **OSD** tab in the **Basic Configuration** menu.

3 In the **Text Size** section, select **Normal** to display the text in a normal size.

OR

In the **Text Size** section, select **Large** to display the text in a larger size.

The default setting is 'Normal'.

- End -

Procedure 72 Change the Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Enter the name of the camera in the **Camera Friendly Name** text box.

- End -

Date / Time

Set the date and time on the camera.

Procedure 73 Configuring the Date and Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** from the **Basic Configuration** menu.
3	Select the **Time 24-hour** check box to enable the 24-hour clock. Or Deselect the **Time 24-hour** check box to enable the 12-hour clock. The default setting is '24-hour'.
4	Select the **Date Display Format** from the drop-down menu: • **DD/MM/YYYY** • **MM/DD/YYYY** • **YYYY/MM/DD** The default setting is 'YYYY/MM/DD'.
5	Select the **Time Zone** from the drop-down menu. The default setting is '(GMT-05:00) Eastern Time (US & Canada)
6	Select the **Set Time** setting by selecting the radio buttons: • **Manually** • **via NTP** The default setting is 'Manually'.

7 If you select Manually in step 5:

a Select the Date **(DD/MM/YYYY)** using the drop-down menus.

b Select the Time **(HH:MM:SS)** using the drop-down menus.

8 If you select via NTP in step 5:

a Enter the **NTP Server Name** in the text box.

- End -

On-Screen Display (OSD)

Within OSD you can set enable or disable camera name and time display.

Procedure 74 Display or Hide the Camera Name OSD

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **OSD** tab in the **Basic Configuration** menu.
3	In the **Camera Name** section, select the **Enable** check box to display the camera name in the OSD. OR In the **Camera Name** section, clear the **Enable** check box to hide the camera name in the OSD. The default setting is 'Disabled'.

- End -

Procedure 75 Display or Hide the Camera Time OSD

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **OSD** tab in the **Basic Configuration** menu.
3	In the **Date Time** section, select the **Enable** check box to display the camera name in the OSD. OR In the **Date Time** section, clear the **Enable** check box to hide the camera name in the OSD. The default setting is 'Disabled'.

- End -

Procedure 76 Display or Hide the User Defined OSD

Step	Action
1	Select Setup on the Web User Interface banner to display the setup menus.
2	Select the **OSD** tab in the **Basic Configuration** menu.
3	In the **User Defined** section, select the **Enable** check box to display the camera name in the OSD. OR

In the **User Defined** section, clear the **Enable** check box to hide the camera name in the OSD.

The default setting is 'Disabled'.

4 Select a **Location** from the drop-down menu.

5 Enter a name in the **Name** field.

The OSD User Defined fields must comply with the following validation criteria:

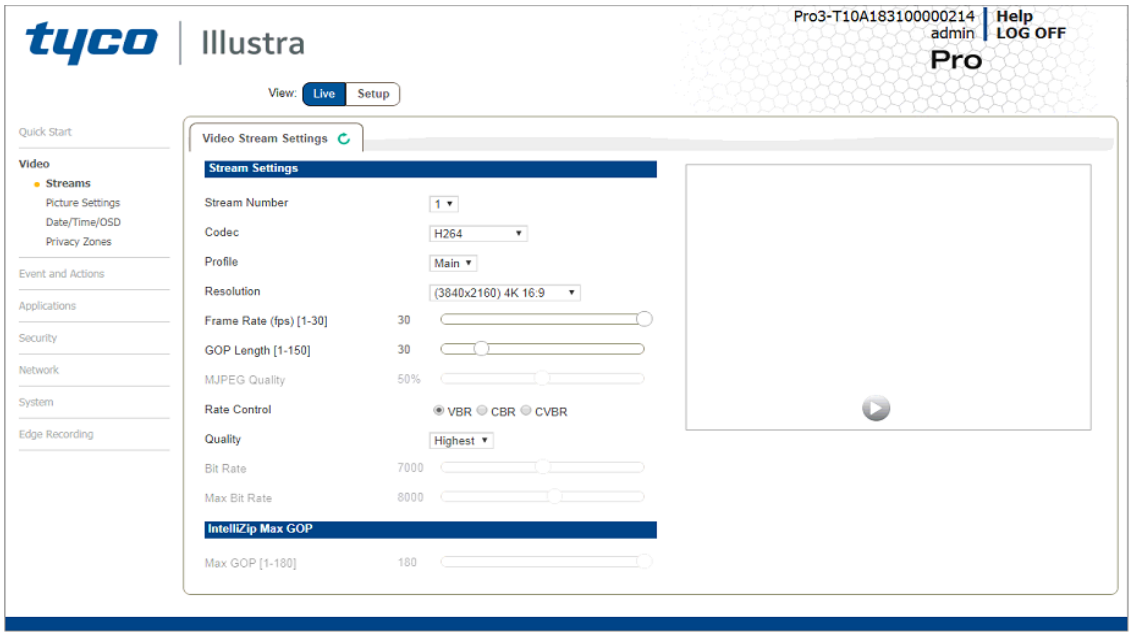
- 0 - 24 characters
- Cannot begin or end with:
  - . (dot)
  - - (hyphen)
  - _ (underscore)
  - \ (backslash)
  - " (quotes)

- End -

Video Menu

When you select the **Video** menu, the **Streams** page displays, as seen in Figure 88 on page 99.

Figure 88 Video Menu



The **Video** Menu provides access to the following camera settings and functions:

- Streams
- Picture Settings
- Date / Time / OSD
- Privacy Zones

Streams

You can configure up to three independent video streams on the camera: Stream 1, Stream 2 and Stream 3.

Video displaying on the video pane reflects the settings configured in the stream selected from the drop-down menu, either Stream 1 or Stream 2 or Stream 3.

Note: The Web User Interface uses Stream 3.

Alarm Video

Edge Recording

Camera can directly record specific events (MD, DIO and Face detection) directly to Micro SD card. User can chose either Stream 1, 2 or 3 to be recorded. When setting up motion detection on the camera, both streams can be used. Alarm Video is configured in the Edge Recording > Record Settings menu.

Integration with other Illustra API Clients

You can configure the 3 video streams through the Web User Interface, as detailed here, or through the Illustra API interface. Changes made to the streams through either method are applied and the video displays according to the configuration.

Opening the Web User Interface live video allows the stream to be shared with the Illustra API and will minimize the impact on camera resources.

Configuring the Video Stream

Adjust the settings for each video stream.

Procedure 77 Configure the Video Stream settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Streams** tab in the **Video** menu.
3	Select **Stream1**, **2** or **3**,from the **Stream Number** drop-down menu.
4	Select the required **Codec** from the drop-down list: • **H264** • **H264 IntelliZip** • **H265** • **H265 IntelliZip** • **MJPEG** The default setting is 'H264'.

Note: When you select H264 or H264 IntelliZip you can set the Profile. If you do not select either of these options then contiune at step 6 below.

5	Select the required **Profile** from the drop-down list: • **Main** • **High** The default setting is 'Main'.
6	Select the required **Resolution** from the drop-down menu. The resolutions available depend on the model selected:

Flex Gen 2 - 2MP, 3MP and Flex 8MP Streaming Combinations

Table 92 on page 104 provides information on the stream resolutions and FPS of the 2MP PTZ cameras. Table 89 on page 101 and Table 90 on page 102 provide information for the stream resolutions and supported FPS of the Flex Gen 2 3MP cameras herein. Table 91 on page 103 provides information for the stream resolutions and supported FPS of the Flex 8MP cameras.

Table 89 3MP Camera 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 QXGA 4:3	H264/H264 IntelliZip H265/H265 IntelliZip	1-30	1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x480 SD 4:3	MJPEG	7-15	Yes (2x)
1920x1080 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	1024x576 PAL+ 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x360 nHD 16:9	MJPEG	7-15	Yes (2x)
1664x936 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x480 SD 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	480x360 480p 4:3	MJPEG	7-15	Yes (2x)
1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	640x360 nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30	384x288 4:3	MJPEG	7-15	Yes (2x)
			480x360 480p 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30				Yes (2x)
			384x288 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-30				Yes (2x)

Table 90 3MP Camera 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 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	640x480 SD 4:3	MJPEG	7-15	No
1664x936 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	1024x576 PAL+ 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	640x360 nHD 16:9	MJPEG	7-15	No
1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	640x480 SD 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	480x360 480p 4:3	MJPEG	7-15	No
			640x360 nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	384x288 4:3	MJPEG	7-15	No
			480x360 480p 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15				No
			384x288 4:3	H264/H264 IntelliZip H265/H265 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 91 Flex 8MP Camera resolutions

Flex 8MP camera resolutions								
Stream 1	**Codec**	**FPS**	**Stream 2**	**Codec**	**FPS**	**Stream 3**	**Codec**	**FPS**
(3840x2160) 4K 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	(1280x720) 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15 or 1-30	(640x360) nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	7-15
(3264x1840) 16:9			(1024x576) 16:9			(480x360) 4:3		
(2592x1944) 4:3			(640x360) nHD 16:9			(384x288) 4:3		
(2688x1520) 16:9			(480x360) 4:3					
(2048x1536) QXGA 4:3			(384x288) 4:3					
(1920x1080) 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-60						
(1664x936) 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 that 30.

Note:Stream 2 automatically reconfigures to a maximum of 15 FPS if Stream 1 FPS is 31 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.

Table 92 2MP PTZ Camera Stream Resolutions

		TWDR Off	TWDR
Resolution	**Codec**	**FPS range**	**FPS range**
Stream 1			
(1920 x 1080) 1080p 16:9	H264/H264 IntelliZip H265/H265 Intellizip MJPEG	1-60	1-30
(1664 x 936) 16:9			
(1280 x 720) 720p 16:9			
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			
(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.

7 Use the slider bar to select the **Frame Rate (fps).**

The settings for 3MP cameras are:

- **Stream 1 -** 1 - 60 fps, default 30. 60 fps is only available on Stream 1 with resolution 1920x1080 or lower.
- **Stream 2 -** 1 - 30 fps, default is 15 fps. This stream is limited to 15 fps if Stream 1 is 60 fps.
- **Stream 3** - 7 - 15 fps. Default is 15 fps.

The settings for 8MP cameras are:

- **Stream 1 -** 1 - 15 fps, or 1-60 fps depending on the resolution. Default is 15 fps. 60 fps is only available on Stream 1 with resolution 1920x1080 or lower.
- **Stream 2 -** 1 - 15 fps, or 1-30 fps depending on the resolution. The default is 15 fps. This stream is limited to 15 fps if stream1 is 60 fps.
- **Stream 3** 7 - 15 fps. The default is 15 fps.

Note:FPS varies depending on other features - refer to the Flex Gen 2 Release Notes for further information.

8 If MJPEG has been selected, MJPEG Quality enables. Use the slider bar to select the **MJPEG Quality**.

The default setting is 50.

OR

9 If H264 has been selected in step 4, Rate Control will be enabled. Select the required **Rate Control** by selecting the radio buttons:

- **VBR (Variable Bit Rate)**
- **CBR (Constant Bit Rate)**
- **CVBR (Constrained Variable Bit Rate)**

The default setting is 'CVBR'.

a If VBR has been selected, VBR Quality is enabled. Select the required **VBR Quality** from the drop-down menu. The default setting is 'High'.

- **Highest**
- **High**
- **Medium**
- **Low**
- **Lowest**

OR

b If CBR has been selected, CBR Bit Rate will be enabled. Use the slider bar to select the **CBR Bit Rate**. The default setting is 1000.

OR

c If you select CVBR, Max Bit Rate is enabled. Use the slider bar to select the **Max Bit Rate**. The default setting is 8000.

- End -

Procedure 78 Configuring IntelliZip Max GOP

This feature only applies to H264+ IntelliZip or H265+ IntelliZip coded.

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Streams** tab in the **Video** menu.
3	Use the slider bar to select the **Max GOP** range. Range available is 1-180.

- End -

Picture Settings

Picture Basic

Adjust the Picture Rotation, Focus / Zoom, Exposure and White Balance settings.

Picture Rotation

Configure the orientation and corridor mode settings. Both settings are optional.

Procedure 79 Configure Orientation Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Video** menu.
3	Select the required **Orientation** setting: • **Mirror** • **Flip** Mirror and Flip settings are not selected by default. The video pane updates to display the new settings. **Note:**When wall mounting the camera you should select Flip to correct the lens orientation.

- End -

Focus/Zoom

The Focus is manually configured on initial setup. The **One Touch** button can be used to automatically focus the area of view. The plus and minus arrows are used to manually fine tune the image. The Zoom slider bar is used to manually zoom in and out to manually configure to picture. The table below describes the features supported by each camera.

Table 93 Lens features supported for the Indoor and Outdoor Dome, Bullet, Box and PTZ cameras

	Indoor Dome	Outdoor Dome	Bullet	Box	PTZ
Mechanical Focus				X	
Motorized Focus	X	X	X		X
Mechanical Zoom					
Motorized Zoom	X	X	X		X
Lens Calibration	X	X	X		
Lens Selection				X	
Auto One Touch	X	X	X	X **NOTE**: Auto back focus	
Configurable Continu-ous Auto-Focus					X

Procedure 80 Adjust Camera Focus / Zoom

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Use the plus and minus arrows to manually configure the focus and the slider bar to adjust zoom settings until the image in clear. The video pane updates to display the new settings.

- End -

Procedure 81 Adjust Camera Focus using OneTouch Autofocus

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select the **One Touch** button. The camera refocuses to the zoom level selected for the image. The video pane updates to display the new settings.

Exposure

Configure the exposure settings for the camera.

Procedure 82 Configure Exposure Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select the **Exposure Mode** from the drop-down menu: • **P-Iris** • **Manual** • **Shutter Priority** • **Iris Priority**
5	Select the **Exposure Method** from the drop-down menu: • **Full Picture Weighted** • **Upper** • **Lower** • **Center Weighted** • **Spot** • **Left** • **Right** The default setting is Center Weighted.
6	Select the **Min Exposure** from the drop-down menu. The default setting is 1/10000s.
7	Select the **Max Exposure** from the drop-down menu. The default setting is 1/8s.
8	Select the **Exposure Offset (F-Stops)** from the drop-down menu. The default setting is 0.
9	Select the **Max Gain** from the drop-down menu. The default settingis 51db.
10	Select the **Iris Level** from the drop-down menu. The default setting is 1. **Note:**The Iris Level differs depending on the camera.
11	Select the **Frequency** radio button for either **50Hz** or **60Hz**. The default setting is 60Hz.
12	Select or clear the check box for **Flickerless Mode**. This feature is not selected by default. • When you select **Flickerless Mode**, the minimum and maximum exposure times are locked to 1/100 and 1/50 respectively (PAL) or 1/120 and 1/60 respectively (NTSC). This applies to all cameras referenced in this guide.

- End -

Procedure 83 Restore Exposure Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select **Exposure Defaults** to restore the default settings.

- End -

Picture Additional

Configure Wide Dynamic Range, Day Night Mode, Flicker Control and Picture Adjustments including Brightness, Contrast, White Balance, Saturation and Sharpness displayed in the video pane.

Wide Dynamic Range

Wide Dynamic Range (WDR) is a feature that allows viewing of high contrast scenes that include both bright and low light areas in the same field of view (FOV).

WDR Level allows you to adjust the WDR level to favor an underexposed or overexposed image. By selecting the lower end of the control, the image is underexposed which provides more detail in areas of bright but less details in areas of darkness. Selecting the higher end of the control, the image is overexposed which provides more detail in the dark areas but less details in the bright areas.

A typical use for this feature would be viewing a scene with both indoor and outdoor lighting conditions simultaneously, for example, in a warehouse area with an open bay door.

Procedure 84 Disable/Enable Wide Dynamic Range (WDR)

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Picture Settings** menu.
3	Select the required WDR from the drop-down list: • **WDR**: Digital wide dynamic range, enhancing detail in darker areas • **True WDR**: Two shutter wide dynamic range, to compensate for bright and dark areas in the scene. • **True WDR3x**: Three shutter wide dynamic range, to compensate for bright and dark areas in the scene.

Note: TrueWDR3x does not apply to the 8MP models.

Note: WDR and True WDR3x does not apply to the 2MP PTZ model.

The default setting is OFF.

4 Use the required **WDR Level** from the drop-down list:

- **Off**
- **Low**
- **Medium**

- **High**

- End -

Day Night Mode

IR/DayNight Mode utilizes a series of specific camera functions to dramatically enhance low light performance.

When needed, the True TDN mechanism removes an IR Cut Filter (IRCF) from in front of the images allowing the camera to see in black and white (BW) and utilize additional near-infrared energy found in many lighting sources like halogen, moonlight, etc.

This, along with slowing down another function, the shutter speed, significantly improves low light performance rendering clear images where none could be viewed previously.

IR Illuminator

When the camera is in B/W mode it can utilize or “see” near-IR illumination; something the human eye cannot do. This can be extremely powerful when the dome is paired with 850~950nm IR illuminators. With this combination a scene can be well lit with IR light that the dome can see but people cannot. This is great for areas where externally lighting is not allowed or there is a need for covert security.

Procedure 85 Enable / Disable IR Illuminator

The Indoor Dome or Box camera does not support this feature. Refer to product codes for feature support.

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select the **Enable IR Illuminator** check box to enable IR Illuminator. OR Clear the **Enable IR Illuminator** check box to disable **IR Illuminator**. The default setting is ‘Disabled’.

- End -

Day Night Mode

The dome provides a black-and-white (B/W) mode to improve camera performance when the light level falls below certain thresholds. This allows clear images to be obtained under low-light conditions.

Procedure 86 Configure Day Night Mode

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select a **Day Night Mode** setting from the drop-down menu: • **Forced Color** - enable full-time color mode. • **Forced B&W** - enable full-time black and white mode.

- **Auto Low**- camera will adjust between BW and Color depending on light levels.
- **Auto Mid** - camera give a good balance of Color and BW depending on the scene.
- **Auto High** - increases the chance of switching to BW mode as light levels drop.
- **Manual** - a slider bar displays, the user can adjust the setting to suit the environment.

The default setting is 'Auto Mid'.

Picture Adjustment

Adjust brightness, contrast, and saturation of the image displaying on the video pane.

Procedure 87 Adjust the Brightness, Contrast and Saturation

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view.
4	Use the slider bars to adjust: • **Brightness** • **Contrast** • **Saturation** • **Sharpness** • **Hue** The values range from 1% to 100%. The video pane updates to display the new settings.

- End -

Procedure 88 Restore Picture Balance Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select **Defaults** to restore the default settings. The default values are: • **Brightness:** 50% • **Contrast:** 50% • **Saturation:** 50% • **Sharpness:** 50% • **Hue:** 50%

- End -

White Balance

White balance, the ability to keep whites looking white, is normally compensated for automatically via the default Auto White Balance setting.

Manual White Balance is available when specific color temperature settings want to be set and preserved. This can be done using the red and blue slider adjustments set for optimal viewing.

Procedure 89 Configure Auto White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view.
4	Select the required **White Balance** from the drop-down menu: • **Auto Wide:** Suitable for a wider than normal range of lighting conditions • **Auto Normal:** Suitable for a normal range of lighting conditions • **Manual:** Adjustable red and blue balance The default setting is 'AutoNormal'.

- End -

Procedure 90 Manually Select White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view.
4	Select **Manual** from the White Balance drop-down menu. The Red and Blue slider bars display.
5	Use the slider bars to adjust the **Red** and **Blue** balance. The live video pane updates to display the new settings. The red and blue values range from 1% to 100%. If you change the configuration to **Manual**, the slider bar reads the real-time setting of the FOV.

- End -

Lens Calibration

Use the lens calibration process to recover focus and zoom after motor stalling has occurred. Motor step stalling is rare but it can occur during shipping or through mishandling of the camera. If the One

Touch focus at Wide or Tele is not working through the zoom range, the camera requires lens calibration. The lens calibration tool uses infinity focus curves to align the camera lens and correct problems focusing at Wide or Tele.

You can run a lens calibration from the **Lens Calibration** tab.

This feature applies only to the Illustra Flex 3MP Indoor Dome, Outdoor Dome, and Bullet cameras.

Procedure 91 Run a Lens Calibration

Step	Action
1	Select **Setup** on the Web Interface Banner to display the setup menus.
2	Select **Picture Settings** from the **Video** menu.
3	Select the **Lens Calibration** tab.
4	Select **Start Calibration** and wait for the camera lens initialization to complete.
5	To confirm the success of the lens calibration, select the **Picture Basic** tab from the **Picture Settings** menu and verify that the image is in focus through the zoom range. Use the OneTouch button to automatically focus the area of view highlighted in the yellow box displayed in the video pane.

- End -

Lens Selection

You can select the lens on the Illustra Flex Box camera. The lens models supported appear on the **Lens Selection** tab of the Video menu..

Procedure 92 Perform a Lens Selection

Step	Action
1	Select **Setup** on the Web Interface Banner to display the setup menus.
2	Select **Picture Settings** from the **Video** menu.
3	Select the **Lens Selection** tab.
4	In the **Lens Model** field, use the drop-down list to select the lens you installed.
5	When you change lenses, you are prompted to reboot the camera. All active sessions will be lost. Select **OK** to proceed with reboot.

- End -

Date / Time / OSD

Change the Camera Name, Date and Time and enable On-Screen Display (OSD).

Camera Name

The camera name will be displayed on the Web User Interface banner and the on-screen display for the camera. This name will also be displayed when using Illustra Connect or ONVIF.

Procedure 93 Changing the on screen camera text size

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **OSD** tab in the **Basic Configuration** menu.
3	In the **Text Size** section, select **Normal** to display the text in a normal size. OR In the **Text Size** section, select **Large** to display the text in a larger size. The default setting is 'Normal'.

- End -

Procedure 94 Change the Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner.
2	Select **Date/Time/OSD** from the **Video** menu.
3	Enter the name of the camera in the **Camera Friendly Name** text box.

- End -

Date / Time

Set the date and time on the camera.

Procedure 95 Configuring the Date and Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Date/Time/OSD** from the **Video** menu.
3	Select the **Time 24-hour** check box to enable the 24-hour clock. Or Deselect the **Time 24-hour** check box to enable the 12-hour clock. The default setting is '24-Hour'.
4	Select the **Date Display Format** from the drop-down menu: • **DD/MM/YYYY** • **MM/DD/YYYY** • **YYYY/MM/DD** The default setting is 'YYYY/MM/DD'.
5	Select the **Time Zone** from the drop-down menu. The default setting is '(GMT-05:00) Eastern Time (US & Canada)

6 Select the **Set Time** setting by selecting the radio buttons:

- **Manually**
- **via NTP**

The default setting is ‘Manually’.

7 If you select Manually in step 5:

a Select the Date **(DD/MM/YYYY)** using the drop-down menus.

b Select the Time **(HH:MM:SS)** using the drop-down menus.

8 If you select via NTP in step 5:

a Enter the **NTP Server Name** in the text box.

- End -

On-Screen Display (OSD)

Within OSD you can set enable or disable camera name and time display.

Procedure 96 Display or Hide the Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Select the **Camera Name** check box to display the camera name in the OSD. OR Deselect the **Camera Name** check box to hide the camera name in the OSD. The default setting is ‘Disabled’.

- End -

Procedure 97 Display or Hide the Camera Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Select the **Time** check box to display the camera name in the OSD. OR Deselect the **Time** check box to hide the camera name in the OSD. The default setting is ‘Disabled’.

- End -

Procedure 98 Display or Hide the User Defined OSD

1 Select Setup on the Web User Interface banner to display the setup menus.

2 Select the **OSD** tab in the **Basic Configuration** menu.

3 In the **User Defined** section, select the **Enable** check box to display the camera name in the OSD.

OR

In the **User Defined** section, clear the **Enable** check box to hide the camera name in the OSD.

The default setting is 'Disabled'.

4 Select a **Location** from the drop-down menu.

5 Enter a name in the **Name** field.

The OSD User Defined fields must comply with the following validation criteria:

- 0 - 24 characters
- Cannot begin or end with:
  - . (dot)
  - - (hyphen)
  - _ (underscore)
  - \ (backslash)
  - " (quotes)

- End -

Privacy Zones

Privacy Zones are "masked" sections of the camera's viewing area. These masks prevent operators of the surveillance system who do not have access to the camera password from viewing these designated zones. Each zone has four sides, and the zones may overlap to form irregular shapes.

The apparent size of the Privacy Zone adjusts automatically as the zoom level is adjusted. Privacy Zones are useful for high security areas. For example, you might establish a privacy Zone around a safe's combination, but still view people approaching or opening the safe.

Up to 8 rectangular privacy zones can be used on the camera.

Defining a Privacy Zone

Create a privacy zone on the camera.

Procedure 99 Define a Privacy Zone

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Privacy Zones** from the **Video** menu.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view. **Note:**For the PTZ camera navigate to the centre of the camera field of view to create a privacy zone.
4	Click on the edit pencil button. Click and drag on the camera picture to define an area for the privacy zone. For the PTZ camera you must click and drag from the centre of the camera field of view.

Note: For the PTZ camera it is advised that you draw privacy zones larger than required to help ensure better coverage during the PTZ operations. This compensates for privacy zone distortion and repositioning during Pan, Tilt and Zoom.

5 Release the mouse button.

The selected privacy area will turn yellow.

6 Select **Add** to save the current privacy zone.

7 To reselect an alternative area for the privacy zone select **Cancel** and repeat from step 4.

Note: When a new privacy zone is created it is automatically enabled.

- End -

Enabling or Disabling a Privacy Zone

Select a privacy zone to hide or display on the camera. The PTZ camera does not support Enabling or Disabling a Privacy Zone, zones should be deleted and redrawn when necessary.

Procedure 100 Enable/Disable a Privacy Zone

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Privacy Zones** from the **Video** menu. The **Privacy Zones** tab displays.
3	Select  to start the video stream if it is not already active. The video pane displays the current camera view.
4	Select the corresponding **Enabled** check box to enable the privacy zone. OR Clear the corresponding **Enabled** check box to disable the privacy zone.

- End -

Deleting a Privacy Zone

Delete a privacy zone from the camera.

Procedure 101 Delete a Privacy Zone

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Privacy Zones** from the **Video** menu. The Privacy zones tab displays.
3	Select the corresponding **Delete** check box to mark the privacy zone for deletion.
4	Select **Delete** to delete the selected privacy zones.
5	You are prompted to confirm the deletion.
6	Select **OK** to confirm the deletion. OR

Select **Cancel**.

- End -

PTZ Settings Menu

When the video menu is selected, Figure 94 on page 119 PTZ Settings Menu will be displayed.

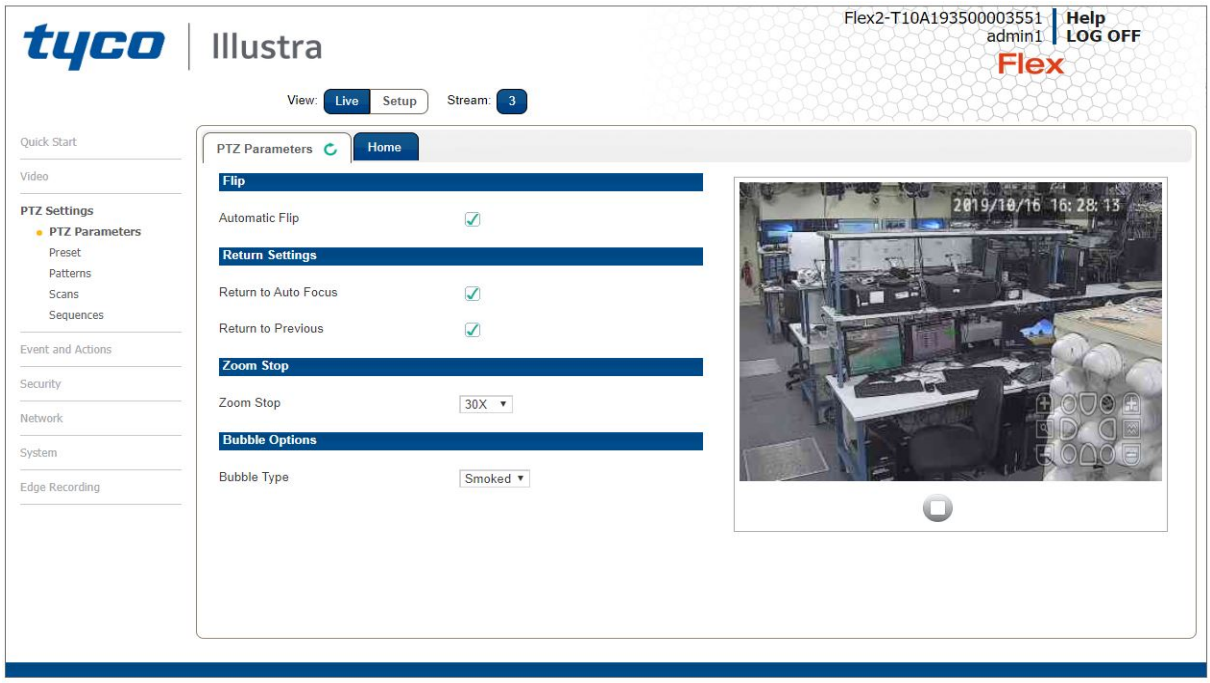


Figure 94 PTZ Settings Menu

The PTZ Settings Menu provides access to the following camera settings and functions:

- PTZ Parameters
- Preset
- Patterns
- Scans
- Sequences

PTZ Parameters

PTZ Parameters allows you to adjust Automatic Flip, Return Settings, Zoom Stops, and Home Position Type.

Automatic Flip

Use the automatic (proportional) “flip” feature when you need to track someone who walks directly under the camera and continues on the other side. You start the flip by moving the tilt control to its lower limit and holding for a brief period. When the flip engages, the camera automatically rotates 180°. You may then continue to track the person as long as the tilt control stays in its lower limit. Once the tilt control is released, the camera resumes normal operation.

Procedure 102 Enable/Disable Automatic Flip

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **PTZ Parameters** from the **PTZ Settings** menu.
3	Select the **PTZ Parameters** tab.
4	Select the **Automatic Flip** check box to enable automatic flip. OR Deselect the **Automatic Flip** check box to disable automatic flip. The default setting is 'Enabled'.

- End –

Return Settings

When calling a Preset, the camera adopts the settings uniquely created forthat Preset. When an operatormoves the camera from its Preset position, the camera can return to global settings only if programmed to do so through the Return Settings page.

Procedure 103 Enable/Disable Return Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **PTZ Parameters** from the **PTZ Settings** menu.
3	Select the **PTZ Parameters** tab.
4	Select the corresponding check box to enable the return settings for: • **Return to Auto Focus** • **Return to Previous** OR Deselect the corresponding check box to disable the setting. The default setting is 'Enabled'.

- End -

Zoom Stops

The Zoom Stops define how the digital zoom function is partitioned.

Note: The Zoom Stop will not be used if EIS is enabled.

The Illustra Flex PTZ camera has a 30x optical zoom with a 12X digital zoom resulting in a maximum possible zoom of 360X. The first zoom stop can be selected and is defaulted to 30x (end of Optional zoom). The last stop is 360x (but its not configurable). Pressing Zoom In continuously causes the zoom to stop at 30X. Renewing the zoom in command lets the user navigate to 360x.

Procedure 104 Setting the Zoom Stops

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **PTZ Parameters** from the **PTZ Settings** menu.
3	In the Zoom Stops section use the drop box to change the First Zoom Stop setting. The default first zoom stop setting is 30X.

- End -

Home

Home allows you to adjust the Home Position Type. The home position is a preset, pattern or scan/sequence that automatically runs after a designated period of camera inactivity. Use this option if you want to keep a specific area under surveillance when the camera is not moving.

Procedure 105 Configure the Home Position

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **PTZ Parameters** from the **PTZ Settings** menu.
3	Select the **Home** tab.
4	Select the **Home Position Type**: • Preset • Pattern • Sequence • Scan • None The default is None. If an action is selected, chose the type of action to perform from the **Parameter** drop-down menu that is enabled.
5	Use the slider bar to select the **Return Time (mins)**. The default is 5.
6	Select **Apply** to save the settings.

- End –

Procedure 106 Clear the Home Position

1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **PTZ Parameters** from the **PTZ Settings** menu.
3	Select the **Home** tab.
4	Select **None** from **Home Position Type**.
5	Select **Apply** to save the settings.

- End –

Procedure 107 Selecting the Bubble Type

You can set the Bubble Type to either Smoked or Clear. Changing between the two bubble types selects different visual profiles to suit the bubble.

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **PTZ Parameters** from the **PTZ Settings** menu.
3	In the Bubble Options section use the drop box to change the Bubble Type. The default Bubble Type setting is Smoked.

- End -

Preset

A Preset is a pre-positioned camera scene that you program using the pan, tilt and zoom options. Up to 96 presets can be programmed on the camera.

Adding a new Preset

Create a new preset position on the camera.

Procedure 108 Add a Preset

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Presets** from the **PTZ** menu. The Preset tab is displayed
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Adjust the camera view as required. • **Pan, Tilt and Zoom.** • **Focus Mode (Auto or Manual Focus points).** Preset can also store additional Picture Settings when Exposure Mode: Shutter Priority is selected. In this case Preset can save Exposure Offset and Exposure settings. These will then be changed accordingly with a prest call up.
5	In a numbered slot on the preset table, select  to add the new preset.
6	Enter the preset name in the **Preset Name** text box.
7	Select **Add** to save the preset. OR Select **Cancel**.

- End -

Viewing a Preset

View an existing preset position.

Procedure 109 View a Preset

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Preset** from the **PTZ** menu. The Preset tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Select  to activate the corresponding preset. The video pane will update to display the selected preset.The preset will display until interrupted by a camera command, pattern or scan.

- End -

Editing a Preset

Edit an existing preset position.

Procedure 110 Edit an existing Preset

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Preset** from the **PTZ** menu. The Preset tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Select  to activate the corresponding preset. The video pane will update to display the selected preset.
5	Select  to edit the corresponding preset.
6	Edit the preset name in the **Preset Name** text box if required.
7	Adjust the camera view as required. • **Pan, Tilt and Zoom** • **Focus Mode and Iris Mode**
8	The following camera controls can be saved as part of the preset and accessed via the Picture Settings menu:

- **White Balance**
- **Picture Balance**
- **Wide Dynamic Range (WDR)**
- **IR/DayNight**
- **Shutter Limit**

9 Select **Add** to save the updated preset.

You will be prompted to confirm the update.

10 Select **OK** to save the changes.

OR

Select **Cancel**.

Deleting a Preset

Delete an existing preset position from the camera.

Procedure 111 Delete a Preset

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Preset** from the PTZ menu. The Preset tab displays.
3	Select  to delete the corresponding preset. You will be prompted to confirm the deletion.

Note: You cannot delete a preset while it is associated with another camera function. To remove the preset, refer to the associated camera function.

4	Select **OK** to confirm the deletion. OR Select **Cancel**.

- End -

Patterns

A pattern is a series of pan, tilt and zoom movements which can be saved to the camera. A maximum of 16 user programmable patterns can be programmed for the camera with an unlimited duration.

Note: The Illustra Flex PTZ provides Apple Peel, which is a predefined pattern stored on the camera by default that covers the entire viewing area. This pattern slowly pans 360° starting at the ceiling line. It then tilts 30° and pans 360° again, repeating until the entire viewing area is covered. The pattern will repeat continuously until interrupted by a camera command, preset, scan or alarm.

Note: There are two Apple Peel patterns on the camera by default. Apple Peel pattern one is read only and cannot be edited or deleted. Apple Peel pattern two can be edited and if necessary deleted from the camera.

Adding a Pattern

Create a new pattern.

Note:A 15 minute time-out period is implemented when adding a pattern. If no command is received within the time-out period, the Add a Pattern procedure will automatically terminate.

Procedure 112 Add a Pattern

Step	Action
1	Select **Setup** on the Web User Interfacel banner to display the setup menus.
2	Select **Patterns** from the PTZ menu.
3	Select the **Record** tab. The Record tab displays.
4	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
5	Enterthe **Pattern Name**.
6	Select **Start**. The Record page will update with an **Add** and **Cancel** button.
7	Adjust the camera view as required. • **Pan, Tilt and Zoom**
8	Select **Add** to save the pattern. The pattern name is entered in the table on the Patterns tab. Or Select **Cancel**.

- End -

Running a Pattern

Activate an existing pattern.

Procedure 113 Run a Pattern

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Patterns** from the **PTZ** menu. The Patterns tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Select  to activate the corresponding pattern. The video pane will update to display the selected pattern.The pattern will run continuously until interrupted by a camera command, pattern, scan or alarm.

- End -

Deleting a Pattern

Delete an existing pattern.

Procedure 114 Delete a Pattern

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Patterns** from the PTZ menu. The Patterns tab displays.
3	Select  to delete the corresponding pattern. You will be prompted to confirm the deletion.

Note: You cannot delete a pattern while it is associated with another camera function. To remove the pattern, refer to the associated camera function.

4	Select **OK** to confirm the deletion. OR Select **Cancel**.

- End -

Repeating a Pattern

Use this procedure to have a pattern repeat until interrupted by a camera command.

Procedure 115 Enable/Disable Repeat a Pattern

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Patterns** from the **PTZ** menu.

3 Select the **Repeat** tab.

The Repeat tab displays.

4 Select the **Repeat Pattern** check box to allow the selected pattern to repeat continuously.

OR

Deselect the **Repeat Pattern** check box to allow the selected pattern to run only once.

The default setting is 'Enabled'.

- End -

Scans

A scan allows you to program left and right scan limits to automate surveillance activities. Once these scan limits are programmed, you can choose to run a smooth scan, stepped scan, orrandom scan. When active, the scan repeats until interrupted by a camera command, preset, pattern oralarm.

Setting Scan Limits

Set left and right scan limits on the camera.

Procedure 116 Set Scan Limits

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Scans** from the PTZ menu. The Scans tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Adjust the camera view as required to locate the left scan limit.
5	Select **Set Left** to set the displayed position as the left limit.
6	Adjust the camera view as required to locate the right scan limit.
7	Select **Set Right** to set the displayed position as the right limit. The scan limits have been set and the selected scan will now run within the scan limits set.
8	Select the pause time for a Stepped Scan from the **Pause** drop-down menu. The settings are 2-10. The default is 2.

- End –

Set Scan Limits to Default Settings

Return the camera to the default scan settings.

Procedure 117 Set Scan Limits to Default Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Scans** from the PTZ menu.
3	Select the **Scans** tab. The Scans tab displays.
4	Select **Defaults**. The scan limits will default to Left: 0 and Right: 359.

- End -

Activating a Scan

Activate a scan on the camera, this will run using the scan limits saved in Setting Scan Limits.

Procedure 118 Activate a Scan

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Scans** from the **PTZ** menu. The Scans tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view. (Before activating a scan, refer to the Set Scan Limits to Default Settings section on page 129.)
4	Select  to activate the corresponding scan. • **Smooth** -slowly pans between the left and right scan limits, starting at the left scan limit. When the right scan limit is reached, the scan reverses • **Stepped** -pans slowly, pausing briefly every 10° between the left and right scan limits. Once the right scan limit is reached, the scan reverses. • **Random** -pans randomly between the left and right scan limits. For example, the scan may start at 10°, then pan right 40° and pause, pan right 20° and pause, pan left 30° and pause, and pan right until it reaches the right scan limit.
5	The video pane will update to display the selected scan.
6	The scan will run continuously until interrupted by a camera command, pattern, preset or alarm.

- End -

Sequences

A Sequence is a sequential display of multiple camera Presets. Sequences provide a methodical and effective way to monitor multiple areas of interest by switching to different Presets automatically.

Sequences are created by identifying Preset views to include in the Sequence and specifying a dwell time that controls how long each Preset remains on-screen before switching to another Preset.

Up to 16 Sequences can be created, each with 16 steps (Presets)

Adding a Sequence

Create a new sequence on the camera using defined presets. Refer to Add a Preset on Page 123 if no presets have yet been added to the camera.

Procedure 119 Add a Sequence

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus. If no presets have been created, referto Add a Preset on Page 123 before continuing to the next step.
2	Select **Sequences** from the **PTZ** menu.
3	Select the **Add Sequence** tab.
4	Enter the **Sequence Name**.
5	Select a preset from the **Preset Name** drop-down menu.
6	Enter a dwell time in seconds in the **Dwell Time (sec)** text box. The settings are 10-500.
7	Select **Add**. The preset is now listed as part of the sequence.
8	Repeat steps 5 to 7 to add further presets to the sequence.

Note: Up to 16 presets can be added to a sequence.

9	Select **Apply** to save the sequence.

- End –

Activating a Sequence

Activate a selected sequence.

Procedure 120 Activate a Sequence

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Sequences** from the PTZ menu. The Sequences tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Select  to activate the corresponding sequence. The video pane will update to display the selected sequence.The sequence will run continuously until interrupted by a camera command, pattern, preset, scan or alarm.

- End -

Editing a Sequence

Edit an existing sequence.

Procedure 121 Edit a Sequence

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Sequences** from the **PTZ** menu. The Sequences tab displays.
3	Select  to edit the corresponding sequence. The sequence will open in the Edit Sequence tab.
4	Edit the sequence name in the **Sequence Name** text box if required.
5	Select  to edit the corresponding preset. The following can be edited: • **Preset Name**: To add a new preset to the sequence, move to the next available free slot and select a preset from the **Preset Name** drop-down menu. • **Dwell time**
6	If required, select to remove the corresponding preset from the sequence.
7	Select **Add** to save the changes OR Select **Cancel**.
8	Select **Apply** to save the changes.

- End -

Deleting a Sequence

Delete an existing sequence.

Procedure 122 Delete a Sequence

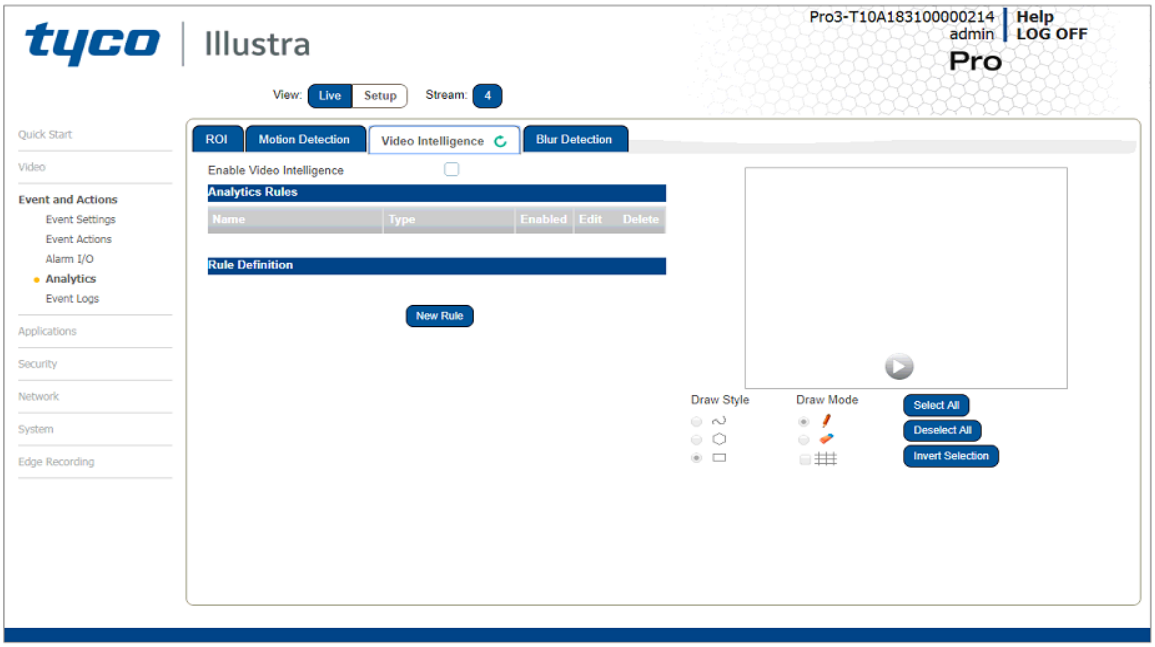
Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Sequences** from the **PTZ** menu. The Sequences tab displays.
3	Select  to delete the corresponding sequence. You will be prompted to confirm the deletion.
4	Select **OK** to delete the sequence. Or Select **Cancel**.

- End -

Events and Actions Menu

When you select the Events and Actions menu the Event Settings page displays, as seen in Figure 95 on page 132.

Figure 95 Events and Actions Menu



The Event Menu provides access to the following camera settings and functions:

- Event Settings
- Event Actions
- Alarms I / O
- Analytics
- Events Logs

Event Settings

Configure the SMTP, FTP and CIFS details required when setting Event Actions for analytic alerts.

SMTP

Configure the SMTP settings to allow e-mail alerts to be sent from the camera when an analytic alert is triggered. SMTP settings must be configured to enable email alerts when using analytics.

Procedure 123 Configure SMTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **SMTP** tab.
4	Select the **Enable SMPT** check box to enable SMTP. Fields on the tab become available for entry of information. OR Clear the **Enable SMPT** check box to disable SMTP. The default setting is 'Disabled'. **Note:**When in Enhanced Security mode, enabling SMTP requires the admin account password.
5	Enter the IP Address of the mail server in the **Mail Server** text box.
6	Enter the server port in the **Server Port** text box. The default setting is ‘25’.
7	Enter the from email address in the **From Address** text box.
8	Enter the email address to send email alerts to in the **Send Email to** text box.
9	Select the **Use authentication to log on to server** check box to allow authentication details to be entered. OR Clear the **Use authentication to log on to server** to disable authentication. The default setting is ‘Disabled’.
10	If ‘Use authentication to log on to server’ check box has been selected: a Enter the username for the SMTP account in the **Username** text box. b Enter the password for the SMTP account in the **Password** text box.

- End -

FTP

Configure the FTP settings for the FTP server. This is required to send video files from triggered analytic alerts. FTP must be configured to enable FTP video alerts when using analytics. You can configure FTP settings through the **Network** menu.

Procedure 124 Configure FTP Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select the **Enable FTP** check box to enable FTP. OR Clear the **Enable FTP** check box to disable FTP. The default setting is 'Enabled'.
5	If required, select the **Secure FTP** checkbox. The default setting is 'Disabled'. **Note:**When in Enhanced Security mode, enabling FTP requires the admin account password.
6	Enter the IP address of the FTP Server in the **FTP Server** text box.
7	Enter the FTP username in the **Username** text box.
8	Enter the FTP password in the **Password** text box.
9	Enter the FTP upload path in the **Upload Path** text box. **Note:** Refer Test the FTP Settings on page 135 to confirm that the FTP settings are working as expected.

- End -

File Transfer Rate

You can limit the File Transfer Rate and assign a max transfer rate to manage the amount of FTP bandwidth used.

Procedure 125 Configure the FTP Transfer Rate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select the **Limit Transfer Rate** check box to limited the FTP transfer rate. OR Deselect the **Limit Tranfer Rate** check box to disable limited FTP transfer. The default setting is 'Enabled'.
5	Enter the Max Transfer Rate in the **Max Transfer Rate** (Kbps) textbox.

- End -

Test FTP Settings

Test the SMTP settings that have been configured in Procedure 7-4 Configure FTP Server Settings.

Procedure 126 Test the FTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select **Test**.
	A sample text file is sent to the specified FTP destination to confirm that FTP settings are correct.

- End -

CIFS

The CIFS feature permits files generated from the camera such as alarm related video to be directed to network attached file storage through the Common Internet File System protocol. This supplements existing distribution methods such as FTP, SFTP and email.

Procedure 127 Configure CIFS Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **CIFS** tab.
4	Select the **Enable** check box to enable CIFS.
	OR
	Clear the **Enable** check box to disable CIFS.
	The default setting is ‘Enabled’.
5	Enter the network path in the **Network Path** text box.
6	Enter the domain name in the **Domain Name** in the text box.
7	Enter the username in the **Username** text box.
8	Enter the password h in the **Password** text box.

- End -

Event Actions

The camera can be commanded to carry out a specified operation when an analytic alert is triggered which are defined using event actions. Up to 5 event actions can be configured on the camera.

The event action can be used to configure any combination of the following actions:

- Record a clip to micro SD Card.

- Send an external alarm via email that includes alarm detail, where to retrieve the AVI video file and one JPEG picture of the event if recording MJPEG to micro SD Card. If MJPEG is not being recorded on micro SD Card, then no JPEG picture is sent.
- Send an AVI video file to a pre-configured external FTP or CIFS server. The video file contains pre and post alarm video buffer.
- Trigger alarm out.
- Audio Playback: Playback and Audio clip from the camera speakers when triggered.
- PTZ Action: Perform a stored preset, pattern, scan or sequence. The result of this PTZ action will continue until another PTZ or return home command is received. A PTZ command from the web GUI or ONVIF will be responded to immediately, possibly interrupting the programmed PTZ action. A PTZ action from a differemt digital input will also be done immediately.

Note:A micro SD Card must be inserted to enable recording and so that the camera can send FTP, CIFS, and SMTP events. SMTP e-mails are sent without inserting a micro SD card but do not include snapshot images of the event trigger. Micro SD cards are also required for audio clip storage on the camera.

Creating an Event Action

Configure an event action which can be triggered by an analytic alert.

Procedure 128 Create an Event Action

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Actions** from the **Events and Actions** menu.
3	Select an entry on the event actions list and enter an event action name in the **Name** text box.
4	Select the **Output** check box to enable an alarm output.
5	Select the **Record** check box to enable the Record Settings.
6	Select the **Email** check box to send an e-mail to the email address configured in the Configure SMTP Settings procedure.
7	Select the **FTP** check box to send a video file to the FTP details configured in the Configure FTP Server Settings procedure.
8	Select the **CIFS** check box to send a video file to the SFTP details configured in the Configure CIFS Server Settings procedure. **Note:** 1. If you select Record, the AVI clip is saved to the micro SD card and it has to be removed from the camera to view the video file. 2. AVI clips can only be sent through FTP if a micro SD card has been installed and FTP and CIFS has been selected. 3. The selected pre and post event duration buffer is included in any video clips sent through FTP and CIFS.
9	Select the **Audio Playback** option from the drop-down menu. **Note:**Audio Playback is not applicable to the Compact Mini Dome.

10 Select the **PTZ Action** option from the drop-down menu.

Note:PTZ Action is only applicable to the PTZ camera.

11 Select the **PTZ Parameter** option from the drop-down menu.

Note:PTZ Parameter is only applicable to the PTZ camera.

- End -

Editing a Event Action

Modify the details of an existing event action.

Procedure 129 Edit an Event Action

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Actions** from the Events and Actions menu.
3	Select an entry on the event actions list, you can edit the following: • **Name** • **Output** - Enable/Disable • **Record** - Enable/Disable • **Email** - Enable/Disable • **FTP** - Enable/Disable • **CIFS** - Enable/Disable • **Audio Playback** - select the required audio clip • **PTZ Action** - select the required PTZ Action • **PTZ Parameter** - select the required PTZ Parameter

- End -

Alarm I / O

Note: This section does not apply to the Compact Mini Dome.

The cameras provide one alarm input. By connecting alarm devices, such as smoke alarms, twilight sensors, or motion sensors to these inputs you can enhance the usability of your video surveillance system.

For 15 seconds after being triggered, any additional individual input changes on that alarm source are logged and do not generate any other action. This is to reduce the effect that any oscillating alarm source, such as if a door is simply vibrating in the wind, causing a series of alarms to be generated.

Input alarms are triggered upon change of state. Either from opened to closed or from closed to open. The camera reports the current state of each input alarms (open or closed) as well as an active or inactive status in the alarm configuration page. Active alarms are also be visible in the current faults page.

The triggering of any input alarm affects scheduled tasks and delay them until at least 30 seconds has passed since the last digital alarm input was triggered.

Alarm Actions

Upon triggering each alarm input can be configured to trigger a faulty action:

- Activate the digital output contact. This stays active until the alarm is acknowledged and cleared by an operator.
- Send an external alarm WS-Event that includes alarm details
- Send an external alarm through email that includes alarm detail, where to retrieve the AVI video file and one JPEG picture of the event if recording MJPEG to local storage. If MJPEG is not being recorded on local storage, then no JPEG picture is sent.
- Send an audio file through the unit. If a speaker has been connected to the audio output on the unit the file can be played as the alarm is triggered.
- Send an AVI video file to a pre-configured external FTP server. The video file contains pre and post alarm video buffer and audio if enabled and supported, as outlined above.

Note:
1. An active internal alarm only resets when the input state changes to “normal.” A manual reset is not available.
2. A micro SD Card must be inserted to send an SMTP email, video files, audio and images from triggered alarms.

Procedure 130 Configure an Alarm

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Enter the alarm name in the **Name** text box.
3	Select the **Enabled** check box to enable the alarm. OR Clear the **Enabled** check box to disable to alarm.
4	Select when the alarm is required to be activated from the **Normal** drop-down menu. i.e. when the dry contact is open or closed.
5	Select the required configured fault action from the **Action** drop down menu.

- End -

Procedure 131 Enable/Disable an Alarm

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Select the **Enabled** check box to enable the corresponding alarm. OR Clear the **Enabled** check box to disable the corresponding alarm.

- End -

Enable or Disable Alarm Output

Alarm Output allows the alarm to activate a digital output as an action. For example, this digital output could be linked to an electrical device, i.e. a security light or siren.

Procedure 132 Enable/Disable Alarm Output

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Select the **Output** check box to enable alarm output. OR Clear the **Output** check box to disable alarm output.

- End -

Procedure 133 Clearing Alarm Output

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Under **Alarm Output**, select the **Apply** button to Clear Active Output. The Alarm Output is cleared.

- End -

Analytics

Analytics is a feature which detects and tracks objects in video. Analytics supported are Region of Interest, Motion Detection, and Blur Detection.

Region of Interest (ROI)

Note: The PTZ camera does not support the Region of Interest (ROI) feature.

A region of interest is a defined area of the camera view which considered to be higher priority than areas of non-interest. For example, in secure environments, areas of potential activity could be a specific door or window. They are specified by drawing a rectangular overlay on the video stream. The overlay is highlighted in green and an OSD is displayed outlining the size % for the x and y axis. Up to five regions of interest can be configured, all of which can be enabled / disabled.

Procedure 134 Configure a Region of Interest

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu. The **ROI** tab displays.
3	Use the drawing tools to draw the region of interest overlay on the video stream.
4	Enter the name of the region of interest in the **Name** text box.
5	Select the **Enabled** check box to enable the region of interest. OR

Clear the **Enabled** check box to disable the region of interest.

6 Click **Add**. The region of interest is configured.

- End -

Procedure 135 Delete a Region of Interest

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu. The **ROI** tab is displays.
3	Select  to delete the corresponding region of interest.

- End -

Motion Detection

Motion detection enables you to define a region of interest in the camera's field of view which can be used to trigger an Event Action. Multiple areas of interest can be selected in the field of view but only one Event Action may be triggered.

Motion Detection Best Practices

To ensure you get the highest quality results when using Motion Detection on the camera it is recommended that you adhere to the following:

- An object exhibiting motion needs to be at least 8x8 pixels in size to be detected.
- The color of the object (in gray scale) should be approximately 10-15% different than the background.
- Exclude the Time Stamp region from motion detection, because the time stamp changes constantly and could register as motion.
- Try not to point cameras into sunlight, because high brightness prevents detection of movement of bright objects such as a person with a white shirt.
- Avoid areas with persistent motion, such as trees, blinking lights, or spinning signs, by using an appropriate region of interest.

Motion Detection Configuration Pane

The regions of interest within the camera's field of view are defined using the Motion Detection Configuration Pane. The regions of interest are set by drawing/highlighting an area on the pane. This is done by using the drawing tools on the Motion Detection Configuration Pane.

Creating a Motion Detection Alert

Create a motion detection alert on the camera.

The Motion Detection Alert feature supports up to three profiles in a Field of View (FOV). You can configure each profile with an individual sensitivity level and an event action.

Note:

1 If the motion detection video stream is changed after the region of interest has been drawn it is necessary to re-draw a new region.

2 If the stream settings are modified the motion detection is disabled and it is necessary to enable motion detection again if required.

3 Motion detection can only be enabled on a video stream that uses H.264 with a resolution on 1920x1440 or lower.

Procedure 136 Create a Motion Detection Alert

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Enable motion detection** check box to enable Motion Detection on the camera. OR Clear the **Enable motion detection** check box to disable Motion Detection on the camera.
4	Select the zone for detection in the **Motion zone** drop-down list.
5	Select the **Enable motion zone** check box to enable the zone for motion detection.
6	Select **Edit** in the **Region configuration** field.
7	Use the drawing tools on the Motion Detection Configuration Pane to draw the region of interest on the pane. Multiple selections can be made.

Note: The PTZ camera does not support the Motion Zones feature.

8 Select the sensitivity from the **Sensitivity** drop-down menu:

- **Highest**
- **High**
- **Medium**
- **Low**
- **Lowest**

9 Select the fault action from the **Action** drop-down menu.

This fault action activates when motion is detected in the selected region of interest.

Refer to the Create a Fault Action procedure if a fault action has not yet been defined.

10 Select **Apply** to save the changes.

- End -

Enable or Disable a Motion Detection Alert

Motion detection can be turned on and turned off when required.

Procedure 137 Enable or Disable a Motion Detection Alert

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Motion Detection** tab. The Motion Detection Configuration pane displays.
4	Select the **Enable motion detection** checkbox to enable Motion Detection on the camera. OR Clear the **Enable motion detection** checkbox to disable Motion Detection on the camera.
5	Select **Apply** to save.

- End -

Blur Detection

The camera generates an alarm and then takes the action you specified during configuration when the Blur Detection feature is enabled and the camera detects incidents that make the video image blur, such as: redirection, blocking, or defocusing.

When you enable Blur detection, it has a polling period of roughly 1 minute.

A Blur Detection start fault is raised when blur has been detected at 60 successive polling periods of 1 second (up to 1 minute).

Event Logs

Event Log

When events are triggered the resulting alarms are displayed in the Event Log with the following information:

- **No.** - details the event index.
- **Event** - this is listed as 'MotionDetected'.
- **Date created** - the time and date when the motion detection was triggered.
- **Component** - internal software component that raised the fault for a motion detection alert. This is listed as ANALYTICS.
- **Severity** - indicates how serious the fault is. Motion detection alerts list as 'Warning'.
- **Detail** - extra information that supplements the motion detection alert.
- **Delete** - remove the motion detection alert notification from the fault table.

Procedure 138 Display Event Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Events and Actions** menu. The Event Log tab displays. Triggered motion detection alerts display.

- End -

Procedure 139 Delete Current Events

1 Select **Setup** on the Web User Interface banner to display the setup menus.

2 Select **Event Logs** from the **Event and Actions** menu. The Event Logtab displays.

3 Select the corresponding **Delete** check box to mark the motion detection alert for deletion.

OR

Clear the corresponding **Delete** check box to keep the motion detection alert.

Note: You can select the **Select All** check box to mark all motion detection alerts displayed in the list for deletion.

4 Select **Delete** to delete the selected motion detection alerts.

You are prompted to confirm the deletion.

5 Select **OK** to confirm the deletion.

OR

Select **Cancel**.

- End -

Fault Log

Any system or environmental faults experienced by the camera are displayed in the Fault Log with the following:

- **#** - details the fault index.
- **Fault** - a description of the fault.
- **Date created** - the time and date when the fault occurred.
- **Component** - internal software component that raised the fault.
- **Severity** - indicates how serious the fault is. The following are supported, in increasing order of severity, Clear, Warning, Critical and Error.
- **Detail** - extra information that supplements the fault description.
- **Delete** -remove the fault from the fault table.

System Faults

The following system faults may be raised:

- **DiskUsage(Warning)** - this warning is raised when the disk utilisation rises above the threshold value “threshold2” held in SYSM.conf. Once an alarm is generated and the disk utilization decreases 1% below the threshold value, the fault is then automatically cleared. The default threshold value is 80%.

Environmental Monitor (ENVM) Component

The following environmental faults can be raised by the ENVM (Environmental Monitor) component:

- **TemperatureTooHigh (Warning)** - this fault is raised when the internal temperature of the enclosure is equal to or exceeds the value MAX_TEMPERATURE held in ENVM.conf. Once an alarm is generated and the temperature drops to a level 1 degree below the MAX_ TEMPERATURE value the fault is then automatically cleared. This is to avoid transient changes in temperature around the threshold.

- **TemperatureTooLow (Warning)** - a fault is raised when the internal temperature of the enclosure is equal to or is below the value MIN_TEMPERATURE held in ENVM.conf. Once an alarm is generated and the temperature drops to a level 1 degree above the MIN_ TEMPERATURE value the fault is then automatically cleared. This is to avoid transient changes in temperature around the threshold.

Procedure 140 Display Current Faults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Event and Actions** menu.
3	Select the **Fault Log** tab.

- End -

Procedure 141 Delete Current Faults

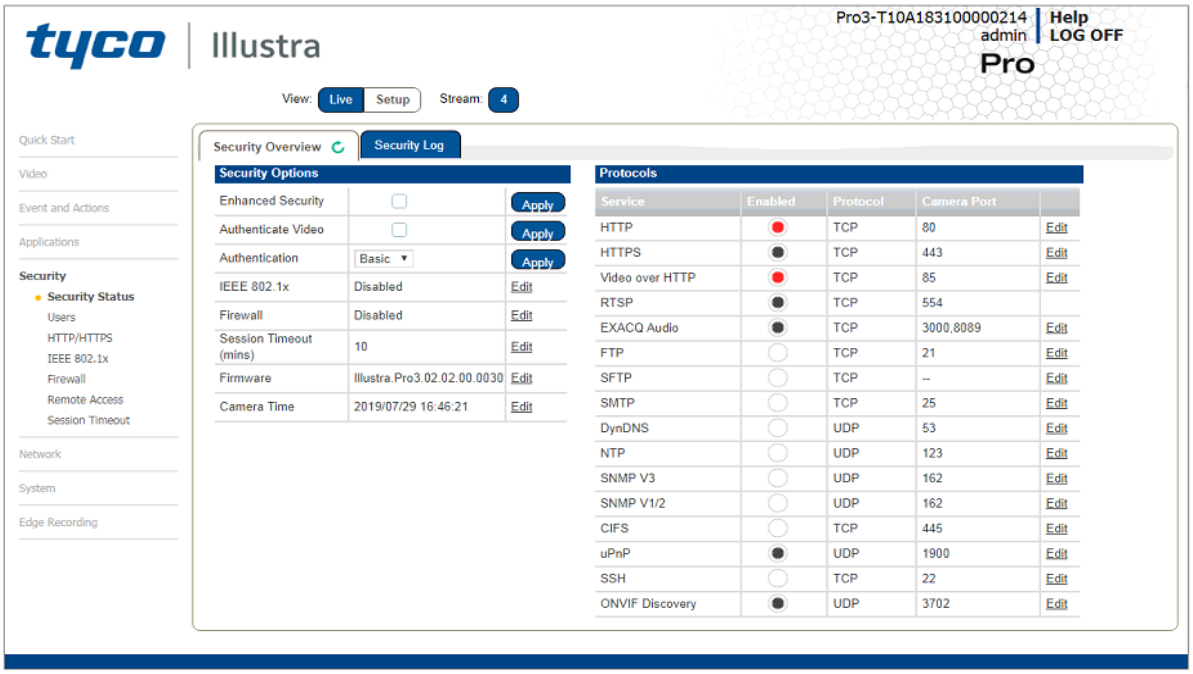
Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Events and Actions** menu.
3	Select the **Fault Log** tab.
4	Select the corresponding **Delete** check box to mark the fault for deletion. OR Clear the corresponding **Delete** check box to keep the fault. **Note:**You can select the **Select All** check box to mark all faults displayed in the list for deletion.
5	Select **Delete** to delete the selected faults. You are prompted to confirm the deletion.
6	Select **OK** to confirm the deletion. OR Select **Cancel**.

- End -

Security

When you select the **Security** menu, the **Security Status** page appears, as seen in Figure 96 on page 145.

Figure 96 Security menu



The Event Menu provides access to the following camera settings and functions:

- Security Status
- Users
- HTTP/HTTPS
- IEEE 802.1x
- Firewall
- Remote Access
- Session Timeout

Security Status

This section explains how to configure security features for the camera and modify the communication protocols that are used.

Note: Any changes in the Security section, either changes to the Security Mode or to an individual protocol, are logged in the Security Log.

Enhanced Security

When you first log in to the Web User Interface, an overlay over the Live menu tab appears prompting you to choose either Standard or Enhanced Security mode. For more information regarding the requirements for Enhanced Security mode, refer to Summary of Security Modes on page 70.

Admin users can change the Security Mode of the camera from Standard Security to Enhanced Security.

Procedure 142 Enable Enhanced Security

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Security Status** from the **Security** menu.
3	Select the **Security Overview** tab.
4	Check the **Enable Enhanced Security** check box to enable enhanced security. A prompt appears asking you for your current password and the new password for the Enchanced Security feature. Your password must adhere to the minimum requriments for an Enhanced Security password as seen below. OR Clear the **Enable Enhanced Security** check box to disable enhanced security. Enhanced Security is disabled by default. The Security Warning dialog appears.
5	Enter the current password in the **Current Password** text box.
6	Enter the new password in the **New Password** text box. The password for enhanced security must meet the following requirements: • Be a minimum of eight characters long • Have at least one character from one of the following character groups: Upper-case letters Lower-case letters Numeric characters Special characters
7	Re-enter the new password in the **Confirm Password** text box.
8	Click **Apply**. **Note:**Any changes to the Security Mode are logged in the Security Log.

- End -

Procedure 143 Disable Enhanced Security Mode

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Security Status** from the **Security** menu.
3	Select the **Security Overview** tab.
	Note: When in Enhanced Security mode, changing the security mode requires the admin account password.
4	Click **Apply**.
	Note: Any changes to the Security mode are logged in the Security Log.

- End -

Security Status

This section summarizes the communication protocols that are used and their status. The following communication protocols can be enabled: HTTP, FTP, CIFS, Dyn DNS, SMTP, HTTPS, SNMP V1/2, SNMP V3, uPNP, and SFTP.

Security Overview

Procedure 144 Enable/Disable Communication Protocols

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Security Status** from the **Security** menu.
3	Select the **Security Overview** tab.
4	Select or clear the **Protocols** check box to enable or disable that protocol.
5	Click **Apply** to save your settings**.**
	Note: When in Enhanced Security, enabling/disabling individual protocols requires the admin account password. Any changes to individual protocol settings are logged in the Security Log.

Security Log

The security log records any changes made to the security mode or to an individual protocol.

Procedure 145 Display Security Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Security Status** from the **Security** menu.
3	Select the **Security Log** tab.

4 Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Procedure 146 Filter the Security Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Security Status** from the **Security** menu.
3	Select the **Security Log** tab.
4	Enter the number of lines of the log file you would like to view in the **Lines (from the end of the log file)** text box.
5	Enter the word or phrase that you would like to search for in the **Filter (only lines containing text)** text box.
6	Select **Refresh** to refresh the log for the most up-to-date information that meets the filter parameters.
7	Select **Clear** to empty the log of its current entries. You will be required to enter your password to do this.

- End -

Users

In this section you are able to add a user, change a user password and a delete user account. There are three levels of access: admin, operator and user.

Refer to Appendix A: User Account Access on page 182 for details on the features which are available to each role.

Note: The default Username is **admin** and the default Password is **admin**. To maintain security the password on the admin account should be changed.

View Current User Accounts

View a list of the current user accounts assigned to the camera.

Procedure 147 View User Accounts

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu. The current user accounts assigned to the camera display.

- End -

Add User

Add a new user account to allow access to the camera.

Procedure 148 Add a User

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu.
3	Select the **Add User** tab.
4	Enter a User Name in the **Name** text box. The username must start with a letter and can be followed by any alphanumeric values (a-z, A-Z, 0-9) and the following special characters, underscore(_), dash(-), or dot(.)
5	Select a **Role**: • admin • operator • user Refer to Appendix A: User Account Access for details on the features which are available to each role.

6	Enter a password in the **Password** text box.
	The password for Standard Security must start with an alphanumeric character and is case sensitive, it can contain alphanumeric characters with a length of between 5 and 32 characters.
	The password for enhanced security must meet the following requirements:
	• Be a minimum of seven characters long.
	• Have at least one character from at least three of the following character groups:
	  • Upper-case letters
	  • Lower-case letters
	  • Numeric characters
	  • Special characters

7	Enter the same password in the **Confirm Password** text box.
8	Select **Apply** to save the settings. The new user account appears in the Users list on the **Users** tab.

- End -

Changing the User Accounts Password

Change the password of an existing user account.

Procedure 149 Change User Password

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu.
3	Select the **Change Password** tab.
4	Select the user account from the **Name** drop-down menu.
5	Enter the current password for the user account in the **Current Password** text box.
6	Enter the new password for the user account in the **New Password** text box. The password is case sensitive and can contain alphanumeric characters with a length of between 5 and 32 characters.
7	Enter the same new password in the **Confirm New Password** text box.
8	Select **Apply** to save the settings.

- End -

Delete a User Account

Delete a user account from the camera.

Note: The default 'admin' account cannot be deleted.

Procedure 150 Delete a User Account

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu. The Users tab displays.
3	Select  to delete the corresponding user account. You will be prompted to confirm the deletion.
4	Select **OK** to delete. OR
5	Select **Cancel**.

- End -

HTTP / HTTPS

User can select the option to use HTTP, HTTPS or both. The camera automatically creates an SSL certificate file to use for HTTPS. It is possible to upload a custom SSL certificate if validation is required.

Procedure 151 Specify HTTP Method

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **HTTP/HTTPS** from the **Security** menu.
3	Select the **HTTP Method** using the radio buttons • **HTTP** • **HTTPS** • **Both**

- End -

Procedure 152 Add a HTTPS Certificate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **HTTP/HTTPS** from the **Security** menu.
3	Click on the **Upload** button and navigate to the certificate location.
4	Select the file and select **Open**. **Note:**The camera only accepts .pem format certificates. The certificate must have the server certificate and private key combined and the private key must not be password protected. After the certificate has been uploaded the camera must be rebooted to take affect.

- End -

Delete a HTTPS Certificate

If you delete the existing certificate it will be replaced by a temporary substitute. The current browser session will be lost and you will be required to log back in to the camera Web User Interface.

Procedure 153 Delete a HTTPS Certificate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **HTTP/HTTPS** from the **Security** menu.
3	Select **Delete**. The camera displays a “Restarting HTTPS Service” page with a progress bar showing the deletion progress.
4	When complete, the camera returns to the log in page.

- End -

IEEE 802.1x

The IEEE 802.1x security feature provides port based network access control i.e. securing corporate networks from the attachment of unauthorized devices.

Authentication is carried out through use of the Extensible Authentication Protocol or EAP. Both PEAP and TLS methods are supported.

Procedure 154 Configure IEEE 802.1x Security

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **IEEE 802.1x** from the **Security** menu. The **EAP Settings** tab displays.
3	Select the **Enable IEEE802.1x** check box to enable IEEE802.1x security . OR
4	Clear the **Enable IEEE802.1x** check box to disable IEEE802.1x security.
5	Select the **EAPOL Version** from the drop-down menu.
6	Select the **EAP Method** using the radio buttons.
7	Enter the EAP identity name in the **EAP Identify** textbox.
8	Select **Upload** to navigate to the **CA Certificate** location.The Choose file dialog displays.
9	Navigate to the location where the certificate has been saved. Select the file and select **Open**.
10	Select **Upload**. The upload process starts.
11	If **PEAP** is selected: a Enter the required PEAP **Password.** OR If **TLS** is selected - a Select **Upload** to navigate to the **Client Certificate** location. The Choose file dialog will be displayed. b Navigate to the location where the certificate has been saved. c Select the file and select **Open**. d Select **Upload**. The upload process starts. e Enter the required **Private Key Password**.

- End -

Firewall

Configure the Basic Filtering and Address Filtering for the firewall.

Basic Filtering

Enable or disable basic filtering for the camera this includes:

- ICMP (Internet Control Message Protocol) Blocking
- RP (Reverse Path) Filtering
- SYN Cookie Verification.

Procedure 155 Enable/Disable Basic Filtering

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu. The **Basic Filtering** tab displays.
3	Select the **ICMP Blocking** check box to enable ICMP blocking. OR Clear the **ICMP Blocking** check box to disable ICMP blocking. The default setting is 'Disabled'.
4	Select the **RP Filtering** check box to enable the RP filtering. OR Deselect the **RP Filtering** check box to disable. The default setting is 'Disabled'.
5	Select **SYN Cookie Certification** check box to enable SYN cookie certification. OR Deselect the **SYN Cookie Certification** check box to disable. The default setting is 'Disabled'.
	- End -

Address Filtering

Configure the IP or MAC addresses which are denied access to the camera.

Procedure 156 Enable/Disable and configure Address Filtering

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu.
3	Select the **Address Filtering** tab.
4	Select **Off** to disable address filtering completely. OR

Select **Allow** to allow address filtering for specified addresses

OR

Select **Deny** to deny address filtering for specific addresses.

The default setting is 'Off'.

5 If address filtering has been set to **Allow** or **Deny**:

a Enter an IP or MAC Address to allow / deny in the **IP or MAC Address** text box in the following format xxx.xxx.xxx.xxx.

Note:CIDR (Classless Inter-Domain Routing) is supported when using address filtering. If using a CIDR address use the following format xxx.xxx.xxx.xxx/xx.

b Select **Add**.

6 Select **Apply** to save the settings.

- End -

Editing an Address Filter

Edit an existing address filter.

Procedure 157 Edit an Address Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu.
3	Select the **Address Filtering** tab.
4	Edit the IP or MAC Address in the **IP or MAC Address** text box.
5	Select **Add** to save the changes.

- End -

Deleting an Address Filter

Delete an existing address filter.

Procedure 158 Delete an Address Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu.
3	Select the **Address Filtering** tab.
4	Select to  delete the corresponding address filter.

- End -

Remote Access

SSH Enable

Enables Secure Shell access into the camera, if remote access is permitted by the camera network. This will also enable Tyco Security Products Level 3 Technical Support to diagnose any problems on the camera.

Note: It is recommended to keep SSH Enable disabled. This function should only be enabled this when it is requested by Tyco Security Products Level 3 Technical Support.

Procedure 159 Configure SSH

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The **Remote Access** tab displays.
3	Select the **SSH Enable** check box to enable SSH. OR Deselect **SSH Enable** check box to disable SSH. The default setting is 'Disabled'.

- End -

ONVIF

The Web User Interface allows ONVIF functionality to be managed at a high level. ONVIF Discovery Mode and User Authentication can be enabled or disabled.

- ONVIF Discovery Mode allows enabling or disabling discovery of the camera via ONVIF.
- ONVIF User Authentication allows the camera to accept ONVIF commands from all users or only authenticated users. Enabling User Authentication ensures the camera will only execute commands from authenticated users.

The separation of Discovery Mode and User Authentication allows the camera to be set up in a configuration that suits requirements for the network and users. The preferred discovery method for the camera is Illustra Connect, and this utilizes ONVIF discovery. It is therefore recommended that ONVIF Discovery Mode is always enabled.

ONVIF Discovery Mode

Enable or disable ONVIF discovery on the camera.

Procedure 160 Enable/Disable ONVIF Discovery Mode

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **ONVIF Discovery Mode** check box to enable ONVIF Discovery Mode. OR Deselect **ONVIF Discovery Mode** check box to disable ONVIF Discovery Mode. The default setting is 'Enabled'.

- End -

ONVIF User Authentication

To utilize ONVIF User Authentication, there must be at least one admin level user in the ONVIF service.

Note: When in Enhanced Security mode, editing ONVIF User Authentication requires the admin account password.

Procedure 161 Enable/Disable ONVIF User Authentication

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **ONVIF User Authentication** check box to enable ONVIF User Authentication. OR Deselect **ONVIF User Authentication** check box to disable ONVIF User Authentication. The default setting is 'Enabled'.

- End -

Video over HTTP

Enable or disable video or steam metadata over HTTP on the camera.

Procedure 162 Enable/Disable Video over HTTP

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **Video over HTTP** check box to enable Video over HTTP. OR Deselect **Video over HTTP**check box to disable Video over HTTP.

The default setting is ‘Enabled’.

- End -

UPnP Discovery

Enable or disable UPnP Discovery on the camera.

Procedure 163 Enable/Disable UPnP Discovery

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **UPnP Discovery** check box to enable UPnP Discovery. OR Deselect **UPnP Discovery**check box to disable UPnP Discovery. The default setting is ‘Enabled’.

- End -

ExacqVision Server Audio

Enable or disable audio ports used for ExacqVision bidirectional audio integration.

Procedure 164 Enable/Disable EXACQ Audio

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **EXACQ Audio** check box to enable EXACQ Audio. OR Deselect **EXACQ Audio** check box to disable EXACQ Audio. The default setting is ‘Enabled’.

- End -

Session Timeout

Session timeout specifies the number of minutes that a web session can remain idle before it is automatically terminated.

Procedure 165 Set a Session Timeout time

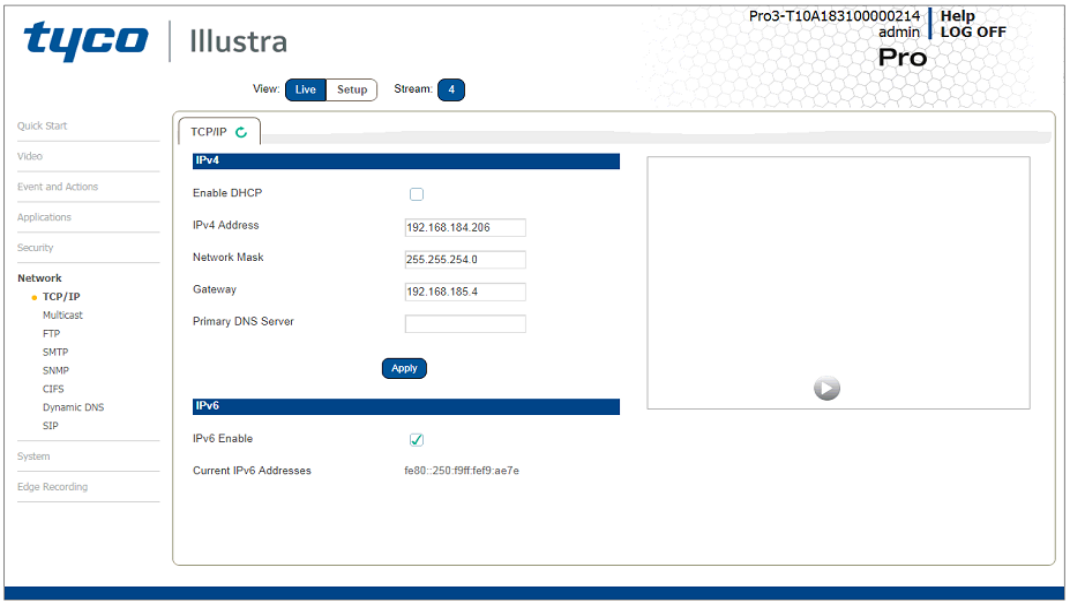
Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Session Timeout** from the **Security** menu. The Session Timeout tab displays.
3	Use the slider bar to select the **Session Timeout (mins)**. The default setting is 15 minutes.

- End -

Network Menu

When you select the **Network** menu, the **TCP/IP** page displays, as seen in Figure 97 on page 159.

Figure 97 Network Menu



The Network Menu provides access to the following camera settings and functions:

- TCP/IP
- FTP
- SMTP
- SNTP
- CIFS
- Dynamic DNS

TCP/IP

Configure the IPv4 and IPv6 settings on the camera.

IPv4

Configure the IPv4 settings for the camera.

Note: When you perform a factory reset or reboot the unit searches for the last known IP address. If this is not available it reverts to the default IP address of 192.168.1.168. This could result duplicate IP addresses. Refer to Network Menu on page 159 for more information.

Procedure 166 Configure the IPv4 Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **TCP/IP** from the **Network** menu.
3	Select the **Enable DHCP** check box to enable DHCP and disable manual settings. OR Deselect **Enable DHCP** to disable DHCP and allow manual settings to be entered. The default setting is 'Disabled'.
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. e Enter the **Secondary DNS Server** in the Secondary DNS Server text box xxx.xxx.xxx.xxx.
5	Select **Apply** to save the settings.

- End -

IPv6

Enable IPv6 on the camera.

Procedure 167 Enable/Disable IPv6

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **TCP/IP** from the **Network** menu.
3	Select the **IPv6 Enable** check box to enable IPv6 on the camera. OR Deselect the **IPv6 Enable** check box to disable IPv6 on the camera. The default setting is 'Enabled'. If IPv6 is enabled the Link Local and DHCP address displays beside 'Current IPv6 Addresses' if available.

- End -

Multicast

Multicast streaming is a one-to-many relationship between a camera and the clients receiving the stream. With a multicast stream, the server streams to a multicast IP address on the network, and clients receive the stream by subscribing to the IP address.

Procedure 168 Configure Multicast Streaming

Step	Action
1	Select **Network** on the Web User Interface to display the Network menu options and click the **Multicast** tab.
2	Select the **Stream Number** from the drop-down list you want to configure.

3	In the **Video Address** field, enter a valid IP address for the Multicast broadcasting. The valid range for the IP address is:
	`224.xxx.xxx.xxx`
	`232.xxx.xxx.xxx`
	`234.xxx.xxx.xxx`
	`239.xxx.xxx.xxx`

Multicast stream addresses must be unique to the stream and cameras.

4	In the **Port** field, enter a port for the Multicast broadcasting. The Multicast stream port must be unique to stream cameras. The approved port range is: 0-65535.
5	In the **Time to live** field, enter a value.

Example of correct Mutlicast configuration:

```
Stream.1.Multicast.IPAddress=224.16.18.2
Stream.1.Multicast.Port=1032
Stream.2.Multicast.IPAddress=224.16.18.2
Stream.2.Multicast.Port=1030
Stream.3.Multicast.IPAddress=0.0.0.0
Stream.3.Multicast.Port=0
```

FTP

Configure the FTP settings for the FTP server. This is required to send video files from triggered analytic alerts. FTP must be configured to enable FTP video alerts when using analytics.

Note:FTP settings can also be configured in the **Network** menu.

Procedure 169 Configure FTP Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **FTP** from the **Network** menu.
3	Select the **Enable** check box to enable FTP. OR Deselect the **Enable** check box to disable FTP.

The default setting is ‘Enabled’.

Note: When in Enhanced Security mode, enabling FTP requires the admin account password.

4 If required, select the **Secure FTP** checkbox.

The default setting is ‘Disabled’.

5 Enter the IP address of the FTP Server in the **FTP Server** text box.

6 Enter the FTP port in the **FTP Port** text box.

The default setting is 21.

7 Enter the FTP username in the **Username** text box.

8 Enter the FTP password in the **Password** text box.

9 Enter the FTP upload path in the **Upload Path** text box.

Note: When entering the upload path the following format should be used '//<name of ftp directory>/<folder>'

- End -

File Transfer Rate

You can limit the File Transfer Rate and assign a max transfer rate assigned to manage the amount of FTP bandwidth used.

Procedure 170 Configure the FTP Transfer Rate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select the **Limit Transfer Rate** check box to limit the FTP transfer rate. OR Clear the **Limit Transfer Rate** check box to disable limited FTP transfer. The default setting is ‘Enabled’.
5	Enter the Max Transfer Rate in the **Max Transfer Rate** (Kbps) textbox. The default setting is 50.

- End -

Test FTP Settings

Test the FTP settings that have been configured correctly.

Procedure 171 Test the FTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **FTP** from the **Network** menu.
3	Select the **FTP** tab.
4	Select **Test**. A sample text file will be sent to the specified FTP destination to confirm that FTP settings are correct.

- End -

SMTP

Configure the SMTP settings to allow e-mail alerts to be sent from the camera when an analytic alert is triggered.

Note: SMTP settings must be configured to enable email alerts when using analytics.

Procedure 172 Configure SMTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SMPT** from the **Network** menu. The **SMPT** tab displays.
3	Check the **Enable SMPT** check box to enable SMPT. Text boxes on the tab become available for entry. **Note:** When in Enhanced Security mode, enabling SMTP requires the admin account password.
4	Enter the IP Address of the mail server in the **Mail Server** text box.
5	Enter the server port in the **Server Port** text box. The default setting is '25'.
6	Enter the from email address in the **From Address** text box.
7	Enter the email address to send email alerts to in the **Send Email to** text box.
8	Select the **Use authentication to log on to server** check box to allow authentication details to be entered. OR Clear the **Use authentication to log on to server** to disable authentication. The default setting is 'Disabled'.
9	If 'Use authentication to log on to server' check box has been selected: a Enter the username for the SMTP account in the **Username** text box. b Enter the password for the SMTP account in the **Password** text box.
10	Select **Apply** to save the settings.

- End -

SNMP

The camera introduces support for the Simple Network Management Protocol making it easier to manage on an IP network.

The SNMP support includes support for V2 and V3. Using V2 means no authentication is required to access the data and results are unencrypted. V3 offers enhanced encryption and authentication security features.

Procedure 173 Configure SNMP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SNMP** from the **Network** menu.
3	Enter a location reference in the **Location** text box.
4	Enter an SNMP managing contact reference in the **Contact** text box.
5	If using **V2**: a Select the **Enable V2** checkbox. b Enter the authorized ID for reading SNMP data in the **Read Community** text box. c Enter the **Trap Community**. d Enter the **Trap Address**. e Select **Apply**. OR If using **V3**: a Select the **Enable V3** checkbox. b Enter the **Read User**. c Select the **Security Level** from the drop down menu: **- noauth:** No authentication / no encryption. - **auth:** Authentication / no encryption. A user password is required. It is symmetrically encrypted using either MD5 or SHA. - **priv**: Authentication / encryption. A user password is required as is symmetrically encrypted using either MD5 or SHA. A data encryption password is required as is symmetrically encrypted using either DES or AES. d Select the **Authentication Type** using the radio buttons. e Enter the Authentication Password f Select the **EncryptionType** using the radio buttons. g Enter the **Encryption** Password h Select **Apply**.

- End -

CIFS

The CIFS feature permits files generated from the camera such as alarm related video to be directed to network attached file storage via the Common Internet File System protocol. This supplements existing distribution methods such as FTP, SFTP and email.

Procedure 174 Configure CIFS Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **CIFS** from the **Network** menu.
3	Select the **Enable** check box to enable CIFS. OR Deselect the **Enable** check box to disable CIFS. The default setting is 'Disabled'. **Note:**When in Enhanced Security mode, enabling CIFS requires the admin account password.
4	Enter the network path in the **Network Path** text box. **Note:**When entering the network path the following format should be used '//<IP Address>/<folder name>'
5	Enter the domain name in the **Domain Name** in the text box.
6	Enter the username in the **Username** text box.
7	Enter the password h in the **Password** text box.
	- End -

Dynamic DNS

Dynamic DNS is supported for updating, in real time a changing IP address on the Internet to provide a persistent domain name for a resource that may change location on the network. RFC 2136 Dynamic Updates in the Domain Name System. In this situation the camera talks only to the DHCP server and the DHCP server is responsible for updating the DNS server. The camera sends its hostname to the DHCP server when requesting a new lease and the DHCP server updates the DNS records accordingly. This is suitable for an intranet style configuration where there is an internal DHCP and DNS service and the user wants only to access their camera within their own network.

By default, when making a DHCP request the camera transmits its hostname as part of the DHCP request. This option is not user configurable. The cameras hostname matches the configurable parameter "camera name" on the Web User Interface. Any DHCP request contains the cameras hostname for use of the DHCP server to forward to an appropriate DNS server.

Dynamic DNS

Configure the Dynamic DNS settings for the camera.

Procedure 175 Configure Dynamic DNS

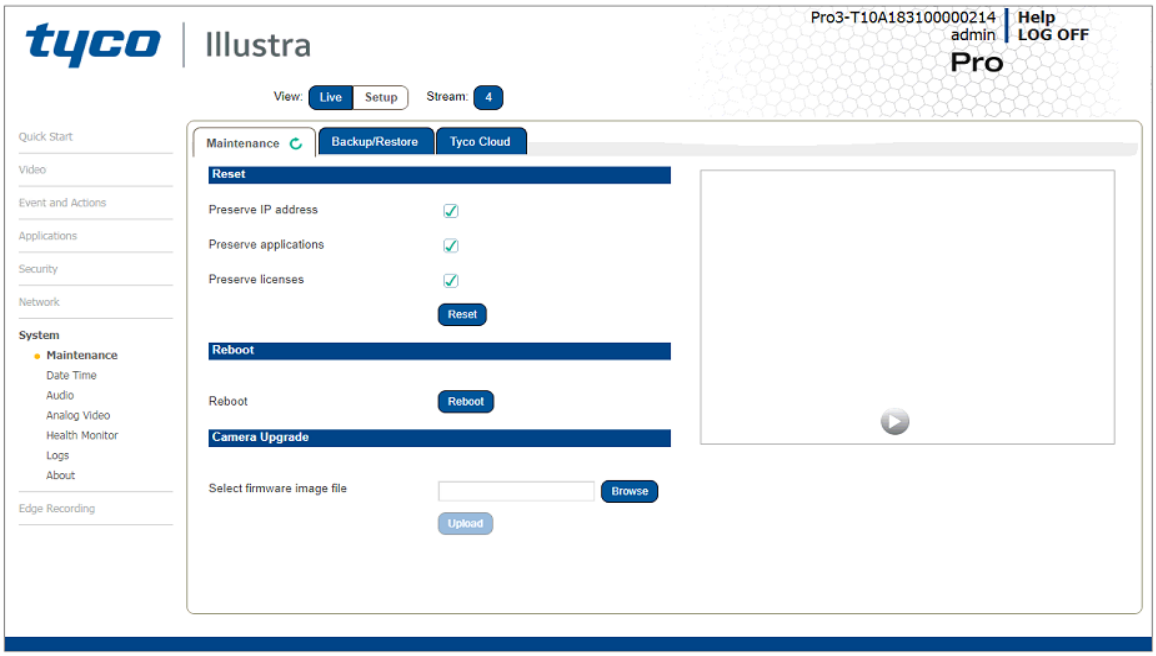
Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Dynamic DNS** from the **Network** menu.
3	Select the **Service Enable** check box to enable Dynamic DNS. OR Deselect **Service Enable** check box to disable Dynamic DNS. The default setting is 'Disabled'.
4	If Service Enable has been enabled: a Enter the Camera Alias in the text box. b Select a Service Provider from the drop-down list: • **dyndns.org** • **easydns.com** • **no-ip.com** • **zerigo.com** • **dynsip.org** • **tzo.com** c Enter a **Username** in the text box. d Enter a **Password** in the text box. e Enter **Service Data** in the text box.
5	Select **Apply** to save the settings.

- End -

System

When you open the **System** menu, the **Maintenance** page appears, as seen in Figure 98 on page 167.

Figure 98 System Menu



The System Menu provides access to the following camera settings and functions:

- Maintenance
- Date Time
- Audio
- Analog Video
- Health Monitor
- Logs
- About

Maintenance

The Maintenance menu allows you to restore the camera settings to factory default, reboot the camera and apply a firmware upgrade.

Reset

To perform a physical reset of the camera, refer to the chapter regarding your camera model in this guide.

Note: Network settings, presets, patterns and sequences can be retained if required.

Procedure 176 Resetting the Camera

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Preserve IP address** check box to retain the current network settings during the camera reset. OR Deselect the **Preserve IP address** check box to restore the default networking settings. The default setting is 'Enabled'.
4	Select **Reboot** You will be prompted to confirm the camera reset. • Select **OK** to confirm. The Web User Interface will display a "Camera Resetting" page with a progress bar showing the reboot progress. • When the camera is restarted it will take 2 - 3 minutes until it is online and ready to be accessed and controlled. OR Select **Cancel**.
5	The Log in page displays.

- End -

Reboot

To perform a physical reset of the camera, refer to the chapter regarding your camera model in this guide.

Procedure 177 Reboot the Camera

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select **Reboot**. You will be prompted to confirm the camera reboot.
4	Select **OK** to confirm. The Web User Interface will display a "Camera Rebooting" page with a progress bar showing the reboot progress. When the camera is restarted it will take 2 - 3 minutes until it is online and ready to be accessed and controlled. OR Select **Cancel**.
5	The Log in page displays.

- End -

Camera Firmware Upgrade

The camera can be upgraded using firmware provided by Illustra. Alternatively, the camera can also be upgraded using Illustra Connect. Refer to the Illustra Connect User Guide for further information.

Note: All existing camera settings are maintained when the firmware is upgraded.

Caution

You should only use firmware that has been provided by Illustra. Using any other firmware may cause a malfunction and damage the camera.

Procedure 178 Upgrade Camera Firmware

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select **Browse**.
	The Choose file to Upload dialog displays.
4	Navigate to the location where the firmware file has been saved.
5	Select the firmware file then select the **Open** button.
6	Select **Upload**.
	The file transfer will begin. Do not disconnect power to the camera during the upgrade process. The camera restarts automatically after the updates have been completed, this can take from 1 to 10 minutes. The Log in page displays.

- End -

Backup/Restore

Backup camera data and restore from a previously saved data file. The data file can be saved to a specified location and used to restore the camera configuration.

Note: A saved backup data file created on a camera is camera specific and cannot be used to restore the settings on a different camera.

Procedure 179 Backup Camera Data

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Backup/Restore** tab.
4	Select **Backup**. You are prompted to save the backup file.
5	Select **Save**.

- End -

Procedure 180 Restore Camera from Backup

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Backup/Restore** tab.
4	Select **Browse**. The Choose file to Upload dialog displays.
5	Navigate to the location where the firmware file has been saved.
6	Select the firmware file then select the **Open** button.
7	Select **Upload**. The file transfer begins. Do not disconnect power to the camera during the upgrade process. The camera restarts automatically after the updates have been completed, this can take from 1 to 10 minutes. The Log in page displays.

- End -

Tyco Cloud

The Tyco Cloud feature implements Illustra Cameras to Cloud (C2C) from Tyco Cloud to provide a secure, scalable, cloud-based storage solution. Before you enable this feature, you need to install the mobile application. You can download the app from either the iOS App Store or the Google Play Store and then you can complete the registration using the app.

Procedure 181 Enabling Tyco Cloud integration

Note: If a Tyco Cloud server is not setup when enabling the Tyco Cloud feature then the camera may become inaccessible.

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Tyco Cloud** tab.
4	Select **Apply**.
5	Enter an administrator password to validate the request. • If the camera detects an Internet connection, it continues with the Tyco Cloud integration request. If an Internet connection is not detected an error displays and the request is rejected.

Note: If an Internet connection is detected, a factory reset begins. This clears all previous user defined configurations including user management settings.
The camera boots in Tyco Cloud mode and is only accessible using HTTPS.
The password changes to a string of characters determined by the Tyco cloud.

6	Refer to Tyco Cloud documentation and follow the procedure to add a camera to regain access.

- End -

Procedure 182 Resetting the camera to normal operation

Note: There are two procedures for resetting the camera, please select one.

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Maintenance** tab. This page displays two types of factory reset: a **Factory Reset**: Resets the camera and boots the camera in Illustra mode. b **Tyco Cloud Reset**: Resets the camera and boots the camera in Tyco Cloud mode.
4	If you do not have the credentials to perform a reset, you can perform a factory reset on the hardware itself by using the hardware reset button as detailed in the Product Overview of each camera.

- End -

Date / Time

Set the date and time on the camera.

Note:

Date and Time can also be configured in the **Quick Start** menu.

Procedure 183 Configuring the Date and Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date Time** from the **System** menu.
3	Select the **Time 24-hour** check box to enable the 24-hour clock. Or Deselect the **Time 24-hour** check box to enable the 12-hour clock. The default setting is '24-hour'.
4	Select the **Date Display Format** from the drop-down menu: • **DD/MM/YYYY** • **MM/DD/YYYY** • **YYYY/MM/DD** The default setting is 'YYYY/MM/DD'.
5	Select the **Time Zone** from the drop-down menu. The default setting is '(GMT-05:00) Eastern Time (US & Canada)
6	Select the **Set Time** setting by selecting the radio buttons:

- **Manually**
- **via NTP**

The default setting is ‘Manually’.

7 If you select Manually in step 5:

c Select the Date **(DD/MM/YYYY)** using the drop-down menus.

d Select the Time **(HH:MM:SS)** using the drop-down menus.

8 If you select via NTP in step 5:

a Enter the **NTP Server Name** in the text box.

- End -

Audio

Note: This section does not apply to the Compact Mini Dome.

You can configure the audio input, output, upload audio and stored audio clips, as well as configure Audio Video Synchronization on this tab.

Procedure 184 Configure Audio Input

Step	Action
1	Select **Audio** from the **System** menu. The Audio Input tab displays.
2	Select the **Input Enable** check box to enable the audio input settings. Or Clear the **Input Enable** check box to disable audio input settings. The default setting is ‘Disabled’.
3	Use the slider bar to select the **Input Volume**. Values range from 1 to 100. The default setting is 72.

- End -

Procedure 185 Configuring Audio Output

Step	Action
1	Select **Audio** from the Camera Configuration menu.
2	Select the **Output Enable** check box to enable the audio output settings. Or Deselect the **Output Enable** check box to disable audio input settings. The default setting is ‘Disabled’.
3	If Output Enable has been enabled, use the slider bar to select the Output Volume. Values range from 1 to 100. The default setting is 50.

- End -

Configuring Stored Audio

When connected to an appropriate device, the unit is capable of playing back stored audio when an alarm has been triggered. A maximum of five audio files can be uploaded to the unit.

Note: Audio clips can only be used if a micro SD Card has been installed. Refer to the relevant Quick Reference Guide for information on installing the micro SD Card.

When uploading an audio file it must meet the following requirements:

- The filename cannot contain spaces.
- It must be a 'wav' file with a '.wav' extension.
- A single channel mono file with a bit depth of 16kHz.
- The sample rate must be 8kHz.
- The duration must be no longer than 20 seconds.

Procedure 186 Play Stored Audio

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio Clips** tab.
3	Select to play back the corresponding audio file.

- End -

Procedure 187 Upload an Audio File

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio Clips** tab.
3	Select **Browse**. The Choose file dialog displays.
4	Navigate to the location where the audio file has been saved. Select the audio file then select the **Open** button. When uploading an audio file it must meet the following requirements: • The filename cannot contain spaces. • It must be a 'wav' file with a '.wav' extension. • A single channel mono file with a bit depth of 16kHz. • The sample rate must be 8kHz. • The duration must be no longer than 20 seconds.
5	Select **Upload**.
6	You will be prompted to confirm that you would like to upload the audio file. Select **OK** to confirm the upload.

Or

Select **Cancel**.

- End -

Procedure 188 Delete a Stored Audio file

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio Clips** tab.
3	Select the corresponding **Delete** check box to mark the audio file for deletion. Or Deselect the corresponding **Delete** check box to keep the audio file.
4	Select the **Select All** check box to mark all audio files for deletion.
5	Select **Delete** to delete the selected audio files. You will be prompted to confirm the deletion.
6	Select **OK** to confirm the deletion. Or Select **Cancel**.

- End -

Analog Video

You can select an Analog Video Source from the drop-down menu found in the **Analog Video** menu. You can manage output format of the analogue video by the dip switch located on the camera (default value) or through the Web User Interface page.

Available options are **PAL**, **NTSC** and **OFF**.

Note: This section does not apply to the Compact Mini Dome.

Note: Once PAL or NTSC are selected through the Web User Interface- the physical DIP Switch selection on camera will be obsolete.

Health Monitor

The Health Monitor function provides visibility on the health status of popular device parameters. Each parameter can be enabled or disabled. The refresh frequency of the health monitor can be determined by selecting a duration from the Reporting Period drop-down menu.

Procedure 189 Configure Health Monitor Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Health Monitor** from the **System** menu.
3	Select the **Recording Period** from the drop-down menu.
4	Select the corresponding check box to enable health monitoring on a parameter. OR Clear the corresponding check box to disable health monitoring on a parameter. The default setting for all parameters is Enabled.

- End -

PTZ Summary

The Health Monitor option displays the following PTZ statistics information:

- Pan Rights
- Pan Lefts
- Tilt Down
- Tilt Up
- Zoom Out
- Zoom In

Procedure 190 Display PTZ Summary Information

Step	Action
1	Select **Setup** on the GUI banner to display the setup menus.
2	Select **Health Monitor** from the **System** menu.
3	Select the **PTZ Summary** tab.

- End -

Logs

Information is provided on system and boot logs created by the camera.

System Log

The system log gives the most recent messages from the unix/var/log/messages file. Information will include the following:

- Messages about system behavior such as process startup/shutdown.
- Warnings about recoverable problems that processes encounter.
- Error messages where processes encounter problems they cannot fix; note that this does not mean that the process will not continue to work, only that it encountered an issue it could do nothing about.

Procedure 191 Display System Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu. The System Log tab displays.
3	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Procedure 192 System Log Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu. The System Log tab displays.
3	Enter the number of lines of the log file you would like to view in the **Lines** text box.
4	Enter the word or phrase that you would like to search for in the **Filter** text box.
5	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Boot Log

The Boot log is a log of the Linux operating system boot processes and will only be useful to Tyco Security Products support engineers who require additional information on the device.

Procedure 193 Display Boot Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu.
3	Select the **Boot Log** tab.
4	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Procedure 194 Boot Log Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu.
3	Select the **Boot Log** tab.
4	Enter the number of lines of the log file you would like to view in the **Lines** text box.
5	Enter the word or phrase that you would like to search for in the **Filter** text box.
6	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Audit Log

The Audit Log will log details obtained when anything is logged are source, class, result, user and a description of the change.all changes that have been made in the following areas of the Web User Interface as outlined below:

- Changes in FTP, CIFS, SMTP, IPV4, IPV6, DNS and SNMP are logged under class NETWORK.
- Changes in Stream are logged under class VIDEO.
- Changes in Reboot, Reset and Upgrade are logged under class MAINTENANCE.
- Changes in DIO and ROI are logged under EVENT.

About

The About menu provides the following camera information:

- Camera Name
- Model
- Product Code
- Manufacturing Date
- Serial Number
- MAC Address
- Firmware Version
- Hardware Version

Procedure 195 Display Model Information

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **About** from the **System** menu. The model tab displays.

- End -

Procedure 196 Edit Camera Name

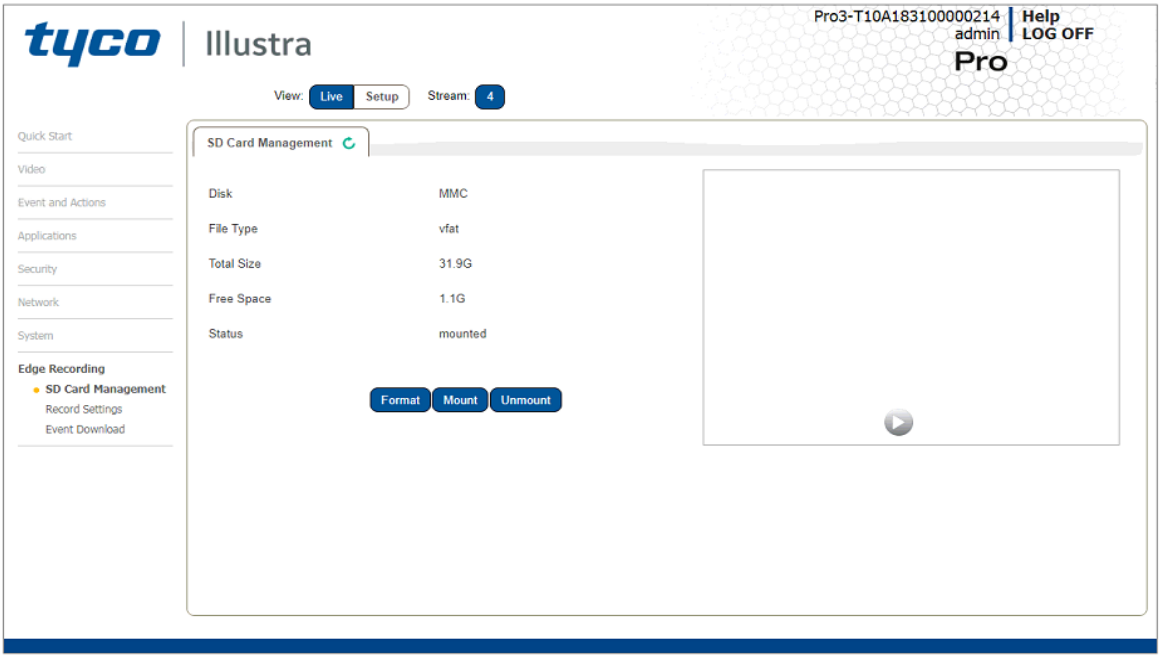
Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **About** from the **System** menu. The model tab displays.
3	Edit the name in the **Camera Name** textbox.

- End -

Edge Recording

When you select the **Edge Recording** menu, the **Micro SD Card Management** page appears, as seen in Figure 99 on page 178.

Figure 99 Edge Recording Menu



The Edge Recording Menu provides access to the following camera settings and functions:

- Micro SD Card Management
- Record Settings
- Event Download

Micro SD Card Management

Edge recording provides the ability to save recorded video to a Micro SD Card. Video can be configured to be recorded based on an event. Without a Micro SD Card current faults notifications displayed on camera if an alarm is triggered. Using a Micro SD Card enables the following:

- Current faults notifications displayed on camera if an alarm is triggered.
- Video/Audio and screen shot are saved to the SD card.
- SMTP notifications can be sent.
- FTP and CIFS uploads of video can be sent.
- Audio can be played via the Audio Out port.

Inserting the Micro SD Card

When inserting a Micro SD Card it is essential that the camera is rebooted. The Micro SD Card should be mounted and unmounted through the Web User Interface. If you receive a 'Device is Busy' model you should wait and try again in a few minutes. If this does not work then it may be necessary to disable Motion Detection, FTP or any other process which may be using the Micro SD Card.

Note: Refer to the Quick Reference Guide supplied with the product for details on how to remove the housing assembly and gain access to the camera.

Procedure 197 Insert the Micro SD Card by powering down the Camera

Step	Action
1	Turn off the camera by disconnecting the power supply.
2	Insert the Micro SD card into the camera.
3	Reconnect the power supply and power up the camera.

- End -

Procedure 198 Mount the Micro SD Card through the Web User Interface to reboot the Camera

Step	Action
1	Insert the Micro SD card into the camera.
2	Select **Setup** on the Web User Interface banner to display the setup menus.
3	Select **SD Card Management** menu from the **Edge Recording** menu.
4	Select **Mount**.

- End -

Removing the Micro SD Card

If at any stage you need to remove the Micro SD card from the camera one of the following two procedures should be used:

- Remove the Micro SD Card by powering down the camera - Use this procedure if you do not have access to the Web User Interface and are unable to unmount the Micro SD card before removal.
- Unmount the Micro SD Card for Removal - Use this procedure when you are unable to access the power supply to the camera.

Note: Refer to the Quick Reference Guide supplied with the product for details on how to remove the housing assembly and gain access to the camera.

Procedure 199 Remove the Micro SD Card by powering down the Camera

1 Turn off the camera by disconnecting the power supply.

2 Remove the Micro SD card from the camera.

Note:AVI clips are not available on the camera until the Micro SD card has been inserted and the camera rebooted.

3 Reconnect the power supply and power up the camera.

- End -

Procedure 200 Unmount the Micro SD Card for Removal

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SD Card Management** menu from the **Edge Recording** menu.
3	Select **Unmount**. You are prompted to confirm the unmounting.
4	Select **OK** to confirm. OR
5	Select **Cancel**. Remove the Micro SD card from the camera. AVI clips are not available on the camera until the Micro SD card has been inserted and mounted.

- End -

Record Settings

Select which video stream to use for alarm video and configure pre and post event durations for the playable video clip. The camera can record video generated from MD, face detection and DIO events.

Procedure 201 Configure Record Settings

Step	Action
1	Select **Setup** on the Web User Interface Banner to display the setup menus.
2	Select **Record Settings** from the **Edge Recording** menu.
3	Select **Enable Record** to allow the camera to create a playable video clip. OR Deselect **Enable Record** to disable the feature.
4	If **Enable Record** has been enabled: a Select the required video stream from the Video drop-down menu. Refer to Procedure 5-1 Configure the Video Stream Settings. b Select the Pre Event (secs) in seconds from the drop-down menu. Values range from 0 to 10. The default setting is 5 seconds. c Select the Post Event (secs) in seconds from the drop-down menu. Values range from 0 to 10. The default setting is 5 seconds.
5	Select **Apply** to save.

- End -

Offline Record Settings

When you configure the Offline Record Settings feature and once it detects a loss of connection with the recorder, it sends the video stream to the Micro SD card within the unit. This satisfies the loss of video and continues recording. Once the recorder is back online the camera initiates sending recorded video from the Micro SD card to the recorder. The maximum time recording during the outage depends on the Micro SD card and the recorded stream you selected. If the Micro SD reaches full capacity, it deletes video from earliest recording to latest recording. This feature integrates with the VE NVR 5.0 Trickle Stor.

Procedure 202 Configure Offline Recording Settings

Step	Action
1	Select **Setup** on the Web User Interface Banner to display the setup menus.
2	Select **Record Settings** from the **Edge Recording** menu.
3	Select the **Offline Record Settings** tab.
4	In the **Video Edge IP Address** field, enter the IP address of the Video Edge recorder the camera is connected to.
5	In the **Pre event (secs)** field, enter a time in seconds of the amount of time you want recorded before the offline event.
6	In the **Post event (secs)** field, enter a time in seconds of the amount of time you wants recorded after the offline event.

- End -

Event Download

If an event action has record mode enabled, when triggered, the associated video is logged in the event download table where it can later be downloaded from an Micro SD Card using the specified upload protocol.

Note: An event action must have record mode enabled to be logged and downloaded. This is configured in **Event Actions** under the **Events and Actions** menu.

Appendix A: User Account Access

Camera Menu	Sub Menu	Tab	Admin	Operator	User
Live View	Live View		X	X	X
Quick Start	Basic Configuration	TCP/IP	X		
		Video Stream Settings	X	X	
		Picture Basic	X	X	
		Picture Additional	X	X	
		Date Time	X	X	
		OSD	X	X	
Video	Streams	Video Stream Settings	X	X	
	Picture Settings	Picture Basic	X	X	
		Picture Additional	X	X	
		Lens Calibration	X		
		Lens selection	X		
	Date/Time/OSD	Date Time	X	X	
		OSD	X	X	
	Privacy Zones	Privacy Zones	X	X	
PTZ Settings	PTZ Parameters	PTZ Parameters	X	X	X
		Home	X	X	
	Preset	Preset	X	X	X
	Patterns	Patterns	X	X	X
		Record	X	X	
		Repeat	X	X	
	Scans	Scans	X	X	X
	Sequences	Sequences	X	X	X
		Add Sequence	X	X	
Events and Actions	Event Settings	SMTP	X		

Camera Menu	Sub Menu	Tab	Admin	Operator	User
		FTP	X		
		CIFS	X		
	Event Actions	Event Actions	X		
	Alarm I/O	Alarm I/O	X		
	Analytics	ROI	X		
		Motion Detection	X		
		Blur Detection	X		
	Event Logs	Event Log	X		
		Fault Log	X		
Security	Security Status	Security Overview	X		
		Security Log	X		
	Users	User	X	X	
		Add User	X	X	
		Change Password	X	X	X
	HTTP/HTTPS	HTTP/HTTPS	X		
	IEEE 802.1x	EAP Settings	X		
	Firewall	Basic Filtering	X		
		Address Filtering	X		
	Remote Access	Remote Access	X		
	Session Timeout	Session Timeout	X		
Network	TCP/IP	TCP/IP	X		
	Multicast	Multicast	X		
	FTP	FTP	X		
	SMTP	SMTP	X		
	SNTP	SNTP	X		
	CIFS	CIFS	X		
	Dynamic DNS	Dynamic DNS	X		
System	Maintenance	Maintenance	X		
		Backup / Restore	X		
	Date Time	Date Time	X		
	Audio	Audio	X		

Camera Menu	Sub Menu	Tab	Admin	Operator	User
		Audio Clips	X	X	
	Analog Video	Analog Video	X	X	
	Health Monitor	Health Monitor	X		
		PTZ Summary	X		
	Logs	System Log	X		
		Boot Log	X		
		Audit Log	X		
	About	Model	X	X	X
Edge Recording	SD Card Management	SD Card Management	X		
	Record Settings	Record Settings	X		
		Offline Record Settings	X		
	Event Download	Event Download	X		

Appendix B: Using Media Player to View RTSP Streaming

Note: This appendix is provided for user instruction only. Tyco Security Products does not support or is not responsible for any error caused during the use of third party software used for RTSP playback.

Procedure 203 Viewing RTSP Stream through Media Player

Step	Action

You can use Media Player to view live video and audio in real time from the camera.

1 Select **Media** then **Open Network Stream**.

2 Enter the IP address of the camera stream in the **Network URL** text box in the following format to view Stream 1 and 2:

- **Stream 1:** rtsp://cameraip:554/videoStreamId=1
- **Stream 2:** rtsp://cameraip:554/audioStreamId=1

For example: rtsp://192.168.1.168:554/videoStreamId=1

OR

rtsp://192.168.1.168:554/videoStreamId=1&audioStreamId=1

3 Select **Play**.The live video stream displays.

- End -

Appendix C: Stream Tables

Flex Gen 2 - 2MP, 3MP and Flex 8MP Streaming Combinations

Table 100 on page 186 provides information on the stream resolutions and FPS of the 2MP PTZ camera. Table 101 on page 187 and on page 186 provide information for the stream resolutions and supported FPS of the Flex Gen 2 3MP cameras herein.

Table 103 on page 189 provides information for the stream resolutions and supported FPS of the Flex 8MP cameras.

Table 100 2MP PTZ Camera Stream Resolutions

		TWDR Off	TWDR
Resolution	**Codec**	**FPS range**	**FPS range**
Stream 1			
(1920 x 1080) 1080p 16:9	H264/H264 IntelliZip H265/H265 Intellizip MJPEG	1-60	1-30
(1664 x 936) 16:9			
(1280 x 720) 720p 16:9			
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			
(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.

Table 101 3MP Camera 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 QXGA 4:3	H264/H264 Intelli-Zip H265/H265 Intelli-Zip	1-30	1280x720 720p 16:9	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	640x480 SD 4:3	MJPEG	7-15	Yes (2x)
1920x1080 1080p 16:9	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	1024x576 PAL+ 16:9	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	640x360 nHD 16:9	MJPEG	7-15	Yes (2x)
1664x936 16:9	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	640x480 SD 4:3	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	480x360 480p 4:3	MJPEG	7-15	Yes (2x)
1280x720 720p 16:9	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	640x360 nHD 16:9	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30	384x288 4:3	MJPEG	7-15	Yes (2x)
			480x360 480p 4:3	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30				Yes (2x)
			384x288 4:3	H264/H264 Intelli-Zip H265/H265 Intelli-Zip MJPEG	1-30				Yes (2x)

Table 102 3MP Camera 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 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	640x480 SD 4:3	MJPEG	7-15	No
1664x936 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	1024x576 PAL+ 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	640x360 nHD 16:9	MJPEG	7-15	No
1280x720 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	31-60	640x480 SD 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	480x360 480p 4:3	MJPEG	7-15	No
			640x360 nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	384x288 4:3	MJPEG	7-15	No
			480x360 480p 4:3	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15				No
			384x288 4:3	H264/H264 IntelliZip H265/H265 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 103 Flex 8MP Camera resolutions

Flex 8MP camera resolutions								
Stream 1	**Codec**	**FPS**	**Stream 2**	**Codec**	**FPS**	**Stream 3**	**Codec**	**FPS**
(3840x2160) 4K 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15	(1280x720) 720p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-15 or 1-30	(640x360) nHD 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	7-15
(3264x1840) 16:9			(1024x576) 16:9			(480x360) 4:3		
(2592x1944) 4:3			(640x360) nHD 16:9			(384x288) 4:3		
(2688x1520) 16:9			(480x360) 4:3					
(2048x1536) QXGA 4:3			(384x288) 4:3					
(1920x1080) 1080p 16:9	H264/H264 IntelliZip H265/H265 IntelliZip MJPEG	1-60						
(1664x936) 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 that 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.

Appendix D: Camera Defaults

The below table details the defaults for the Illustra Connect Web User Interface.

Table 104 Camera Defaults

Tab	Item	Default		
TCP/IP				
	Enable DHCP	ON		
	IPv4 Address	192.168.1.168		
	Network Mask	255.255.255.0		
	Gateway	Unspecified		
	Primary DNS	Unspecified		
	IPv6 Enable	ON		
	Current IPv6 Address	Unspecified		
Video Stream Settings				
	Stream Number	1	2	3
	Codec	H264	H264	MJPEG
	Profile	Main	Main	Main
	3MP Resolution	2048x1536	1280x720	640x360
	3MP Frame Rate (fps)	30	30	15
	3MP GOP Length [1-150]	30	30	N/A
	4K Resolution	3840x2160	1280x720	640x360
	4K Frame Rate (fps)	15	15	15
	4K GOP Length [1-150]	15	15	N/A
	2MP Camera Resolution	1920x1080	1280x720	640x360
	2MP Camera Frame Rate (fps)	30	30	15
	2MP Camera GOP Length [1-150]	30	15	N/A

Tab	Item	Default		
	MJPEG Quality	N/A	N/A	N/A
	Rate Control	CVBR	CVBR	N/A
	VBR Quality	N/A	N/A	N/A
	CBR/CVBR Bit Rate	8000	8000	N/A
Picture Basic				
	Mirror	OFF		
	Flip	OFF		
	Focus	Unspecified		
	Zoom	Unspecified		
	Exposure Method	Center Weighted		
	Exposure Offset (F-stops)	0		
	Min Exposure (sec)	1/10000		
	Max Exposure (sec)	1/8		
	Max Gain (dB)	51dB		
	Iris Level	1		
	Frequency	60Hz		
	Flickerless	OFF		
	IR PTZ Auto Focus	On		
	IR PTZ Exposure Mode	Auto		
	IR PTZ Max Gain (dB)	N/A		
Picture Additional				
	Enable WDR	OFF		
	Enable IR Illuminator	ON		
	Day Night Mode	Auto Mid		
	Brightness	50%		

Tab	Item	Default		
	Contrast	50%		
	IR PTZ Contrast	100%		
	Saturation	50%		
	Sharpness	50%		
	White Balance Mode	Auto Normal		
	Red	50%		
	Blue	50%		
Date/Time/OSD				
	Camera Friendly Name	Flex2-SERIALNUMBER		
	Camera Time	Unspecified		
	Time 24-hour	ON		
	Date Display Format	YYYY/MM/DD		
	Time Zone	(GMT-05:00) Eastern Time (US and Canada)		
	Set Time	Manually		
	Date(DD/MM/YY)	Unspecified		
	Time(HH:MM:SS)	Unspecified		
	Text size	Normal		
	OSD Name	OFF		
	OSD Time	OFF		
	OSD User defined	Unspecified		
Privacy Zones				
	Name	Unspecified		
SMTP				
	Mail Server	Unspecified		
	Server Port	25		

Tab	Item	Default		
	From Address	Unspecified		
	Send Email To	Unspecified		
	Use authentication to log on to server	OFF		
FTP				
	Enable FTP	ON		
	Secure FTP	OFF		
	FTP Server	Unspecified		
	FTP Port	21		
	Username	Unspecified		
	Password	Unspecified		
	Upload Path	Unspecified		
	Limit Transfer Rate	ON		
	Max Transfer Rate (Kbps)	50		
CIFS				
	Enable	ON		
	Network Path	Unspecified		
	Domain Name	Unspecified		
	Username	Unspecified		
	Password	Unspecified		
Event Actions				
	Fault action 1	Unspecified		
	Fault action 2	Unspecified		
	Fault action 3	Unspecified		
	Fault action 4	Unspecified		
	Fault action 5	Unspecified		
Alarm I/O				

Tab	Item	Default		
	Alarm input 1/2	Unspecified		
	Alarm out 1/2	Not Active		
ROI				
	Table	Unspecified		
	Enable Face Detection	OFF		
	Highlight Faces	OFF		
	Enhance Faces	OFF		
	Face Orientation	UP		
	Action	Unspecified		
Motion Detection				
	Enable Motion Detection	OFF		
	Sensitivity	HIGH		
	Action	Unspecified		
Blur Detection				
	Enable Blur Detection	OFF		
Event Log		Unspecified		
Fault Log		Unspecified		
Parameters (PTZ)				
	Automatic Flip	ON		
	Return to Auto Focus	ON		
	Return to Auto Previous	ON		
	Zoom Stops	30x		
Home				
	Home Position Type	None		
Presets (PTZ)				
Patterns				
	Patterns			

Tab	Item	Default		
	Record	Pattern Name		
	Repeat	On		
Scans (PTZ)				
	Name	Empty or unspecified		
	Smooth	Empty or unspecified		
	Stopped	Empty or unspecified		
	Random	Empty or unspecified		
	Left Scan Limit	0		
	Right Scan Limit	30		
Sequences (PTZ)				
Sequence	Sequence 1-16	Empty or unspecified		
Add Sequence	Sequence Name	Empty or unspecified		
	Preset Name	Empty or unspecified		
	Dwell Time (secs)	Empty or unspecified		
Security				
	Security Status	Standard		
	IR PTZ Security Log			
	Enhanced Security	Disabled		
	Authenticate Video	Disabled		
	Authentication	Basic		
Users				
	Logon Name	Admin		
	Role	Admin		
Add User				
	Name	Unspecified		
	Role	Unspecified		
	Password	Unspecified		

Tab	Item	Default		
	Confirm Password	Unspecified		
Change Password				
	Name	Unspecified		
	Current Password	Unspecified		
	New Password	Unspecified		
	Confirm New Password	Unspecified		
HTTP/HTTPS				
	HTTP Method	BOTH		
	Select Certificate File	Unspecified		
EAP Settings				
	Enable IEEE802.1x	OFF		
	EAPOL Version	1		
	EAP Method	PEAP		
	EAP Identity	Unspecified		
	CA Certificate	Unspecified		
	Password	Unspecified		
	Client Certificate	Unspecified		
	Private Key Password	Unspecified		
Basic Filtering				
	ICMP Blocking	OFF		
	Rp Filtering	OFF		
	SYN Cookie Verification	OFF		
Address Filtering				
	Filtering	OFF		
	IP or MAC Address	Unspecified		
Remote Access				

Tab	Item	Default		
	SSH Enable	OFF		
	ONVIF Discovery Mode	ON		
	ONVIF User Authentication	ON		
	Video Over HTTP	ON		
	UPnP Discovery	ON		
	ExacqVision Server Audio	ON		
Session Timeout				
	Session Timeout(mins)	15		
Dynamic DNS				
	Service Enable	OFF		
	Camera Alias	Unspecified		
	Service Provider	dyndns.org		
	Username	Unspecified		
	Password	Unspecified		
	Service Data	Unspecified		
Maintenance				
	Preserve IP Address	ON		
	Preserve Applications	ON		
	Select Firmware Image File	Unspecified		
Date Time				
	Camera Time			
	Time 24-hour	ON		
	Date Display Format	YYYY/MM/DD		
	Time Zone	Unspecified		
	Set Time	Unspecified		
	NTP Server Name	Unspecified		

Tab	Item	Default		
Backup/Restore				
	Select Saved Data File	Unspecified		
Audio				
	Enable Audio	OFF		
	Input Enable	OFF		
	Input Volume	72		
	Output Enable	OFF		
	Output Volume	50		
Audio Clips				
	Audio Clips Table	Unspecified		
Analog Video				
	Analog Video Source	DIP Switch		
Health Monitor				
	Reporting Period (seconds)	20		
	Health Monitor Table	Unspecified		
System Log				
	Lines (From The End Of The Log File)	Unspecified		
	Filter (Only Lines Containing Text)	Unspecified		
Boot Log				
	Lines (From The End Of The Log File)	Unspecified		
	Filter (Only Lines Containing Text)	Unspecified		
Audit Log				
	Search By	Unspecified		
	Filter Text 1	TEXT		
	Filter Text 2	Unspecified		
	Start Date (DD/MM)	Unspecified		

Tab	Item	Default		
	End Date (DD/MM)	Unspecified		
Model				
	Camera Name	Factory configuration		
	Model	Factory configuration		
	Product Code	Factory configuration		
	Manufacturing Date	Factory configuration		
	Serial Number	Factory configuration		
	MAC Address	Factory configuration		
	Firmware Version	Factory configuration		
	Hardware Version	Factory configuration		
SD Card Management				
	Disk	Unspecified		
	File Type	Unspecified		
	Total Size	Unspecified		
	Free Space	Unspecified		
	Status	Unspecified		
Record Settings				
	Enable Even Recording	OFF		
	Record Source	Stream 1		
	Pre Event (secs)	10		
	Post Event (secs)	10		
Offline Record Setting				
	Video Edge IP address	Unspecified		
	Pre event (sec)	10		
	Post event (sec)	10		

Tab	Item	Default		
Event Download				
	File Name Table	Unspecified		

Appendix A: PTZ Technical Specifications

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

General Features		
Model Type	Indoor PTZ cameras	Outdoor IR PTZ cameras
Model No.	IFS02P6INWIT (IR camera) IFS02P6ISWITT (PTZ with Bubble) **Note:** IFS02P6ISWITT is a non IR camera	IFS02P6ONWIT / IFS02P6ONWITA
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	IFS02P6ISWITT = +15° ~ +90° IFS02P6INWIT = -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	150m
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 Standard	IEEE 802.3at (25.5W) Class 4	IEEE 802.3bt Type 3 (51W) Class 6
24 VAC Current	2A (Max)	3.8A (Max)
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 Illu-mination	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 (-4° to 122° F)	-40° ~ +50°C (-4° F to 122° F) (IFS02P6ONWIT) -50° ~ +50°C (-58° F to 122° F) (IFS02P6ONWITA), extended temperature up to 140°F (60°C) for 5 hours a day with IR illuminators OFF
Start-up Temperature Range	-20° ~+50°C	-35° ~ +60°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

End User License Agreement (EULA)

IMPORTANT - READ THIS END-USER LICENSE AGREEMENT ("EULA") CAREFULLY BEFORE OPENING THE DISK PACKAGE, DOWNLOADING THE SOFTWARE OR INSTALLING, COPYING OR OTHERWISE USING THE SOFTWARE.

THIS EULA IS A LEGAL AGREEMENT BETWEEN YOU AND SENSORMATIC ELECTRONICS, LLC ("TYCO"), AND GOVERNS YOUR USE OF THE SOFTWARE AND/OR FIRMWARE ACCOMPANYING THIS EULA WHICH SOFTWARE MAY BE INCLUDED IN AN ASSOCIATED PRODUCT AND INCLUDES COMPUTER SOFTWARE AND MAY INCLUDE MEDIA, PRINTED MATERIALS, AND "ON-LINE" OR ELECTRONIC DOCUMENTATION (COLLECTIVELY, THE "SOFTWARE"). BY BREAKING THE SEAL ON THIS PACKAGE, DOWNLOADING THE SOFTWARE OR INSTALLING, COPYING OR OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THE TERMS OF THIS EULA. IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS OF THIS EULA, DO NOT OPEN, DOWNLOAD, INSTALL, COPY OR OTHERWISE USE THE SOFTWARE.

1. SCOPE OF LICENSE. The Software may include computer code, program files and any associated media, hardware or software keys, printed material and electronic documentation. The Software may be provided to you pre-installed in a product or on a storage device (the media) as part of a computer system or other hardware or device ("System"). The Software is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. All title and intellectual property rights in and to the Software (including but not limited to any images, photographs, and text incorporated into the Software), the accompanying printed materials, and any copies of the Software, are owned by Tyco and/or its suppliers. The Software is licensed, not sold. All rights not expressly granted under this EULA are reserved by Tyco and its suppliers.

2. GRANT OF LICENSE. This EULA grants you the following rights on a non-exclusive basis:

a. General. This EULA permits you to use the Software for which you have purchased this EULA. If the Software is protected by a software or hardware key or other device, the Software may be used on any computer on which the key is installed. If the key locks the Software to a particular System, the Software may only be used on that System.

b. Locally Stored Components. The Software may include a software code component that may be stored and operated locally on one or more devices. Once you have paid the required license fees for these devices (as determined by Tyco in its sole discretion), you may install and/or use one copy of such component of the Software on each of the devices as licensed by Tyco. You may then use, access, display, run or otherwise interact with ("use") such component of the Software in connection with operating the device on which it is installed solely in the manner set forth in any accompanying documentation or, in the absence of such, solely in the manner contemplated by the nature of the Software.

c. Remotely Stored Components. The Software may also include a software code component for operating one or more devices remotely. You may install and/or use one copy of such component of the Software on a remote storage device on an internal network with all of the devices and may operate such component with each device over the internal network solely in the manner set forth in any accompanying documentation or, in the absence of such, solely in the manner contemplated by the nature of the Software; provided however, you must still acquire the required number of licenses for each of the devices with which such component is to be operated.

d. Embedded Software/Firmware. The Software may also include a software code component that is resident in a device as provided by Tyco for operating that device. You may use such component of the Software solely in connection with the use of that device, but may not retrieve, copy or otherwise

transfer that software component to any other media or device without Tyco's express prior written authorization.

e. Backup Copy. You may make a back-up copy of the Software (other than embedded software) solely for archival purposes, which copy may only be used to replace a component of the Software for which you have current valid license. Except as expressly provided in this EULA, you may not otherwise make copies of the Software, including the printed materials.

3. OTHER RIGHTS AND LIMITATIONS. Your use of the Software is subject to the following additional limitations. Failure to comply with any of these restrictions will result in automatic termination of this EULA and will make available to Tyco other legal remedies.

a. Limitations on Reverse Engineering and Derivative Works. You may not reverse engineer, decompile, or disassemble the Software, and any attempt to do so shall immediately terminate this EULA - except and only to the extent that such activity may be expressly permitted, notwithstanding this limitation, either by applicable law or, in the case of open source software, the applicable open source license. You may not make any changes or modifications to any portion of the Software, or create any derivative works, without the written permission of an officer of Tyco (except as provided in Section 3(f) of this EULA with respect to "open source" software). You may not remove any proprietary notices, marks or labels from the Software. You shall institute reasonable measures to ensure compliance with the terms and conditions of this EULA by your personnel and agents.

b. Copyright Notices. You must maintain all copyright notices on all copies of the Software.

c. Transfer. You may only transfer your rights under this EULA (i) as part of a permanent sale or transfer of all of the devices for which the Software is licensed as applicable; (ii) if you transfer all of the Software (including all component parts, the media and printed materials, any upgrades and this EULA); (iii) if you do not retain any copies of any portion of the Software; (iv) if the recipient agrees to the terms of this EULA; and (v) if the Software is an upgrade, such transfer must also include all prior versions of the Software. You agree that failure to meet all of these conditions renders such transfer null and void.

d. Termination. Without prejudice to any other rights, Tyco may terminate this EULA if you fail to comply with the terms and conditions herein. In such event, you must immediately destroy all copies of the Software and all of its component parts. To the extent the Software is embedded in hardware or firmware, you will provide prompt access to Tyco or its representative to remove or lock Software features or functionality as Tyco determines.

e. Subsequent EULA. Tyco may also supersede this EULA with a subsequent EULA pursuant to providing you with any future component, release, upgrade or other modification or addition to the Software. Similarly, to the extent that the terms of this EULA conflict with any prior EULA or other agreement between you and Tyco regarding the Software, the terms of this EULA shall prevail.

f. Incorporation of "Open Source" and other Third Party Software. Portions of the Software may be subject to certain third party license agreements governing the use, copying, modification, redistribution and warranty of those portions of the Software, including what is commonly known as "open source" software. Such portions of the Software are governed solely by the terms of such other license, and no warranty is provided under this License for open source software. By using the Software you are also agreeing to be bound to the terms of such third party licenses. If provided for in the applicable third party license, you may have a right to reverse engineer such software or receive source code for such software for use and distribution in any program that you create, so long as you in turn agree to be bound to the terms of the applicable third party license, and your programs are distributed under the terms of that license. If applicable, a copy of such source code may be obtained free of charge by contacting your Tyco representative.

g. Trademarks. This EULA does not grant you any rights in connection with any trademarks or service marks of Tyco, its affiliates or its suppliers.

h. Rental. You may not sublicense, rent, lease or lend the Software. You may not make it available to others or post it on a server or web site or otherwise distribute it.

i. Software Keys. The hardware/software key, where applicable, is your proof of license to exercise the rights granted herein and must be retained by you. Lost or stolen keys will not be replaced.

j. Demonstration and Evaluation Copies. A demonstration or evaluation copy of the Software is covered by this EULA; provided that the licenses contained herein shall expire at the end of the demonstration or evaluation period.

k. Registration of Software. The Software may require registration with Tyco prior to use. If you do not register the Software, this EULA is automatically terminated and you may not use the Software.

l. Additional Restrictions. The Software may be subject to additional restrictions and conditions on use as specified in the documentation accompanying such Software, which additional restrictions and conditions are hereby incorporated into and made a part of this EULA.

m. Upgrades and Updates. To the extent Tyco makes them available, Software upgrades and updates may only be used to replace all or part of the original Software that you are licensed to use. Software upgrades and updates do not increase the number of copies licensed to you. If the Software is an upgrade of a component of a package of Software programs that you licensed as a single product, the Software may be used and transferred only as part of that single product package and may not be separated for use on more than one computer or System. Software upgrades and updates downloaded free of charge via a Tyco authorized World Wide Web or FTP site may be used to upgrade multiple Systems provided that you are licensed to use the original Software on those Systems.

n. Tools and Utilities. Software distributed via a Tyco-authorized World Wide Web or FTP site (or similar Tyco-authorized distribution means) as a tool or utility may be copied and installed without limitation provided that the Software is not distributed or sold and the Software is only used for the intended purpose of the tool or utility and in conjunction with Tyco products. All other terms and conditions of this EULA continue to apply.

4. EXPORT RESTRICTIONS. You agree that you will not export, re-export or transfer any portion of the Software, or any direct product thereof (the foregoing collectively referred to as the "Restricted Components"), to IRAN, NORTH KOREA, SYRIA, CUBA and SUDAN, including any entities or persons in those countries, either directly or indirectly ("Tyco's Position"). You also agree that you will not export, re-export or transfer the Restricted Components to any other countries except in full compliance with all applicable governmental requirements, including but not limited to applicable economic sanctions and constraints administered by the U.S. Treasury Department and applicable export control measures administered by the U.S. Department of Commerce and U.S. Department of State, any other U.S. government agencies, and measures administered by the European Union or the government agencies of any other countries. Any violation by you of the applicable laws or regulations of the U.S. or any other government, or where you breach Tyco's Position notwithstanding whether or not this is contrary to any aforementioned applicable laws or regulations, will result in automatic termination of this EULA.

5. U.S. GOVERNMENT RESTRICTED RIGHTS. The Software is Commercial Computer Software provided with "restricted rights" under Federal Acquisition Regulations and agency supplements to them. Any use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFAR 255.227-7013 et. seq. or 252.211-7015, or subparagraphs (a) through (d) of the Commercial Computer Software Restricted Rights at FAR 52.227-19, as applicable, or similar clauses in the NASA FAR Supplement. Contractor/manufacturer is Sensormatic Electronics, LLC, 6 Technology Park Drive, Westford, MA 01886.

6. LIMITED WARRANTY.

a. Warranty. Tyco warrants that the recording medium on which the Software is recorded, hardware key, and the documentation provided with it, will be free of defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to the first user. Tyco further warrants that for the same period, the Software provided on the recording medium under this license will substantially perform as described in the user documentation provided with the product when used with specified hardware. THE FOREGOING EXPRESS WARRANTY REPLACES AND IS IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED OR OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT OR NON-MISAPPROPRIATION OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY, CUSTOM, TRADE, QUIET ENJOYMENT, ACCURACY OF INFORMATIONAL CONTENT, OR SYSTEM INTEGRATION. TYCO MAKES NO WARRANTY THAT ANY PORTION OF THE SOFTWARE WILL OPERATE ERROR-FREE, FREE OF ANY SECURITY DEFECTS OR IN AN UNINTERRUPTED MANNER. TYCO SHALL NOT BE RESPONSIBLE FOR PROBLEMS CAUSED BY CHANGES IN THE OPERATING CHARACTERISTICS OF THE DEVICE(S) UPON WHICH THE SOFTWARE IS OPERATING, OR FOR PROBLEMS IN THE INTERACTION OF THE SOFTWARE WITH NON-TYCO SOFTWARE OR HARDWARE PRODUCTS. TYCO NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON PURPORTING TO ACT ON ITS BEHALF TO MODIFY OR TO CHANGE THIS WARRANTY, NOR TO ASSUME FOR IT ANY OTHER WARRANTY OR LIABILITY CONCERNING THIS SOFTWARE. THE WARRANTY MADE BY TYCO MAY BE VOIDED BY ABUSE OR MISUSE. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS UNDER MANDATORY LAW THAT VARY FROM STATE TO STATE AND COUNTRY TO COUNTRY.

b. Exclusive Remedy. Tyco's entire liability and your exclusive remedy under the warranty set forth in this Section 6 will be, at Tyco's option, to (i) attempt to correct Software errors with efforts Tyco believes suitable to the problem, (ii) replace at no cost the recording medium, Software or documentation with functional equivalents as applicable, or (iii) refund a pro-rated portion of the license fee paid for such Software (less depreciation based on a five-year life expectancy) and terminate this EULA, provided, in each case, that Tyco is notified in writing of all warranty problems during the applicable warranty period. Any replacement item will be warranted for the remainder of the original warranty period. No remedy is provided for failure of the Software if such failure is the result of accident, abuse, alteration or misapplication with respect to the Software or any hardware on which it is loaded. Warranty service or assistance is provided at the original point of purchase.

7. LIMITATION OF LIABILITY & EXCLUSION OF DAMAGES.

a. LIMITATION OF LIABILITY. IN NO EVENT WILL TYCO'S AGGREGATE LIABILITY (INCLUDING, BUT NOT LIMITED TO, LIABILITY FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF CONTRACT, MISREPRESENTATION AND OTHER CONTRACT OR TORT CLAIMS) ARISING FROM OR RELATED TO THIS EULA, OR THE USE OF THE SOFTWARE, EXCEED THE GREATER OF USD$5.00 OR THE AMOUNT OF FEES YOU PAID TO TYCO OR ITS RESELLER FOR THE SOFTWARE THAT GIVES RISE TO SUCH LIABILITY. BECAUSE AND TO THE EXTENT THAT SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSIONS OR LIMITATIONS OF LIABILITY ABOVE, THESE MAY NOT APPLY TO YOU.

b. EXCLUSION OF OTHER DAMAGES. UNDER NO CIRCUMSTANCES SHALL TYCO OR ANY OF ITS RESELLERS OR LICENSORS BE LIABLE FOR ANY OF THE FOLLOWING: (I) THIRD PARTY CLAIMS; (II) LOSS OR DAMAGE TO ANY SYSTEMS, RECORDS OR DATA, OR LIABILITIES RELATED TO A VIOLATION OF AN INDIVIDUAL'S PRIVACY RIGHTS; OR (III) INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, PUNITIVE, RELIANCE, OR COVER DAMAGES (INCLUDING LOST PROFITS AND LOST SAVINGS), IN EACH CASE EVEN IF TYCO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. YOU ARE SOLELY

RESPONSIBLE AND LIABLE FOR VERIFYING THE SECURITY, ACCURACY AND ADEQUACY OF ANY OUTPUT FROM THE SOFTWARE, AND FOR ANY RELIANCE THEREON. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR THE LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO SOME OF THE ABOVE LIMITATIONS MAY APPLY TO YOU ONLY TO THE EXTENT PERMITTED BY THOSE LAWS.

8. GENERAL. If any provision of this EULA is found to be unlawful, void, or for any reason unenforceable, then that provision shall be severed from this EULA and shall not affect the validity and enforceability of the remaining provisions. You should retain proof of the license fee paid, including model number, serial number and date of payment, and present such proof of payment when seeking service or assistance covered by the warranty set forth in this EULA. This EULA is governed by the laws of the State of New York, without regards to its conflicts of law principles. The parties hereby irrevocably agree that they submit themselves to the personal jurisdiction of the state and federal courts of New York for purposes of resolving any and all disputes arising under or related to these terms and conditions. The parties specifically exclude the application of the provisions of the United Nations Convention on Contracts for the International Sale of Goods.

9. ADDITIONAL NOTICES.

a. For Software that implements the MPEG-4 Visual Standard: PORTIONS OF THIS PRODUCT ARE LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (I) ENCODING VIDEO IN COMPLIANCE WITH THE MEPG-4 VISUAL STANTARD (“MPEG-4 VIDEO”) AND/OR (II) DECODING MEPG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MEPG LA TO PROVIDE MPEG-4 VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHE RUSE. ADDITOINAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LCICENSING MAY BE OBTAINED FROM MPEG LA, LLA. SEE HTTP://WWW.MPEGLA.COM.

b. For Software that implements the AVC Standard: PORTIONS OF THIS PRODUCT ARE LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.