

IndigoVision HD Interceptor Camera Specialized Range

User Guide

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1 ABOUT THIS GUIDE

This guide is written for users of the IndigoVision HD Interceptor Camera. It provides installation and configuration information for the device variants, as well as a description of the hardware and specifications.

Please ensure you read the instructions provided in the guide before using the device.

Safety notices

This guide uses the following formats for safety notices:



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in moderate injury, damage the product, or lead to loss of data.



Indicates a hazardous situation which, if not avoided, may seriously impair operations.



Additional information relating to the current section.

2 HARDWARE DESCRIPTION

This chapter details the HD Interceptor Camera, its connections, and its weights and dimensions.

Overview

The HD Interceptor Camera is designed to be used with the company's complete end-to-end IP Video solution. It is a ruggedized PTZ camera with optional IR and white lighting variants.



Figure 1: HD Interceptor Camera with IR lighting

Variants

The HD Interceptor Camera is available in the following variants:

- HD Interceptor Camera
- HD Interceptor Camera with IR and white light illumination (IR250W)
- HD Interceptor Camera with powerful IR illumination (IR275)
- HD Interceptor Camera with powerful spot IR illumination (IR550S)
- PoE HD Interceptor Camera

Ensure that you read the instructions within this document relating to the camera variant you have been shipped.



The camera is IP68 rated. There are no user serviceable parts. Servicing should only be performed by qualified personnel. If a camera malfunctions contact IndigoVision Technical Support for assistance at technical.support@indigovision.com.

HD Interceptor Camera

The HD Interceptor Camera variant is a ruggedized aluminum encased PTZ HD camera.

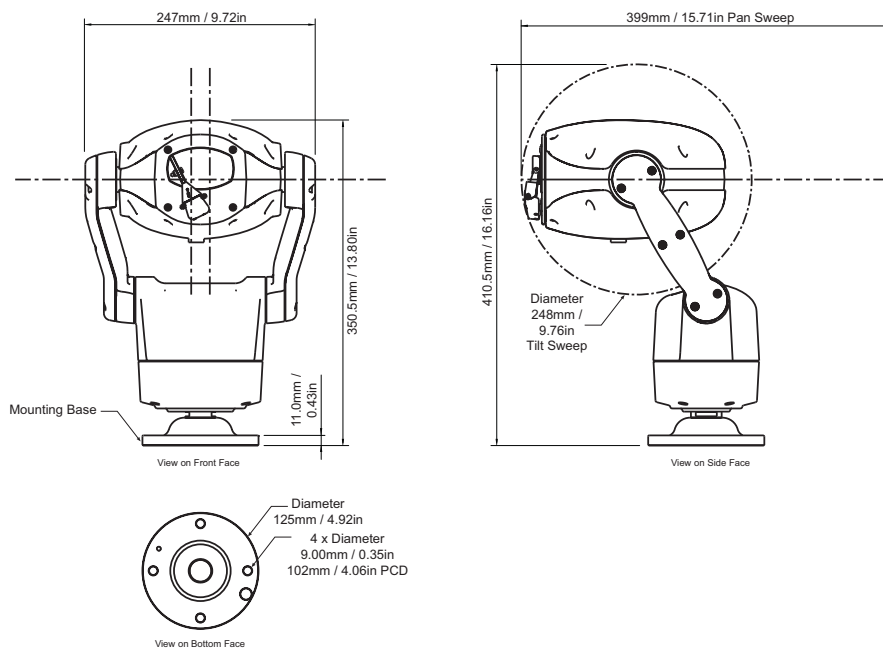


Figure 2: HD Interceptor Camera variant

Dimensions

- 247mm / 9.7 in (w) x 350.5mm / 13.80 in (h)
- Pan sweep:
 - 399mm / 15.71 in (w) x 410.5mm / 16.16 in (h)

Weight

- 7.49 Kg (16.5 lbs) (excluding packaging)

HD Interceptor Camera with IR and white light (IR250W)

The HD Interceptor Camera with IR and white light illumination is a ruggedized aluminum encased PTZ HD camera. It includes a white light source for better night-time facial recognition.

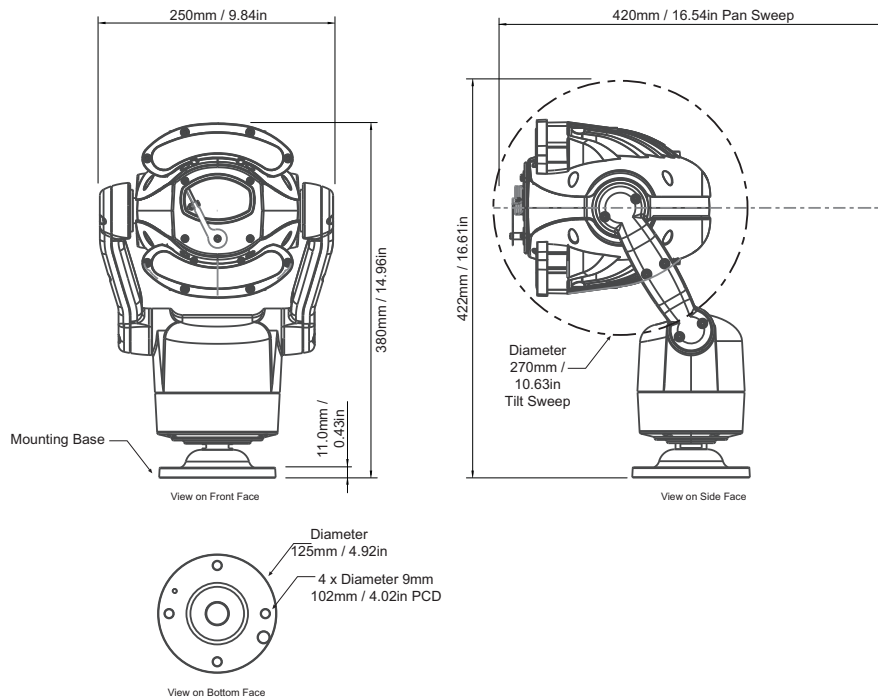


Figure 3: HD Interceptor Camera variant with IR and white light illumination

Dimensions

- 250mm / 9.84 in (w) x 380mm / 14.96 in (h)
- Pan sweep:
 - 420mm / 16.54 in (w) x 422mm / 16.61 in (h)

Weight

- 8.25 Kg (18 lbs)

HD Interceptor Camera with IR (IR275)

The HD Interceptor Camera variant with IR illumination is a ruggedized aluminum encased PTZ HD camera. It includes an IR light source providing greater low and night-time illumination.

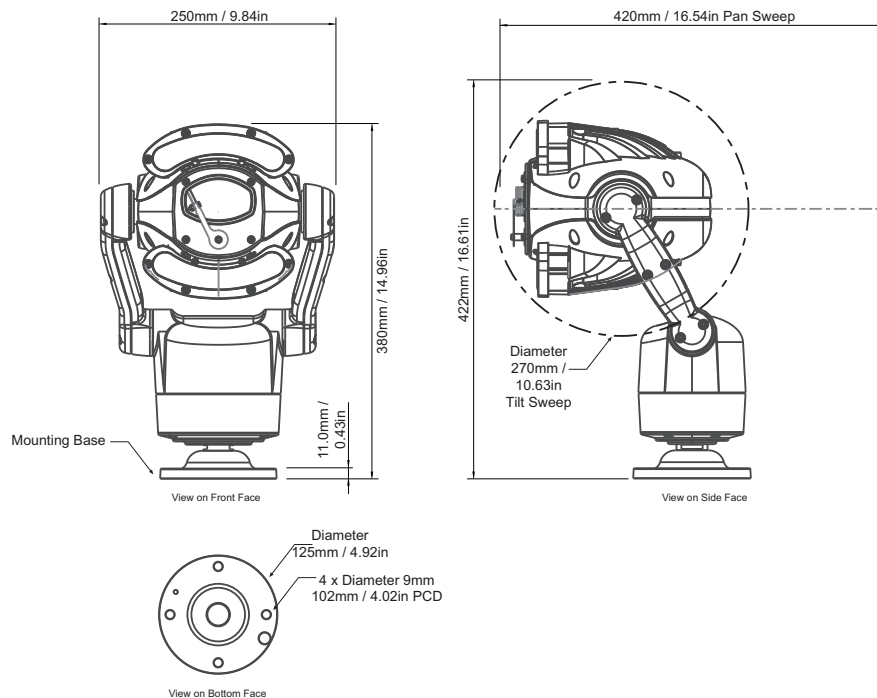


Figure 4: HD Interceptor Camera variant with IR and white illumination

Dimensions

- 250mm / 9.84 in (w) x 380mm / 14.96 in (h)
- Pan sweep:
 - 420mm / 16.54 in (w) x 422mm / 16.61 in (h)

Weight

- 8.25 Kg (18 lbs)

HD Interceptor Camera with IR (IR550S)

The HD Interceptor Camera variant with IR illumination spot is a ruggedized aluminum encased PTZ HD camera. It includes a spot IR light source providing greater low and night-time illumination for longer distances.

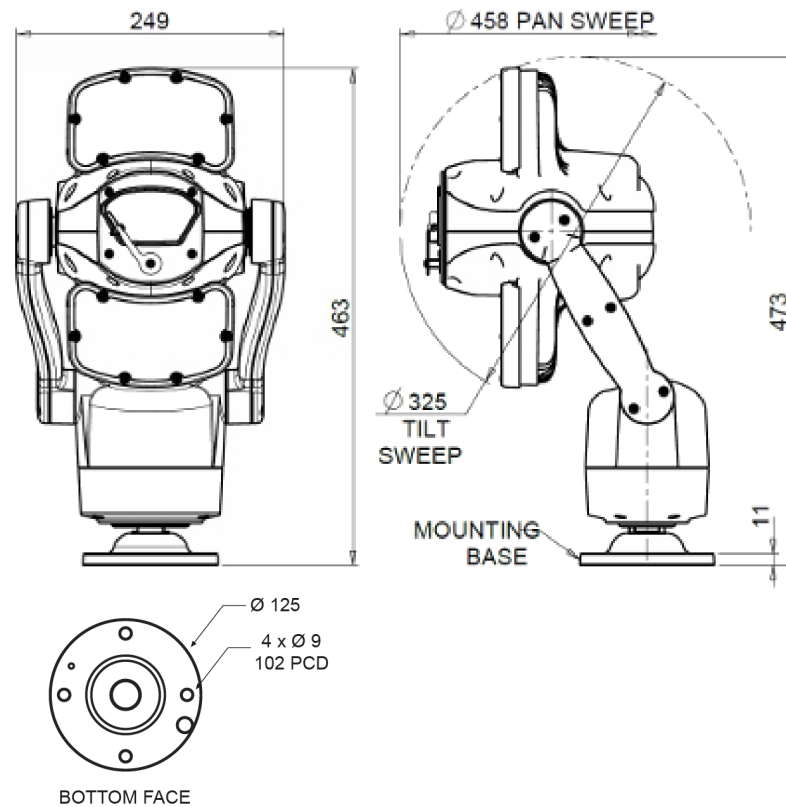


Figure 5: HD Interceptor Camera variant with spot IR

Dimensions

- 250mm / 9.84 in (w) x 463mm / 18.22 in (h)
- Pan sweep:
 - 458mm / 18.03 in (w) x 473mm / 18.62 in (h)

Weight

- 8.5 Kg (18.74 lbs)

PoE HD Interceptor Camera

The PoE HD Interceptor Camera variant is a ruggedized aluminum encased PTZ HD camera.

This camera should be powered by an Ultra PoE (802.3bt) source.

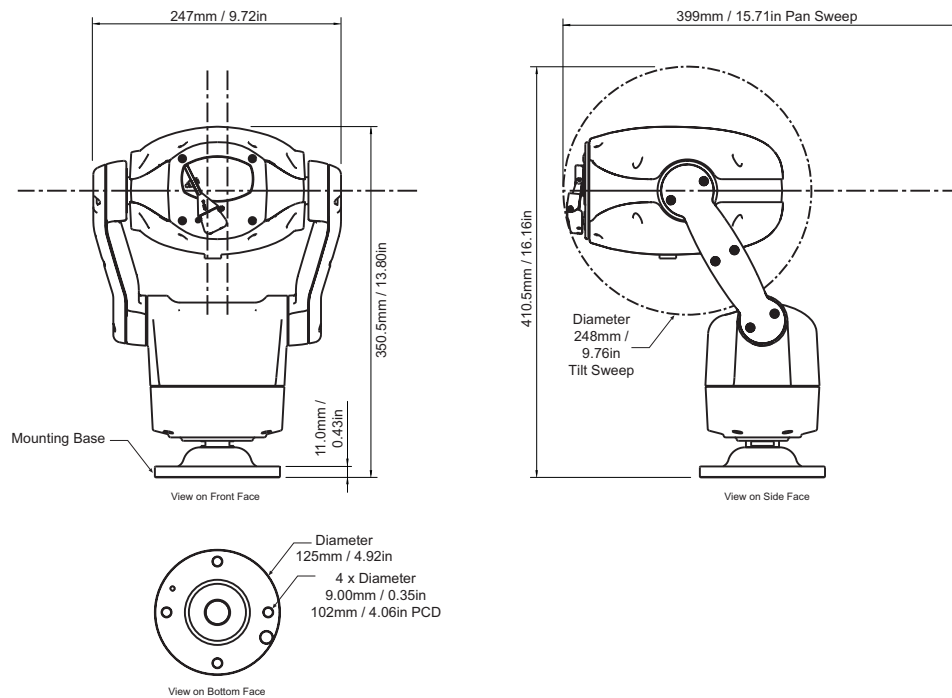


Figure 6: PoE HD Interceptor Camera variant

Dimensions

- 247mm / 9.7 in (w) x 350.5mm / 13.80 in (h)
- Pan sweep:
 - 399mm / 15.71 in (w) x 410.5mm / 16.16 in (h)

Weight

- 7.49 Kg (16.5 lbs) (excluding packaging)

Mounts

All variants of the HD Interceptor Camera use the Hinge mount.

Hinged mount

The hinged mount provides easy access and installation options. This option allows for a quick installation.

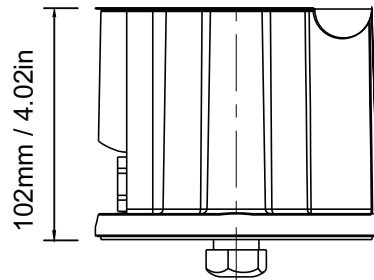


Figure 7: Hinged mount

Connections

Hinged mount connections

All connections are on the base of the camera.

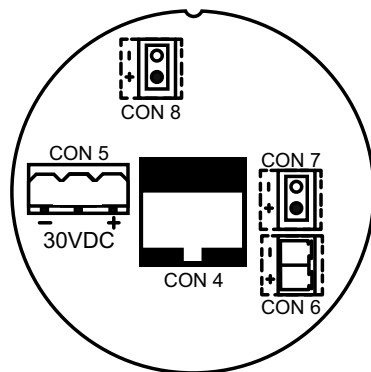


Figure 8: All variants (except PoE)

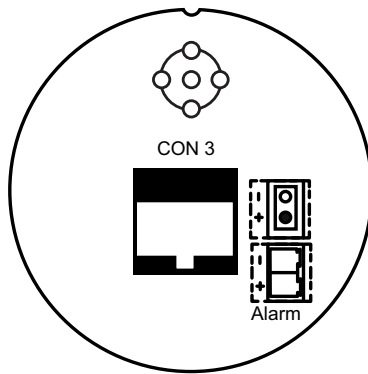


Figure 9: PoE only

Cable connections

Table 1: Cable connections

Connector Number	Description	Signal
CON 3 or CON 4	Ethernet socket	RJ45
CON 5 -	Power supply, Black	DC PSU-
CON 5 (middle)	Not used	
CON 5 +	Power supply, Red	DC PSU+
CON 6 or Alarm	Output COM	COM
CON 6 or Alarm	Output normally open	Normally open
CON 7	Not used	
CON 8	Not used	

Power requirements

The camera variants are powered using auxiliary power, excluding the PoE variant.

- HD Interceptor Camera: 30V DC +/- 10% 54W Max
- HD Interceptor Camera with IR250W lighting: 30V DC +/- 10% 99W Max
- HD Interceptor Camera with IR275W lighting: 30V DC +/- 10% 99W Max
- HD Interceptor Camera with IR550S lighting: 30V DC +/- 10% 126W Max

The PoE Interceptor variant must be powered by an Ultra PoE supply. The supply must be compliant with the IEEE 802.3bt standard.



Warning

Only use a Class 2 Isolated power supply for the DC power input.

You can order a suitable power supply separately:

- 30V DC (Part number 110282).
- Ultra PoE Injector (Part number 130179).

The hinged mount cameras are powered using connections from separate power cables.

► For more information, see "Hinged mount connections" on page 13

3 GETTING STARTED

This chapter describes the initial steps required to start using your HD Interceptor Camera.

Package contents

Before continuing, please check that you have been shipped the items listed for your device.

HD Interceptor Camera variants with hinged mount

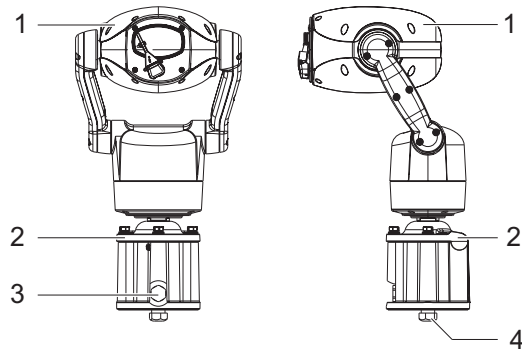


Figure 10: HD Interceptor Camera variants package contents

Package contents

1. Camera
2. Hinged mount
3. Side access hole
4. Base access hole

In addition to the camera, the following items are also provided:

- Quick Start Guide

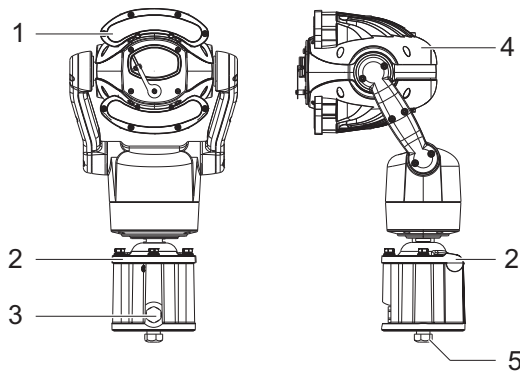
IR250W or IR275 HD Interceptor Camera variants with hinged mount

Figure 11: IR250W or IR275 HD Interceptor Camera variants package contents

Package contents

1. IR light source
2. Hinged mount
3. Side access hole
4. Camera
5. Base access hole

In addition to the camera, the following items are also provided:

- Quick Start Guide

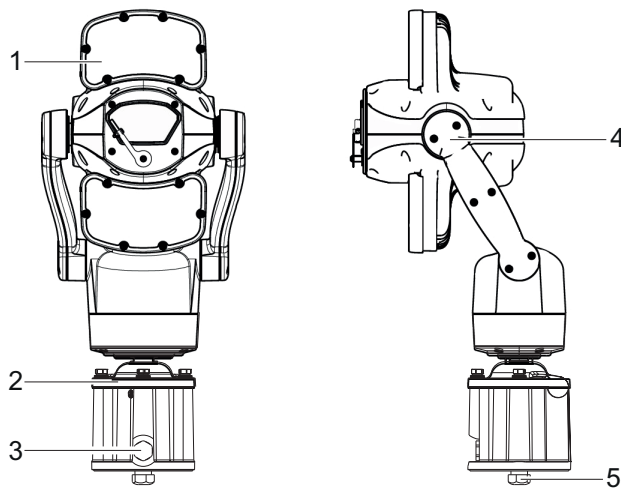
IR550S HD Interceptor Camera variant with hinged mount

Figure 12: IR550S HD Interceptor Camera variant package contents

Package contents

1. IR light source
2. Hinged mount
3. Side access hole
4. Camera
5. Base access hole

In addition to the camera, the following items are also provided:

- Quick Start Guide

PoE HD Interceptor Camera variant with hinged mount

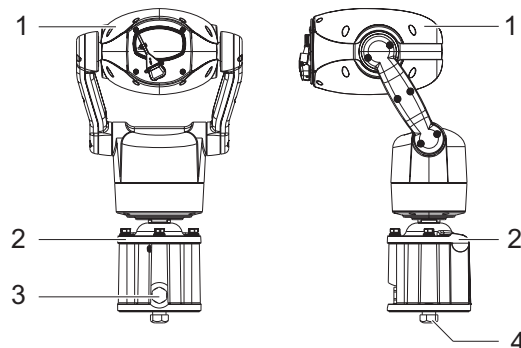


Figure 13: PoE HD Interceptor Camera variant package contents

Package contents

1. Camera
2. Hinged mount
3. Side access hole
4. Base access hole

In addition to the camera, the following items are also provided:

- Quick Start Guide

Configuring the device

Before you connect the device to your network, you must configure the device's IP address and subnet mask appropriately.

Initial camera configuration

You can configure your HD Interceptor Camera using the Web Configuration pages.

Initial IP properties

The following table displays the initial default IP properties for a device.

Table 2: Initial IP properties

Initial Configuration	
Default Username	Admin
Default Password	1234
IP Address	10.5.1.10
Subnet Mask	255.0.0.0
Default Gateway	10.0.0.1

Using the configuration pages

To configure your device using the Configuration pages you must do the following:

1. Prepare an isolated network.
2. Prepare your PC for initial device configuration.
3. Configure your device. This includes specifying its IP address and subnet mask.

You must also have one of the following:

- A CAT5 crossover cable suitable for connection between the PC and the RJ45 connector on the device
- A power source

Prepare an isolated network

Connect your device and the PC you are using to configure it on their own isolated network.

To do this, connect the device to the PC using an Ethernet cross-over cable.

Preparing for initial device configuration

You cannot connect the device to your network until you have changed the IP settings to suit your network.

To change the factory defaults of your device, you must first, temporarily, modify your PC's network settings.



Make a note of the original value of all settings that are to be changed so that you can re-enter them when you have completed the initial device configuration.

To change your PC's settings, use the Windows Network Settings configuration application to set the PC's IP address and subnet mask.

1. Open **Control Panel > Network and Sharing Center > Change adapter settings**.
2. Right-click **Local Area Connection** and select **Properties**.
3. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.
4. Set the IP address to an address close to the factory IP address, for example, 10.5.1.2, and change the PC's subnet mask to 255.0.0.0 (the same as the factory default).
5. Click **OK**, then **OK** again to save the changes.

Configure your device

After you have changed your PC's network settings, you can change the IP values of the device from its factory defaults.

1. Open the Internet Explorer application.
The **Live Video** page opens.
2. Click **Network** on the left of the page.
The **Network** page opens.
3. Configure the settings to suit your installation.
The following fields are available:
 - **DHCP Enable** — Select to assign the following network parameters using a DHCP Server:
DHCP assigns an IP address to the device.

- **IP Address**
- **Netmask**
- **Default Gateway**
- **Primary Name Server**

Notice *IndigoVision recommends that if you are using DHCP, you should configure the DHCP server to assign a given IP address based on the device's MAC address. Also, if the device does not receive any response from the DHCP server it will default to using the network parameters supplied by the last completed DHCP request.*

If you are not using DHCP, you must enter the information manually.

- **IP Address** — Enter the IP address of the device.
- **Netmask** — Enter the IP network subnet mask.



Ensure that you enter the correct values. Once you change from the defaults, the device is no longer configurable by the PC with its current network settings.

- **Default Gateway** — This is the appropriate default gateway for remote network access.
- **Primary Name Server** — Enter the IP address of a primary (1) DNS server.
If you have problems maintaining a network link, contact your system administrator to determine the appropriate setting.

Notice *This setting must match the setting on the switch port that the device will be connected to. Otherwise, you may experience poor network performance.*

After you have entered the configuration data, click **OK** to apply the changes.

Notice *IndigoVision recommends that you make a note of the new IP address and subnet mask, or label the device with its new details.*



Ensure that no two devices share the same IP address (or that of the PC).

Notice *You **must** configure network settings before you can access the next unit for configuration.*

4

INSTALLATION

This section details how to install the HD Interceptor Camera.

Installation using the hinged mount



When handling the camera with its cable fitted, support the camera body. Do not hold the camera by the cable.

1. Remove the three locking bolts and open the hinged mount.
Ensure the safety cable is attached to the camera and hinged mount.
2. Run the cable through an M20 gland into the camera using the side or bottom entry hole.
The gland must be sealed. If the cable is brought in using the bottom entry hole and there is a weather proof environment below the mounting surface, then the gland is not required.
Use CAT5 cable for the Ethernet and a 2-core 14 AWG to 18 AWG cable for the power (if applicable).
The maximum cable length for the CAT5 cable is 100m.
The maximum cable length for the camera power (if applicable) depends on the gauge.
 - 14 AWG - 85m for IR250W, 85m for IR275, 25m for IR550S
 - 16 AWG - 54m for IR250W, 54m for IR275, 15m for IR550S
 - 18 AWG - 35m for IR250W, 35m for IR275, 10m for IR550S
3. Connect the RJ45 connector to the camera (CON 3/4).
4. Connect the power supply (CON 5) if required.
5. Close the hinge and secure the locking bolts.
6. Tighten the gland to ensure a water-tight seal around the cable.

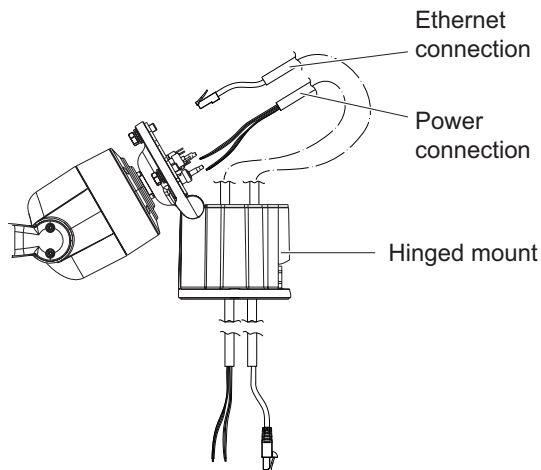


Figure 14: Feed cable through the side or bottom entry holes of hinged mount

Do not use an adhesive or silicone between the seal and the surface that the hinged mount is attached to as this may trap moisture and affect the reliability of the product.



*When the optional sunshield is fitted to a camera it is necessary to set the **Sun Shield** parameter to **On**.*

This sets the tilt-up limit so that the camera does not hit the sunshield.

Notice

The sunshield is only available on IR250W and IR275 models.

Reset the default factory settings

If there is a conflict with the camera's allocated IP address and another IP address on your network you may have to reset the camera back to the default factory settings, including all network connection settings.

You can reset the camera settings to factory defaults using the following methods:

Firmware factory restore

1. Select **Maintenance**.
2. Select **Parameters and Settings > Factory Reset**.

Hardware factory restore

1. Disconnect the camera from your network.
2. Power off the camera for three seconds.
3. Power on the camera for four seconds.
4. Repeat step two and three for five times.
5. On the final power on leave the power switched on for at least five minutes to allow the camera to initialise.

5 CONFIGURATION

This section explains the various configuration options provided by the Web Configuration pages.

Web configuration pages

To access the Web Configuration pages, enter the IP address of your device into a web browser. The **Login** page is displayed. Once logged in, the **Live Video** page is displayed.

To access any of the other configuration pages, click the required option in the menu on the left of each page.

To save the changes made on any page, click **OK** before navigating away from that page.

Live Video

Use this page to control the camera video.

- **Stream**
Select the required stream from the drop-down.
If the camera is configured for a single stream, there is only one stream in the list.
- **Zoom**
Select **+** or **-** to zoom in or out.
- **Pan/Tilt**
Use the control buttons to move the camera view.
- **Preset**
Select a preset position.
- **Seek**
Go to the selected preset position.

You can create or update your own Preset camera positions:

1. Select a Preset item from the drop-down list.
2. Position the camera in the required location.
3. Select **Define**.

The preset is saved.

Live Status

Use this page to view the camera live status.

To manually refresh the camera live status, select **Manual** and click **Refresh**. To set refresh intervals, select one of the available settings within the range from 5 s to 5 min.

To save the camera live status to an HTML file, click **Save**.

You can find following information in this page:

- **Camera:**
Camera Time, IP Address, Zoom Range, NTP Status, Timezone, Firmware Version, Hardware Version, NTP Server
- **Video Streams:**
CODEC, Resolution, Frame Rate, Bit Rate, Rate Control, Quality, IP Ratio, RTP Block, I-Frame
- **Streaming:**
Time, IP Address, Port
- **System:**
Uptime, Network Transmit, Network Receive, Storage, Transmit Total, Receive Total
- **Current Status:**
Pan Position, Tilt Position, Zoom Position, Current Preset, Focus Mode, Iris Mode, Sensor Mode, White Lights, Wiper, Power Use, Pan Proportion, Tilt Proportion, Zoom Proportion, Night Mode, Focus Position, Iris Position, Focus Range, IR Lights, Washer, Attack Detect, Pan Moving, Tilt Moving, Zoom Moving, Night Presets, Iris Attenuation, Brightness
- **Frame Statistics:**
Measured in bytes: **Frame Size, Frame Average, I-Frame Average, Max**
Measured in ms: **Transmission Time, P-Frame Average, I-Frame Average, I-Frame Max (FU-A)**

Video

Use this page to configure the camera video and stream quality, and set overlay options.

- **Camera**
Enter the name of the camera. You can use a maximum of 32 alphanumeric characters.
- **StreamType**
Choose between single or dual video streams.
- **CODEC**
Select the compression format for the stream to use.

Notice *When changing the streams the live video is replaced with the message "Updating". There can be a delay of up to 10 seconds before the new stream is displayed.*

- **Resolution**
Select the resolution quality to be used by the camera.
- **Framerate**
Set the maximum frame rate. Choose 25fps for countries with 50Hz grid power supply-frequency.
- **Bit Rate**
Enter the target video bit rate you want to use.
- **Rate Control**
Where available, choose from the following:
 - Capped Bit Rate (CBR)

- Variable Bit Rate (VBR)
- Constrained Variable (CVBR): Limits the rate to 8Mbps.
CBR attempts to cap the bit rate to the target bit rate, regardless of activity.
- **Overlay Setting**
Select the information you want to display over the video.
 - **Date**
 - **Time**
 - **Text:** Enter the text to display and select the position where you want the text display on the video
 - **Detailed Info:** Displays all the configured video settings
 - Custom A and B: Enable options to display text on the top line of the video when the camera is operated.
- **RTSP URL**
Specify the URL for the RTSP (Real-time Streaming Protocol) used to control streaming media services for the camera.
- **Overlay Positions**
Specify the position of the date and time overlays on the screen.
- **Show Sub-stream by Default:** When selected, uses the sub-stream configuration for default web page streaming. (default Off)
- **RTSP authentication:** (default On)
- **D1 16:9 aspect ratio:** When selected, uses a 16:9 aspect ratio to capture video, then transmits in D1 frame. (default Off)

Video Advanced

Use this page to configure the advanced video settings.

Notice *These settings are intended for advanced users only.*

You can choose from the following Real Time Streaming Protocol stream types:

- **Multicast**
The camera sends a video stream to a UDP address. Multiple receivers can access this single video stream, if the multicast feature is enabled on their device.
- **Unicast**
The camera sends separate video streams to multiple receivers.

You can enable multicast for each of the streams. If you do not enable multicast for either of them, the camera will operate in unicast.

To enable multicast for a stream, select **Enable** and enter the UDP **Address**, **Port** number, and **TTL** (Time-to-Live).



To allow receivers on different segments of the network to access the multicast video stream, ensure that all intermediate network switches and routers are set to correctly route the video stream from the UDP address.

To enable simultaneous use of unicast and multicast streams, select **Concurrent Unicast/Multicast**.

To change unicast stream limit, use the **Unicast Stream Limit** bar.

In the **Configuration** section, you can configure the following settings:

- **IP Ratio**
Sets the codec's required ratio of frames to an I frame.
If the camera is configured for the PAL region, the default is 25 frames.
If the camera is configured for the NTSC region, the default is 30 frames.
- **RTP Block Size**
Sets the size of the RTP (Real-time Transport Protocol) blocks.
- **I Frame Size**
Sets the size of the I Frames.
- **Streamer Version**
Lets you select the underlying video streaming library, the default is Original.

Select **OK** to apply the changes.

Advanced Features

Use this page for configuring presets and tours.

Presets

Each Preset (1 to 360) can have individual settings for the following:

The preset can be named (Maximum of 32 characters) using the text box. Click **Define** to define the preset.

- Type - Choose from one of the following:
 - Night - Allow different options to be used for a preset that includes lamps.
 - Simple - Set the preset without lamp options.
 - Wiper - Set the preset to activate the wiper.
 - Washer - Set the preset to activate the washer.
 - Re-Map - Choose which function/preset you want to re-map to the new preset number above.
 - Tour - Set the preset to start or stop a preset tour.
 - Mimic - Set the preset to start or stop a mimic tour.
 - User - Used on systems supporting 360 SDK.
 - Auxiliary - Recall an auxiliary command.
- Illumination - IR (default), WHITE, NONE 'Night Preset'
- Intensity - 100% (default), 80%, 60%, 40%, 20%, 0% 'Night Preset'
- Sensor - MONO (default), COLOUR 'Night Preset'
- Focus Range - IR (default), AMBIENT 'Night Preset'
- PTZ - Enabled (default), Disabled always active

If Night Presets are turned ON and it is night time, setting the camera to seek to a preset causes the Illumination, Intensity, Sensor, and Focus Range to change as defined.

When a seek to a preset occurs during the day, or the Night Presets are turned OFF and it is night time, then Illumination, Intensity, Sensor, and Focus Range do not change.

The seek preset actions defined for PTZ occurs for all preset seeks and are not controlled by the Night Preset parameter, and do not depend upon whether it is night time.

Mimics

You can define mimics, or sets of actions which the camera repeats on command.

When you play a mimic, the camera repeats the mimic continuously until you stop it, or it is interrupted by an alarm.

You can define up to four different mimics.

Select **Start** to start to define the mimic.

Move the camera, seek presets and/or control the lens to define the actions to be saved for the mimic.

After the mimic is complete, select **Stop** to stop recording the mimic.

Select **Play** to start or stop the mimic that has been selected.

Tours

A tour of presets is stored in the camera as a list of tour points. A maximum of four individual tours of presets can be stored in each camera.

Each tour point consists of a preset number, the dwell time for which the camera pauses and the speed parameter that is used to seek the preset.

Each of the four tours of presets can contain between 1 and 90 points. Each point can be a preset in the range 1 to 360.

When programming a tour of presets, first store all the required presets into the camera and define the required dwell times and speeds of travel that you require the camera to use when the tour is started.

Different points can use any preset number including repeats of ones that have been used before. The speed that the camera travels at to reach the preset can be in the range 1 (slowest) to 100 (fastest). To seek the preset at the maximum speed, set speed to **Maximum**.

The delay (dwell) at each point is defined in seconds (Range 1 to 100).

Select **Add** to add a new point to the tour.

Select **Final** to indicate that this point is the last in the tour.

Select **Play** to start or stop the tour that has been selected.

Privacy Zones

Up to 24 privacy zones can be displayed at the same time.

Use pan, tilt, and zoom to place the object that is to be obscured by the privacy zone in the middle of the screen.

The privacy zone does not cover the whole of the screen which makes it easier to see the object that will be obscured.

It may be necessary to redefine the privacy zone to ensure that the object will be obscured properly or alternatively the privacy zone can be made to be twice the size of the object to eliminate the need for fine adjustment.

Define the privacy zone using **Define**.

Enable (or disable) the privacy zone using **Enable** or **Disable**.

The position of the selected privacy zone can be checked by selecting **Seek**.

Home Function

Use the **Home Function** to set the camera to perform an action after a period of inactivity.

Home Action

You can set a camera to a preset, tour or mimic after a period of inactivity.

Commands such as pan, tilt, and camera control will reset the home timer.

You can set **Home Action** to the following options:

- None (default)
- Preset
- Tour
- Mimic

Home Number

If **Home Action** is set to **Preset**, **Tour** or **Mimic**, **Home Number** can be set to one of the following:

- Presets 1 to 360
- Tours 1 to 4
- Mimics 1 to 4

Home Timer

If **Home Action** is set to **Preset**, **Tour** or **Mimic**, you can set the home timer to one of the following: 10s, 20s, 30s, 1m, 2m, 5m, 10m, 15m, 30m or 1h (default setting is 1 minute).

Wiper

Use **Wiper** settings to set the behavior of the camera's screen wipers.

Wiper Rest Time

You can use **Rest Time** to set the time that the wiper will rest in the park position between individual wipes.

You can set **Rest Time** to None (default) or between 1s and 15s.

Wiper On Time

You can use **On Time** to set the time that a wiper command remains ON before it automatically turns OFF.

You can set **On Time** to Single (default), 5s, 10s, 30s, 1m, 5m, 10m, 30m, 1h or Permanent.

Use Single to set the wiper to perform a single wipe and then stop.

Use Permanent to set the wiper to remain ON until it is manually turned OFF.

Camera

This page is used for configuring the camera settings.

The top line of the page on the right of the screen shows the camera type and the maximum optical zoom for the camera.

If you cannot find the option you want, this may be because the option is not supported by your camera model, or there is a conflict with a setting on another page.

Camera Settings

Use these options to choose settings for the camera.

Digital Zoom

When digital zoom is set Off (default) and you zoom IN, the zoom action stops at the end of optical zoom and the camera does not select digital zoom.

This avoids the reduction of the picture quality which can occur when a camera uses digital zoom.

When digital zoom is set On and you zoom IN, the zoom action pauses when the end of optical zoom is reached.

If you continue to try to zoom IN, the camera switches to digital zoom. This enlarges the picture. The picture quality reduces as more digital zoom is used.

White Balance

White balance can be set to one of the following options:

- Outdoor Auto (default)
- Auto
- Outdoor
- Indoor
- Auto Tracing
- Indoor A
- Indoor B
- Indoor C
- Sodium (for sodium lighting)
- Sodium Auto A (to suit the illumination.)
- Sodium Auto B

Wide Dynamic Range

Wide Dynamic Range improves the picture when extremes of bright and dark features are present in the picture.

It gives a good picture quality when there is adequate illumination for the dark parts of the picture but can cause pixelation for some views.

Zoom Speed

You can change the speed at which the camera zooms. This make it easier to control the camera.

When a camera has increased latency for the telemetry commands, for example, due to the speed of a transmission link, set the zoom to a slower speed.

Proportional Zoom

You can use this option to set the maximum speed at which the camera pans and tilts. This causes the camera to slow down zoomed IN.

This makes it easier to control the camera, by making it less sensitive when focused on a smaller area.

Freeze Presets

You can freeze the picture when the camera performs a fast seek so that indistinct moving pictures do not get displayed.

Pictures that are transmitted to other locations then use less bandwidth. When a camera captures a new image after it stops moving, the picture is often displayed more quickly.

Day Aperture

You can use this option to significantly increase the picture detail, particularly when the picture is dark.

Range 0 (soft) to 15 (sharp), the default is 10.

Higher values of aperture increase picture detail.

Sensor Frame Rate

You can use this to eliminate flicker on the display picture.

Changes to the sensor frame rate alter the available frame rate options and the available resolutions that are available when the streams are configured.

You can set the camera to suit 25 fps or 30 fps.

You must restart the camera when this parameter is changed.

Auto Focus/Iris on PTZ

When this is On, auto focus and iris on are automatically selected when you use pan, tilt, and zoom commands.

Fast Shutter

For normal surveillance, set **Fast Shutter** to Off. This is the default setting.

Select a Fast shutter speed when using ANPR (Automatic Number Plate Recognition).

You can set the fast shutter speed to 1/30000 (shortest), 1/10000, 1/7000, 1/5000, 1/2500, 1/1600 or 1/1000.

Using a fast shutter speed reduces the quality of the picture in low-light conditions.

Near Focal Limit

The **Near Focal Limit** parameter is the minimum distance on which the camera will focus.

This is useful for outdoor low-light pictures, in which there is a point source of light.

Setting **Near Focal Limit** to a smaller value than necessary could cause the camera to attempt to focus on artefacts from the point source of light, instead of focusing on the more important parts of the picture.

To improve the focus in low light situations, set **Near Focal Limit** to the largest practical value.

Often this is 2m less than the height of pole on which the camera is mounted. For example, set the **Near Focal Limit** to 4m if the camera is mounted on a 6m pole. This allows good definition when the camera focuses on people standing near to the pole.

If you are using the camera in a demonstration or indoor situation, or if you want the camera to focus on nearby objects, set the **Near Focal Limit** to the lowest available setting, so the camera can focus on nearby objects, such as those within 0.4m of the camera.

Steady Shot

You can use this feature to remove vibrations and camera-shake from the picture.

Picture-shake is caused by movement of the mounting pole or bracket, which is caused by wind or ground and building vibrations.

Picture-shake makes it more difficult to see the detail in the picture. The problem is made worse when the picture is zoomed-in.

If you select **Steady Shot** or **Stable Zoom** options, pictures that are transmitted to other locations use less bandwidth. When a camera captures a new image after it stops moving, the picture is often displayed more quickly.

The **Steady Shot** feature settings has different characteristics, depending on whether the camera is set to 1080P or 720P.

The **Extended Zoom** option is also available.

Exposure Offset

You can use this feature to set the camera's exposure offset within the range from -10.5dB to +10.5dB.

Zoom Wide Limit

You can use this feature to set the camera's zoom wide limit within the range from 1.0 to 2.9, where the upper value is model dependent.

Thermal Settings

Use these options to choose settings for the thermal camera.

Thermal Camera

This feature should remain set to **Not Present**, as Thermal options are not supported for the HD Interceptor Camera.

Night Settings

Use these options to set the camera's behavior at low light.

Night Changeover

You can set the **Night Changeover** to one of the following:

- **Light**
- **Medium**
- **Dark** (default)
- **Custom**
- **Off**

Your selection takes effect when the camera goes into dark mode.

If you select **Custom**, you can set custom ON and OFF levels.

Lower custom levels represent switching at brighter illumination.

Higher custom levels indicate darker illumination.

When IR lights switch ON, the camera switches to mono.

When illumination is OFF and White Light Lamps are ON, the camera switches to color.

Night Brightness

This controls the exposure compensation by artificially brightening the picture when the camera is used to view low light areas.

Night Illumination

Choose which type of light source is required for when the camera is in dark mode.

You can set this to IR or white light if supported by the camera.

Night Intensity

This sets the lamp intensity for normal use.

Night Presets can override the intensity that has been set.

You can set **Night Intensity** to: 0%, 20%, 40%, 60%, 80% or 100% (default). **Night Intensity** controls both IR and White lamps.

Night Sensor

You can set this to: Mono (default) or Colour.

Night Focus Range

This sets how the camera focuses in mono to suit the light source in the scene.

Night Focus Sensitivity

When this is set to Low, the method used to focus the camera is adjusted to suit low light conditions.

Night Aperture

You can use this to significantly increase the picture detail at night.

Range 0 (soft) to 15 (sharp). The default setting is 3.

Higher values of aperture increase picture detail.

Night Noise Reduction

You can use this to reduce picture noise for pictures which have low levels of illumination.

Reducing the noise can also reduce picture detail. You must set **Night Noise Reduction** to suit the circumstances.

Night Presets

Turn this feature On if the illumination of the night time views is different for the different presets.

This allows the following to be set for each separate preset:

- Illumination: IR/White/None
- Sensor: Mono/Color

► For more information, see "Advanced Features" on page 26

Night presets that have been set up for some of the presets are not lost when the night presets feature is turned Off. They are available when the night presets feature is subsequently turned On.

Dim lights angle and intensity

The camera uses lamps to illuminate distant objects in low light.

The camera lamps are normally set to maximum intensity to increase the distance at which objects can be seen.

When the camera tilts downwards to view nearby objects, the illumination may be too bright, which causes a reduced image quality.

The intelligent lighting feature reduces the intensity of the illumination when the camera tilts below the Dim Lights Angle.

Below this angle, the power to the lamps is reduced to the Dim Light Intensity.

The intelligent lighting feature automatically turns the lamps OFF when the camera tilts to the point that the lights move between the arms which support the tilting part of the camera.

- **Dim Lights Angle**
Set the angle below which the intelligent lighting system reduces the light intensity.
- **Dim Lights Intensity**
Set the percentage to which the intelligent light system reduces the light intensity, when the camera tilts below the Dim Lights Angle.

Night HLC level and HLC mask

The camera is fitted with HLC (High Light Compression).

You can use this feature when viewing objects which include parts of the image that are very bright, such as car head lights, street lights or torches.

Without the feature, the very bright parts of the image would cause the overall brightness of the image to be reduced. This degrades the quality of the parts of the image which are not brightly illuminated.

When the HLC feature is used, the very bright parts of the image are compressed or replaced with a mask that has a medium intensity. Consequently, the brightness of the darker parts of the image can have more gain, which allows improved contrast so that you can see the darker parts more clearly.

You can define the following settings:

- **Night HLC Level** - Set a value to help mask high intensity light sources.
- **Night HLC Mask** - Set a mask for the light sources.

Configuration

Use these options to set the camera's behavior when it powers up and operates.

Sun Shield

The sunshield is an optional component for the HD Interceptor Camera.

The sunshield protects the camera from direct sun light. Use the sunshield if the camera will be in direct sun light for extended periods of time.

**Caution**

*When the optional sunshield is fitted to a camera it is necessary to set the **Sun Shield** parameter to **On**.*

This sets the tilt-up limit so that the camera does not hit the sunshield.

Auto Flip

Use this feature to set how the camera will act when it is tilted fully down.

Semi – If the joystick is released when the camera has tilted fully down, and then moved down again, the camera will automatically perform a 180 degree pan.

Auto – When the camera is tilted fully down, it will automatically perform a 180 degree pan without the need to release the joystick.

Off – The camera will not automatically perform a 180 degree pan due to tilting the camera down.

Attack Detect

When the camera is physically forced or moved, the change of position is detected and automatically corrected without the need for the operator to readjust the pan and tilt manually.

It is useful on sites which are not continuously monitored by an operator.

Upright Mount

To allow the pan, tilt and picture flip commands to work correctly, select **Upright Mount** to be **Pole** or **Ceiling**.

When the camera is installed hanging downwards, select **Upright Mount** to **Ceiling**.

When camera is mounted upright, on the top of a pole, set **Upright Mount** to **Pole** (default).

Power-on Park

The Park position is Preset 150.

When **Power-on Park** is set to On, the camera automatically seeks preset 150 after it is switched On (or Power Reset is activated using the OSD Servicing Menu).

The camera remains in the park position until the camera is moved, after which the Home Function becomes active.

Pan / Tilt Speed

Use this feature to set the camera's pan / tilt speed to:

- Normal (default)
- From 20% to 80% slower
- From 20% to 80% faster

Status Refresh Rate

Use this feature to set the camera status refresh rate to:

- Slowest
- Slow
- Normal

- Fast
- Fastest

Power Saving

Use this feature to set the power saving options of the camera:

- **Auto Saving:** Reduces power to the pan and tilt motors when the camera is stationary.
- **Full Power:** Maintains full power to the motors at all times (default).

Static PTZ Mode

Select this option to disable all pan, tilt and zoom functionality except the washer position preset and the park mode preset. The default is **Off**.

Lighting

Use these options to choose how the camera uses its white lights to illuminate an area at low light.

White Lamps

If the camera variant is fitted with white lamps, set **White Lamps** to **On** (default). Otherwise, set it to **Off**.

OnMotion: White lights are turned on with manual PAN or TILT operation only. This is only applicable when it is dark and the night settings are configured for no illumination or IR illumination.

The lights remain on for the **White Timer** period or a minimum of 10 seconds if the period is set to **Off**.

Zoom, Focus, Iris, Preset Seeks, Tours, Mimics and **Home Function** do NOT activate this feature.

White lights will remain on during PAN and TILT operation.

White lights will remain on after PAN and TILT operation for the **White Timer** activation period.

The camera returns to its normal programmed night settings after the **White Timer** activation period has elapsed.

White light exclusion zones can be configured as normal and will override the above settings, disabling white lighting in excluded areas.

White Timer

If you select a time value for **White Timer** other than Off, **White Lamps** automatically switch Off when the time runs out.

The **White Timer** values are: Off, 1min (default), 2min, 5min, 10min, 15min, 30min and 60min.

Set **White Timer** to Off to prevent the **White Lamps** from turning Off automatically.

Exclusion Zones

The white exclusion zone is set to the pan positions between Preset 151 (left) and Preset 152 (right).

When white exclusion is turned on, the white lights are turned OFF whenever the camera is in the white exclusion zone, and cannot be turned ON manually.

If the night setting is white lights ON, then the white lights are automatically switched ON when the camera leaves the white light exclusion zone.

The white light exclusion zone is useful if the camera is installed near a road or near domestic premises.

Auto Dimming

Set **Auto Dimming** to On so that the camera illumination is automatically dim if a nearby object is over-illuminated causing over-exposure of the view.

PTZ Zones

This page allows you to set up to 16 PTZ (Pan-Tilt-Zoom) zones.

You can set up a zone using the following options:

- **Pan** - sets the pan axis as the trigger for the text overlay to be displayed.
- **Tilt** - sets the tilt axis as the trigger for the text overlay to be displayed.
- **Start Preset** - sets a start preset for text overlay.
- **End Preset** - sets an end preset for text overlay.
- **Text** - Enter the text for sector zone overlay.
- You can program preset positions by moving the camera using the **Pan**, **Tilt**, and **Zoom** buttons.

The page allows you to view and change the camera's PTZ coordinates.

- To display the current coordinates, select **Refresh**.
- To send the camera to a set of coordinates, enter the PTZ position coordinates and select **Go**.

You can select two preset offsets, **Pan** and **Tilt**.

You might use these if you are not sure where the camera is facing and want to reorient it.

- To reorient the camera to face north, select **Pan 0°**.
- To reset the pan or tilt offset settings, select **Clear**.

You can set and use presets to orient the camera.

- To show all presets in the **Preset** drop-down, select **List All Presets**.
- To move the camera to preset, select the preset from the drop-down and select **Seek**.
- If you have admin or operator permissions, you can also **Define** presets.

Date & Time

Use this menu to select the source and format of date and time information for the camera.

Camera Time

Select the format in which the camera displays the data and time.

Set Time

- **Set manually**
Manually set the time and date.
- **Synchronise with computer time**

Set the camera to update its time and date settings from the local computer.

- **Synchronise with NTP server**

Specify an NTP server with which the camera will synchronize.

The NTP server must be on a network which the device can access. The date and time are updated automatically.

Timezone

Set the timezone in which the camera operates. In this section, you can also enter the timezone in the POSIX format.

Network

Use this page to configure the network settings for the camera.

Network

Use the **Network** tab to configure the network settings for the camera.

If the camera is not using a dynamically assigned IP address (DHCP is not enabled), enter the IP Address, Netmask, Default Gateway and Primary Name Server.

The **MTU Size** (Maximum Transmission Unit) determines the maximum size of a block of data from the camera. The range for MTU is 100 to 1500 bytes. The default is 1500 bytes.

As the MTU parameter is lowered, the update speed for the web pages and images will become slower and latency of the pictures and telemetry will increase.

It is recommended that the MTU is not changed from the 1500 default value unless it is absolutely essential (as determined by the local network administrator) to allow the camera to be used on a particular unusual network.

NTP and MAC

In **NTP**, enter the address of the time server. The default is pool.ntp.org.



*This field allows you to enter the NTP server address only. To enable NTP, use the **Date & Time** page.*

The **MAC Address** field displays the camera's MAC address.

Quality of Service

You can choose one of the following DSCP hex value settings for each stream:

- **Best Effort**
- **Expedited Forwarding**
- **Custom**

Web Server

In this section, you can view and select the following settings:

- **HTTP Access**
- **HTTPS Port**
- **SSL Certificate**

- **SSL Private Key**

To upload the certificates and keys, use the **Maintenance** page.

After you have uploaded and selected the SSL files, you can do the following:

- Access HTTPS web pages
- Configure the HTTPS port
- Disable HTTP

802.1x Authentication

Notice

This feature is intended for advanced users. Contact your local network administrator for 802.1X identity, passwords, keys and certificates.

In this section, you can enable authentication.

If you enable MD5 authentication, you can edit the following fields:

- **Identity**
- **Password**

If you enable TLS authentication, you can edit the following fields:

- **Identity**
- **Private Key Password**
and select the following fields:
 - **Client Certificate**
 - **CA Certificate**
 - **Private Key**

If you enable PEAP authentication, you can edit the following fields:

- **Identity**
- **Password**
and select the following field:
 - **CA Certificate**

To upload the certificates and keys, use the **Maintenance** page.

Interfaces

Use the **Configurable Auxiliary Functions** to configure the camera to use ONVIF auxiliary commands. You can select up to 8 auxiliary functions from the list:

- **Force White Light On / Off**
- **Wiper On / Off**
- **Dark IR Light On**
- **Dark White Light On**
- **Dark Lights Off**
- **Dark Sensor Mono / Colour**
- **Dark Focus Ambient / IR**
- **De-fog On / Off**
- **Washer On / Off**
- **Force Night Settings**

- **Force Day Settings**
- **Disable Forced Settings**
- **Force Mono Settings**
- **Force HLC On / Off**
- **Iris Open / Close / Auto / Manual**
- **Power Low / On**

Use **Force ONVIF Configuration** to specify the ONVIF configuration the camera reports:

- **Reported Version** - Change the ONVIF version reported by the camera.
- **Preset Token Format** - Specify the reported format of the preset token.
 - **Default**: Uses a mix of text and 'P' zero-pad number as preset tokens.
 - **Number only**: Uses numbers as preset tokens.
 - **'P' zero-pad number**: Uses P001 to P360 as preset tokens.
- **Authorisation Elevation** - Set the authorization to **Default**, **Administrator**, **User** or **Operator**.
- **Pan/Tilt Position Range** - Set the angular position.
- **Advertise Multicast** - Advertise that the camera supports multicast using ONVIF.
- **Auxiliary Functions** - Select the range of auxiliary functions. Configurable, standard and additional functions are available, as well as their combinations.
- **Pre-defined Presets** - Select one of the modes: **Advertise All Defined**, **Advertise Re-definable**, **Omit**, or **Advertise All**.
- **Iris Scale** - Select one of the modes: **Position** or **Attenuation (dB)**.

Add/Edit Users

Use this page to add additional administrators, operators, or viewers.

To add a new Administrator follow this procedure:

1. Type a **Username**.
2. Enter and confirm a password for the user.
3. Set the user's **Authority** to **Administrator**.
4. Select **Add**.

You cannot edit or delete the default Administrator.

Maintenance

This page allows you to perform the following actions:

- **Versions**
View firmware version.
- **Parameters and Settings**
Access backups and resets.
- **Camera Maintenance**
Reboot the camera and update firmware.
- **Storage**
View storage.
- **NTP Calibration**
Perform NTP calibration.
- **Content Upload**
Perform content upload.

- **Certificates and Keys**

View and upload SSL certificates and keys (HTTPS, 802.1x).

Browser

This page allows you to perform the following actions:

- **Video Plugin**

Enable and select a video plugin to display the video stream from the camera.

- **Desktop Application**

Download a stand-alone variant of the camera's web application or update the camera's firmware.

To learn more about the firmware update, navigate to **Desktop Application > Notes**.

When running a firmware update, do not switch off power to the camera or click any buttons for a period of 5 minutes.

If the web browser times out, do not try to refresh it until after the 5 minutes period has elapsed.

- **Notes**

Read the FAQ and the Acknowledgements.

6

HARDWARE SPECIFICATION

This chapter details the hardware specifications for the HD Interceptor Camera.

Codec specification

Video codec

- Full frame rate, full colour: H.264/MJPEG ; up to 25fps (ISO 14496-10)
- User-configurable bit rates from 64Kbps up to 8Mbps
- Up to 8Mbps total video output; Unlimited multicast connections. Up to two 4Mbps unicast connections
- Up to two simultaneous resolutions including: 1080p (25fps), 720p (25fps), D1 (25fps), SIF (25fps)

Resolution

- 1920x1080 pixels (1080p)
- 1280x720 pixels (720p)
- 720x576 pixels (D1)
- 352x288 pixels (SIF)

Sensor specifications

Sensor	1/1.9" Sony Exmor
Active pixels (HxV)	2MP (1920 x 1080)
Horizontal resolution	>800 TVL
Minimum sensitivity	Day: 0.002 Lux (color). Night: 0.0002 Lux (mono). 30 IRE, F1.6, 1/30s shutter
Dynamic Range	WDR 120dB Max
Signal to noise ratio	>50dB
Gain control	Exposure Offset of -10.5 to +10.5dB
White balance mode	Outdoor Auto, Auto, Outdoor, Indoor, Auto Tracing, Indoor A/B/C, Sodium, Sodium Auto A/B
Lens options	6mm - 216mm Horizontal view angle 1.8°(T) - 60°(W)
Shutter speeds	Rolling; Plus Fast Shutter config for Off and 1/1000 to 1/30000
Zoom	36x optical plus 12x digital
IR Illumination	IR250W=250m IR + 250m White Light

IR275=275m IR
IR550S= 550m Spot IR

Network connections

- IEEE 802.3 and IETF standards
- 10/100 Base-T Ethernet, TCP, UDP, RTP, RTSP, ICMP, IGMP, SNMP, HTTP, HTTPS, PPPoE, uPnP, QoS, DHCP
- Physical connection through RJ-45

Control Center requirements

The HD Interceptor Camera variants require Control Center 12.1 or later.

Environment

All models except PoE

- -40°C (-40°F) to +60°C (140°F)

PoE HD Interceptor

- -20°C (-4°F) to +60°C (140°F)

Regulatory

- EN 55032
- EN 55035
- FCC Part 15 Subpart B Class A
- EN 50130-4
- EN 60068-2-27
- EN 60068-2-6
- EN 60068-2-64
- EN 60068-2-1
- EN 60068-2-2
- EN 60068-2-30
- EN 61000-3-2
- EN 61000-3-3
- EN 60529
- EN 62262
- EN 62368-1
- RoHS directive 2002/95/EC



In accordance with the EC Waste Electrical and Electronic Equipment (WEEE) directive 2002/96/EC this product must be sent to a recycling plant for proper disposal at the end of its use.

A

OPTIONAL MOUNT COMPONENTS

To ensure that your camera is installed and configured for optimal coverage and operation, IndigoVision provides a range of camera mounts.

Mount components are sold separately.

► *For information, refer to the IndigoVision website.*

