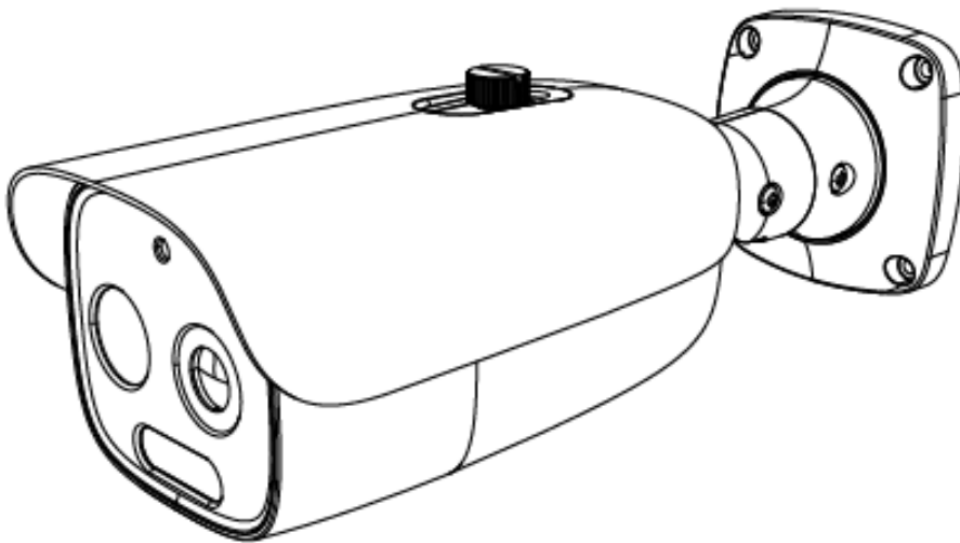


**Tyco Illustra Pro 5MP
Thermal Elevated Skin
Temperature Detection Camera
Installation and Configuration Guide**



Notice

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

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

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Tyco Security Products

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


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Warning

- This product is intended to be supplied by a Listed Power Unit, marked with 'Limited Power Source', 'LPS' on unit, output rated minimum 12V/2 A or POE 48V/ 350mA or AC24V (depending on models), no more than 2000m altitude of operation and Tma=60 Deg.C.
- Do not attempt to disassemble the camera; in order to prevent electric shock, do not remove screws or covers.
- This product requires professional installation by a service technician with the appropriate training and experience necessary to ensure proper installation and configuration for the applicable operating environment and usage case to ensure the safe and accurate operation of the product.
- There are no user-serviceable parts inside. Please contact the nearest service center as soon as possible if there is any failure.
- Avoid shock, vibration and heavy pressing which can cause damage to the product.
- Do not use corrosive detergent to clean main body of the camera. If necessary, please use soft dry cloth to wipe dirt; for hard contamination, use neutral detergent. Any cleanser for high grade furniture is applicable.
- Do not operate it in case temperature, humidity and power supply are beyond the limited stipulations.
- The thermal camera shall be used in a stable indoor environment without wind. Please ensure the monitoring field is far away from objects that could produce airflow, high temperature and reflection. Please do not install opposite to a door, air conditioner or any place in sunshine.
- Please put up a tent or build a closed environment to ensure the accuracy for outdoor installation.
- Please make sure the External Temperature Reference Source (ETRS) is installed opposite to the camera (where the camera can see it).
- Avoid backgrounds that are too crowded or bright.
- This manual is for using and managing the product. We may reserve the rights of amending the typographical errors, inconsistencies with the latest version, software upgrades and product improvements, interpretation and modification. These changes will be published in the latest version without special notification.
- Multiple Faces usage does not comply with IEC 80601-2-59.

Table 1 Symbols table

The following symbols are found on the camera's product label

	Refer to instruction manual or booklet
	Earth (ground)
	Separate collection for electrical and electronic equipment
	Complies with provisions of Directive 93/68/EEC

Note: Symbols and required information on the product label are legible at 0.75 meter (2.46 feet).

Overview

This Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection camera Installation and Configuration Guide is a user manual which provides installation, and configuration information of the camera in Table 2 on Page 8.

Table 2 Product codes

Sales Bundle Code	Camera Product Code	Model Name	Description
IPT05-B29-BNDA3	IPT05-B29-BIA3	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera, 5MP, 8mm	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera, Visible/Thermal, 5MP/384*288, 8mm/12mm, 20M IR, sound-light alarm, Alarm/Audio, Micro SD, DC/PoE, IP40, with additional indoor 110V External Temperature Reference Source
IPT05-B29-BN2A3	IPT05-B29-BIA3	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera, 5MP, 8mm	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera, Visible/Thermal, 5MP/384*288, 8mm/12mm, 20M IR, sound-light alarm, Alarm/Audio, Micro SD, DC/PoE, IP40, with additional indoor 220V External Temperature Reference Source

The Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection camera is specially designed to detect human body temperature with high accuracy in real time. This series of product supports real-time temperature measurement, face capture, smart event detection and alarm linkages. It can help you discover abnormal body temperature of people entering and exiting and other unexpected events immediately and protects you from property loss.

It can be used for preliminary temperature measurement in office buildings, factories, stations, airports and other public places compared to other visible light cameras.

Main Features

Temperature Measurement

- Temperature measurement range: 30~42°C (86~107.6°F)
- Temperature accuracy: $\pm 0.2^{\circ}\text{C}$
- Three GUI view modes: optical and thermal image, optical image, thermal image.
- Audio and light alarm linkage.

Intelligent Analytics

- Abnormal video signal detection: including scene blur detection, video blur detection, video color cast detection.
- Perimeter Alert: Line crossing detection (human/motor vehicle/non-motor vehicle classification), Region intrusion/entrance/exiting detection (human/motor vehicle/non-motor vehicle classification).
- Target Counting: line crossing people/motor vehicle/non-motor vehicle counting.
- Face detection: face capture, face detection.

- Audio and light alarm linkage.

Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera

This chapter provides general quick start guide information on the camera and installation procedures.

Product overview

This chapter included the quick start information guide information and installation procedure of the Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera. Product codes and description of the camera is provided in the table below.

Table 3 Product code and description of the Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection camera

Sales Bundle Code	Camera Product Code	Description
IPT05-B29-BNDA3	IPT05-B29-BIA3	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera camera, Visible/Thermal, 5MP/384*288, 8mm/12mm, 20M IR, sound-light alarm, Alarm/Audio, Micro SD, DC/PoE, IP40, with additional indoor 110V External Temperature Reference Source
IPT05-B29-BN2A3	IPT05-B29-BIA3	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera, Visible/Thermal, 5MP/384*288, 8mm/12mm, 20M IR, sound-light alarm, Alarm/Audio, Micro SD, DC/PoE, IP40, with additional indoor 220V External Temperature Reference Source

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 Camera
- 4 x PA 4x25mm screws
- 4 x plastic screw anchors
- 1 x PW 3x5mm machine screw
- 4 x 4x10mm screws
- 1 x L-key hexagonal wrench
- 1 x Mounting template
- 1 x Camera adaptor plate
- 1 x Hexagonal wrench
- 1 x External Temperature Reference Source device
- 1 x Quick Start Guide

- 2 x Ferrite clamps

Contact your dealer if any item is missing.

Installation Tools

- 1 x Screwdriver
- 1 x L-Key hexagonal wrench

Quick Reference

- Default IP: 192.168.1.168 (DHCP enabled)
- Default Username and Password: admin / admin
- Power: 12VDC, 2A; PoE 48VDC, 0.35A
- Use Internet Explorer 11 web browser

Figure 4 Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera parts

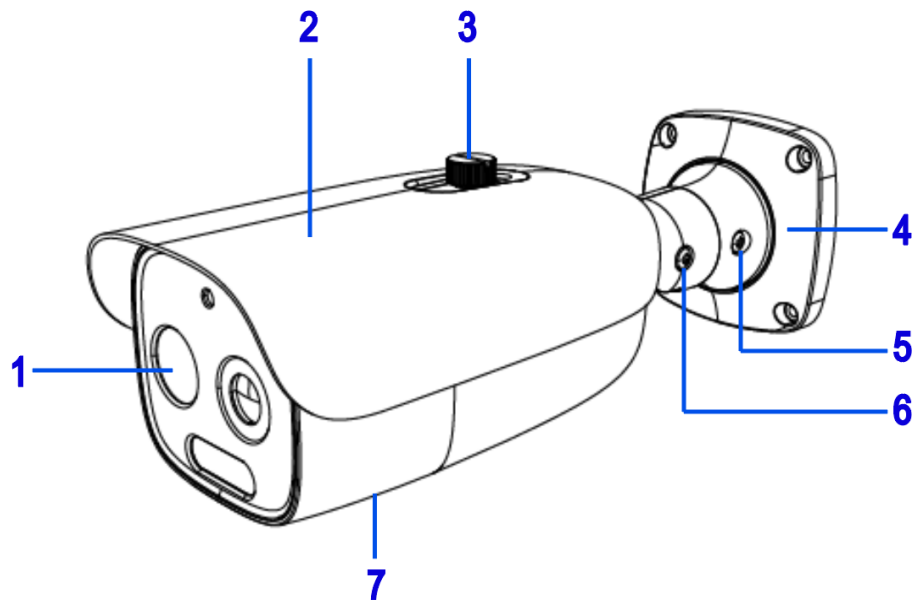


Table 5 Camera part descriptions

Number	Camera part description
1	Camera lens
2	Sun shield cover
3	Sun shield cover adjustment thumb-screw
4	Camera base
5	Pan adjustment connection
6	Tilt adjustment connection

7	<p>Camera body (Camera buttons and SD card slot are located on the underside of the camera).</p> <p>Note: You will need to remove the cover to access them.</p>
---	--

Figure 6 Cable connections

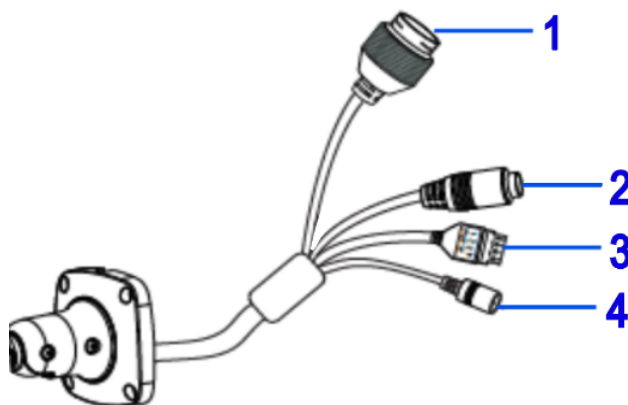
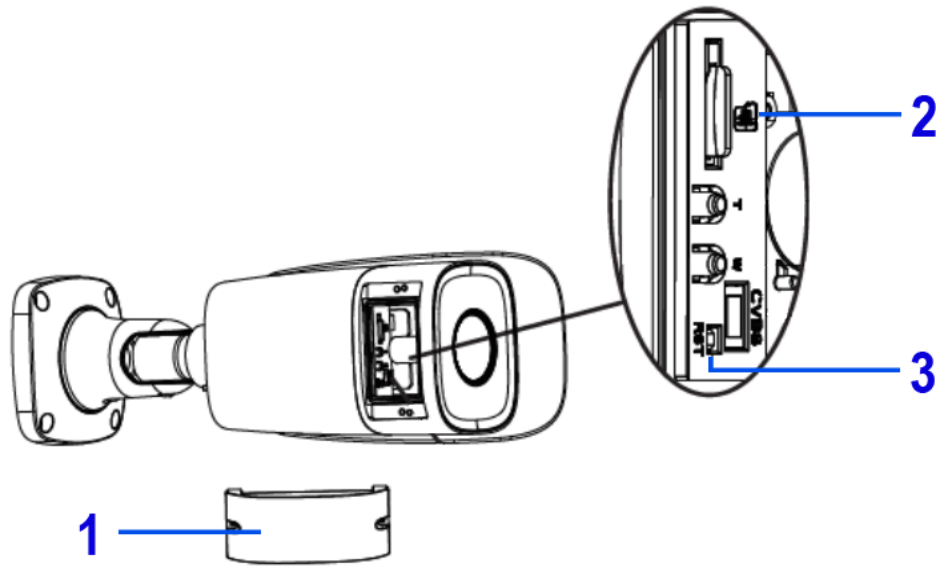


Table 7 Cable connection descriptions

Number	Cable connection description
1	Ethernet connector and also supports PoE
2	Audio Input (Max 30V DC / 30mA)
3	<p>Alarm Output / input (5 V DCV @ 10mA)</p> <ul style="list-style-type: none"> • 1 Alarm OUT COM • 2 Alarm OUT Open • 3 Alarm IN • 4 Alarm IN GND
4	Power connector (12 V DCV @ 1mA)

Figure 8 Camera buttons and SD card slot



Note: Remove the two screws on the camera cover (1) (Figure 7) to access the buttons. Securely attach the cover when finished.

Table 9 Camera button descriptions and SD card slot

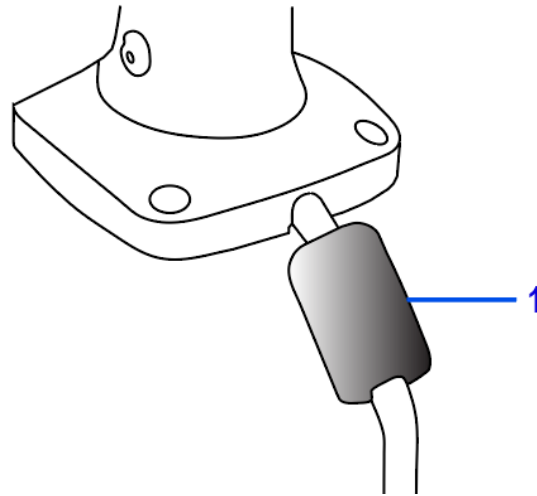
Number	Cable connection description
1	Camera button cover
2	Micro SD Card Slot
3	Reset (Hold for more than 3 seconds)

Procedure 1 Mounting the camera to a wall or ceiling

- 1 Place the mounting template on the surface that you want to attach the camera.
- 2 On the surface drill four Ø 5mm holes and cut out a >30 Ø mm cable hole as per the markings identified on the mounting template.
- 3 Securely place the four screw anchors into the four holes.
- 4 Place the camera cable through the cable hole on the mounting surface.
- 5 Hold the camera base (4) (Figure 4) up to the mounting template and align the four holes on the camera base with the four holes on the mounting surface.
- 6 Insert the four PA4x25mm screws into the four holes on the camera base and securely attach the camera to the mounting surface.
- 7 Attach the ferrite 'round clamp' to the large single camera cable.

Note: Ensure that the ferrite clamp (1) (Figure 10) is positioned close to the camera base on the cable.

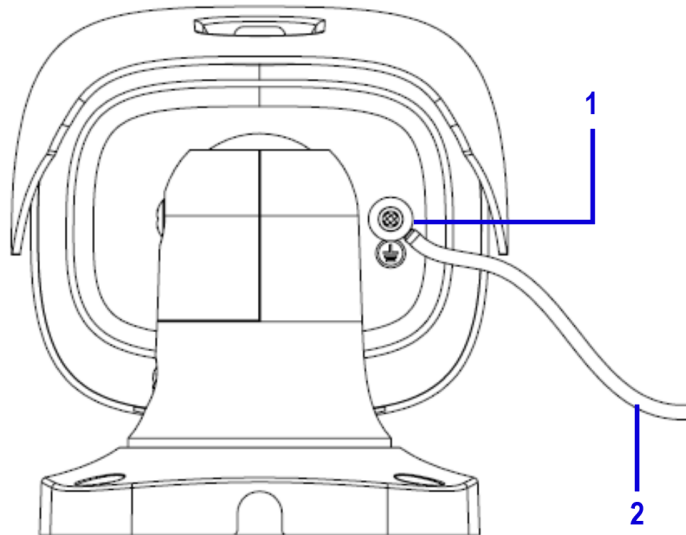
Figure 10 Round ferrite clamp position on the cable



Note:The camera must be connected to earth ground

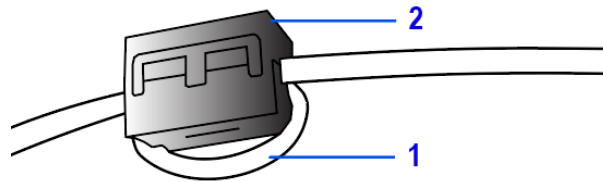
- 8 Attach a ring-type terminal to the end of the ground wire (2) (Figure 11) (not provided). Insert the machine screw through the ring terminal and attach to the camera (1) (Figure 11).

Figure 11 Earth wire connection



- 9 To power up the camera:
- connect a 12V DC power supply to the power connector on the camera cable
- OR
- connect a shielded PoE cable to the ethernet / PoE slot on the camera cable. Note: You must first attach the ferrite 'rectangle clamp' around the Ethernet cable (1) (Figure 12). The cable (1) (Figure 12) must loop around the clamp (2) (Figure 12) before the clamp is enclosed.

Figure 12 Cable looped inside the ferrite clamp



- End -

Procedure 2 Adjusting the sun shield

- 1 Loosen the thumb-screw (3) (Figure 4) to move the sun shield cover forward and backward over the camera body.

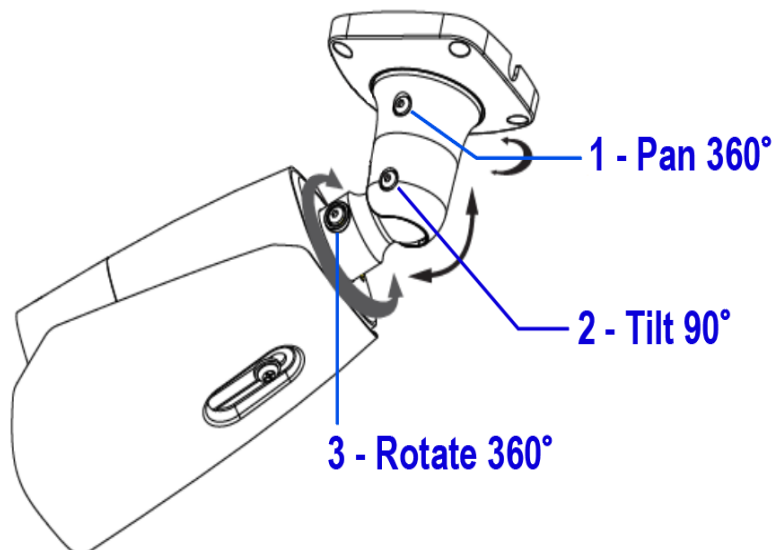
Note: You must securely lock the thumb screw to ensure that the sun shield cover holds the modified position.

- End -

Procedure 3 Adjusting the camera position

- 1 Use the L-key hexagonal wrench to:
 - a Unlock the screw (1) (Figure 13) and pan the camera field of view up to 360 degrees.
 - b Unlock the screw (2) (Figure 13) to tilt the camera body up to 90 degrees.
 - c Unlock the screw (3) (Figure 13) and rotate the camera body up to 360 degrees.

Figure 13 Pan, tilt and rotate screws



Note: You must securely lock each screw to ensure that the camera holds the modified position.

- End -

Procedure 4 Mounting the camera to a tripod stand

- 1 Install the tripod as per the instructions that come with it.
- 2 Align the four holes on the camera adaptor plate with the four holes on the camera base and insert the four 4x10mm screws into the four holes and securely attach the camera adaptor plate to the camera base.

Note: The camera is now attached to the camera adaptor plate.

- 3 Place the camera adaptor plate on top of the tripod stand and align the 1/4 " threaded screw connection underneath the camera adaptor plate with the threaded screw on the tripod stand.
- 4 Rotate the camera adaptor plate to securely attach it to the tripod stand.
- 5 Insert all camera cables through the cable side entry notch on the camera base.
- 6 Attach the ferrite 'round clamp' to the large single camera cable.

Note: Ensure that the ferrite clamp (1) (Figure 10) is positioned close to the camera base on the cable.

Note: The camera must be connected to earth ground.

- 7 Attach a ring-type terminal to the end of the ground wire (2) (Figure 11) (not provided). Insert the machine screw through the ring terminal and attach to the camera (1) (Figure 11).
 - 8 To power up the camera:
 - connect a 12V DC power supply to the power connector on the camera cable.
- OR
- connect a shielded PoE cable to the ethernet / PoE slot on the camera cable. Note: You must first attach the ferrite 'rectangle clamp' around the Ethernet cable (1) (Figure 12). The cable (1) (Figure 12) must loop around the clamp (2) (Figure 12) before the clamp is enclosed.

- End -

Figure 14 Single face usage setup distance recommendations

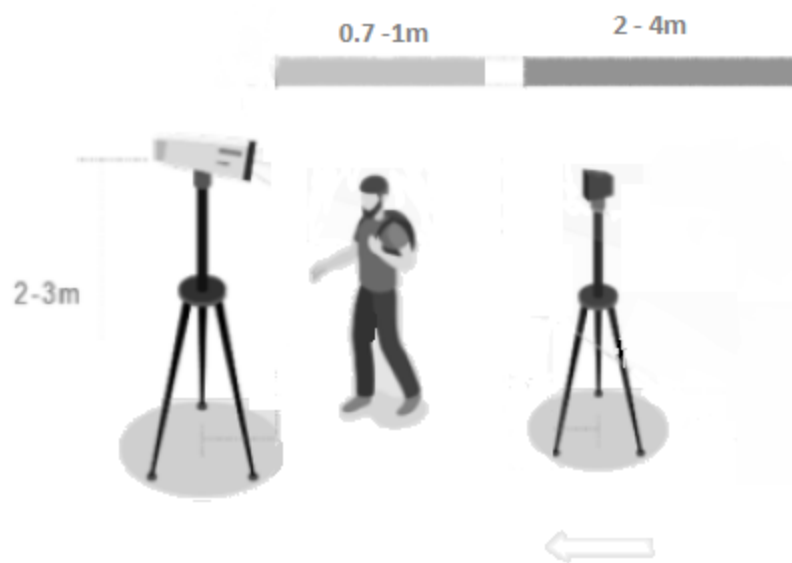
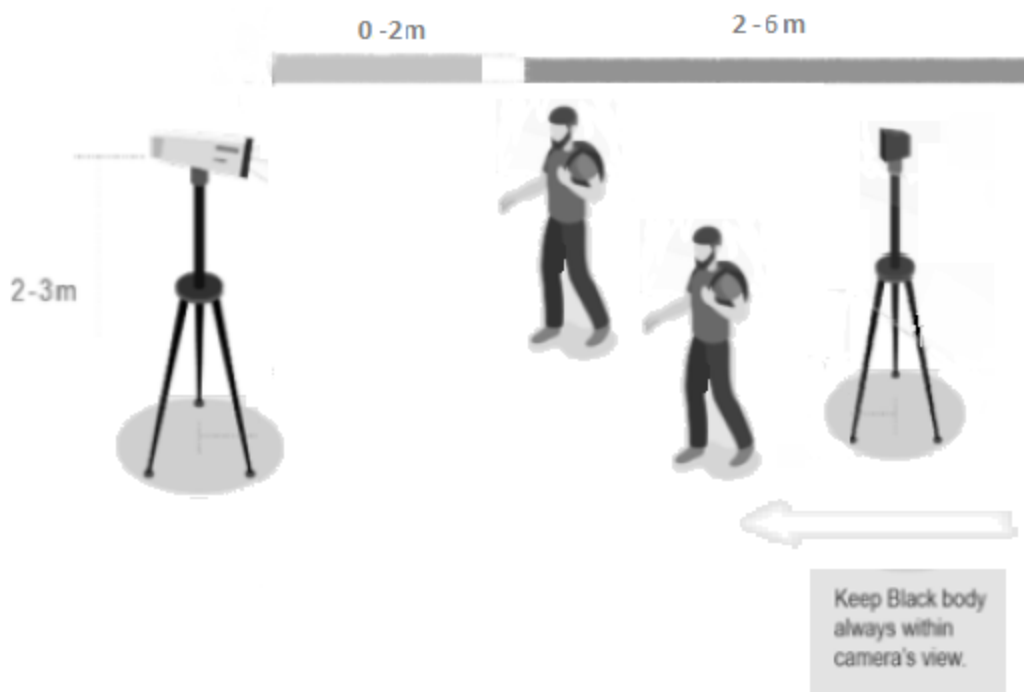


Figure 15 Multi face usage setup distance recommendations



Calibration / accuracy

- This device is specified to achieve a $\pm 0.2^{\circ}\text{C}$ accuracy when configured properly following the installation guide and calibrated against a External Temperature Reference Source device. Calibration must be done following device calibration

intervals in line with the user manual guidance in order to maintain the specified accuracy.

- The External Temperature Reference Source device is used to manage thermal drift compensation and is crucial in obtaining accurate temperature assessments in line with the product accuracy specifications.
- The solution uses the forehead region of the face using 4 sampling spots of 3x3 pixels as the workable target plane. The total of 36 pixels is then verified to be within 0.2°C averaged across all the pixels to ensure consistency with the highest observed temperature being reported with the camera conducting automated calibration with the External Temperature Reference Source device to manage thermal drift compensation.

Guidelines

- System architects, installers, users, and operators should refer to guidelines in ISO/TR 13154: Medical electrical equipment — Deployment, implementation and operational guidelines for identifying febrile humans using a measurement thermograph.
- Temperature measurement with this device should not be solely or primarily relied upon to diagnose or exclude a diagnosis of any illness, disease or other medical condition.
- The device is tested and labelled consistent with the standard IEC 80601-2-59:2017: Medical electrical equipment – Part 2-59: Particular requirements for the basic safety and essential performance of measurement thermographs for human febrile temperature measurement.
- Elevated skin temperature in the context of use should be confirmed with a secondary evaluation method such as a clinical grade contact thermometer.
- The system operator must ensure the face is unobstructed by hair, eyeglasses, and other objects because their presence will interfere with the ability of a measurement thermograph to detect a febrile condition.
- The relative humidity in the measurement area should be maintained below 50 % and the temperature below 24 °C for best performance. A measurement area with elevated humidity and ambient temperature may lead to inaccurate temperature measurements due changes in skin temperature caused by sweating.
- **Public health officials, through their experience with the device in the particular environment of use, should determine the significance of any fever or elevated temperature based on the skin tele thermographic temperature measurement.**
- **This device should be used to measure only one subject's temperature at time in accordance with IEC 80601-2-59:2017 and FDA (or other applicable regulatory) guidelines for accuracy.**
- **The visible thermal patterns of this device are only intended for locating the points from which to extract the thermal measurement.**
- **The product calibration interval is 14 days.**

Factors to consider for the environment and installation that can impact measurement

- Thermal camera is temperature-sensitive. When it is used for temperature measuring, in order to ensure the accuracy, the recommended ambient temperature for operation is 0~35°C and the infrared light should be turned off during the temperature measurement.

- Thermal camera should always be used together with External Temperature Reference Source both for increased accuracy and to comply with IEC standards for measurement thermographs for human febrile temperature measurement.
- Thermal camera should be used in a stable indoor environment without wind. Please make sure the monitoring field is far away from any objects that could produce airflow, high temperature, reflection.
- Don't install the thermal camera opposite to a door, air conditioner or any place in or near infrared sources such as sunlight.
- For monitoring, the best temperature measurement distance is 2~4m, recommended distance should be 2~6m to achieve specified accuracy.
- Set up a one-way temperature measuring zone and make sure the camera can clearly see the human face.
- After turning on, the thermal camera needs to wait 20~30 minutes to be steady.
- It is recommended to use DC 12V power supply to reduce power consumption.
- The External Temperature Reference Source used with the camera shall be installed 2 or 3 meters away from the camera and opposite to the camera. It cannot be blocked. During operation, do not move the camera and External Temperature Reference Source and make sure the External Temperature Reference Source is in a fixed and proper place in the camera image for calibration and thermal drift compensation.
- The thermal camera and the External Temperature Reference Source device should be at a height of 2-3m and parallel to the faces being screened for temperature.
- If the camera and/or External Temperature Reference Source are relocated then the customer/user/installer needs to evaluate the new location and ensure it meets the criteria specified in this user manual, such as guidelines, factors to consider, warnings, configuration and calibration steps, environmental, power, air flow, and lighting parameters.
- For monitoring, the best temperature measurement distance is: Single Face Usage recommended distance should be 0.7~1m to achieve specified accuracy, with subject requiring to pause for about 1 second to allow for reading. Multi Face Usage recommended distance should be 2~6m to achieve specified accuracy.

Warnings

- If the product does not work properly, please contact your dealer or the nearest service centre. Never attempt to disassemble the camera yourself.
- Do not allow water or liquid intrusion into the camera.
- Installation and service should be performed only by qualified and experienced technicians and comply with all local codes and rules to maintain your warranty.
- When the product is mounted on a wall ensure that the device is firmly fixed.
- Do not use the camera beyond the specified voltage range.
- Do not drop the camera or subject it to physical shock.
- Avoid touching the camera lens.
- If cleaning is necessary, please use a clean dry cloth and wipe the camera gently.
- If the device will not be used for a long time then cover the lens to protect it from dirt.
- Do not aim the camera at the sun or extra bright light sources.

- Do not place the camera in extremely hot, cold (the operating temperature shall be - 0°C~35°C), dusty or damp locations, and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, good ventilation is required within the operating environment.
- Thermal imaging can detect individuals with elevated skin temperatures. However, it cannot detect or diagnose a fever or other medical conditions. The Illustra elevated skin temperature measurement solution does not cause and cannot eliminate or prevent occurrences of the events that it is intended to detect or avert.
- This product requires professional installation by a service technician with the appropriate training and experience necessary to ensure proper installation and configuration for the applicable operating environment and usage case to ensure the safe and accurate operation of the product.
- Product labeling is in line with the ISO/TR 13154 standard.
- Faces should be unobstructed by hair, eyeglasses, and other objects because their presence will interfere with the ability of a thermograph detection to detect a febrile condition. The face should be in the center of the camera view and fill approximately 50% of the thermal sensor view to achieve a 240x180 pixel resolution of the face.
- A secondary measurement with a clinical thermometer for any elevated skin temperature alert will be required to confirm a febrile condition.
- Relative humidity in the area of measurement should be maintained below 50% and the temperature below 24°C to achieve the documented accuracy. Sweating can impact the accuracy of temperature measurement.
- Infrared sources such as sunlight, nearby electrical sources and lighting, should be minimized to avoid impact on the accuracy of temperature reading.
- Airflow should be minimized in the area of the equipment to avoid impact on the accuracy of temperature detection.
- The target of the body surface temperature detection will be the forehead region of the face. 4 points of 9 pixels each. Three points factored on the center of the forehead region, then one point left and one point right with fourth point below the center point.
- When the External Temperature Reference Source (ETRS) is obscured the camera will react the following way:
 - When the temperature location of the ETRS exceeds 1°C and lasts for 10 seconds, the camera thinks that the ETRS is obscured and no longer reports the temperature
 - When the ETRS location (due to obstruction or camera / External Temperature Reference Source movement) temperature is no longer correct it will cause the calculation the human body temperature to be inaccurate, when the calculated temperature exceeds 44 degrees, the camera will recognize this as an abnormal temperature and will not report it.

Network Topology

The Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera delivers video images and audio in real-time using the internet and intranet. It is equipped with an Ethernet RJ-45 network interface.

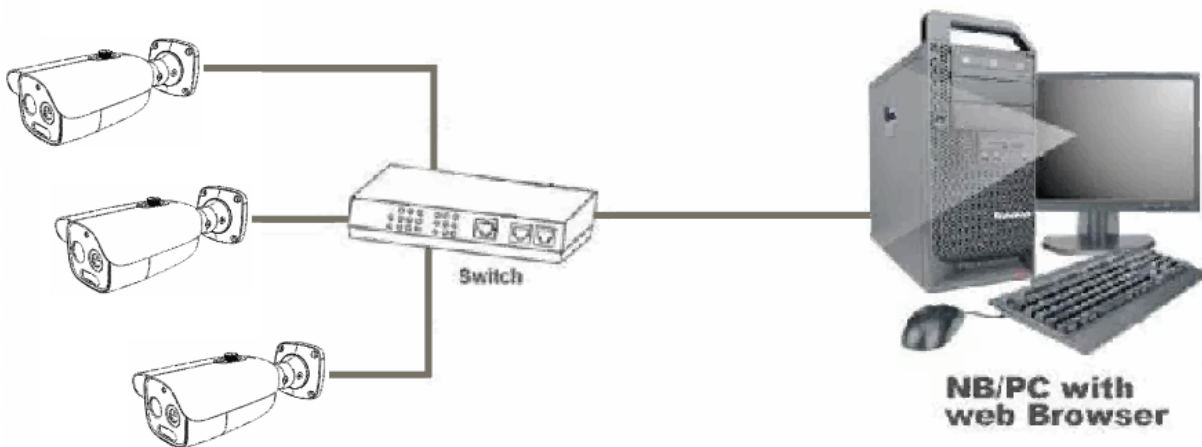
The following images illustrate the network topologies of the camera.

Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera Topology

Figure 16 Thermal camera Network Topology Type I



Figure 17 Thermal cameras Network Topology Type II



Note: Please check your server specification for camera connection limits.

Network Connection

Default IP Address

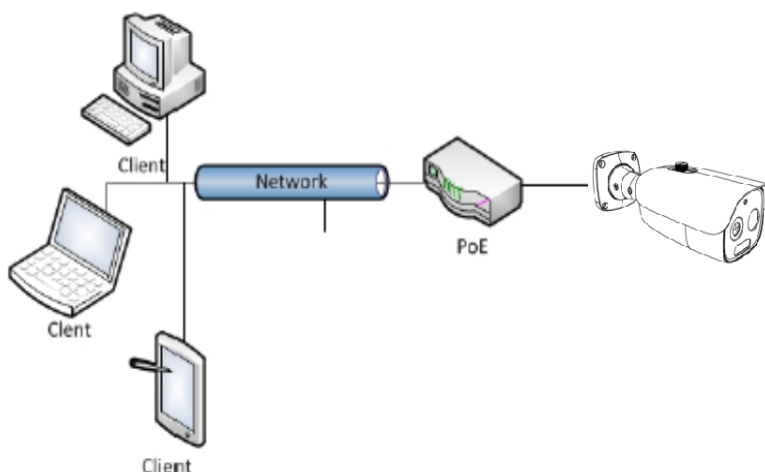
Since this is a network-based unit, an IP address must be assigned at the very first bootup. The default IP address of the unit is 192.168.1.168 and sub mask is 255.255.255.0.

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 18 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

Procedure 5 Connecting from a computer

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

DHCP

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

Procedure 6 Configure the IPv4 settings

Step	Action
1	Select Network on the Web User Interface banner to view the IPv4 tab.
2	Select the Obtain an IP address automatically option to automatically enable DHCP and disable manual settings. Or Select the Use the following IP address option to manually enter the settings. <ol style="list-style-type: none"> 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' Select the Test button to ensure that the IP address is correct. Enter the Subnet Mask in the Subnet Mask text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0' Enter the Gateway IP address in Gateway text box xxx.xxx.xxx.xxx. Enter the Preferred DNS Server IP address in the Preferred DNS Server text box. Enter the Alternate DNS Server IP address in the AlternateDNS Server text box.
3	Select the Save button to save the settings.
- End -	

Procedure 7 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 8 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 .
5	The Live view page is visible. This displays the current view of the camera.

- End -

Live View

After configuring temperature measurement and face detection, the temperature and face detection results can be viewed on the screen.

Figure 19 Live View menu

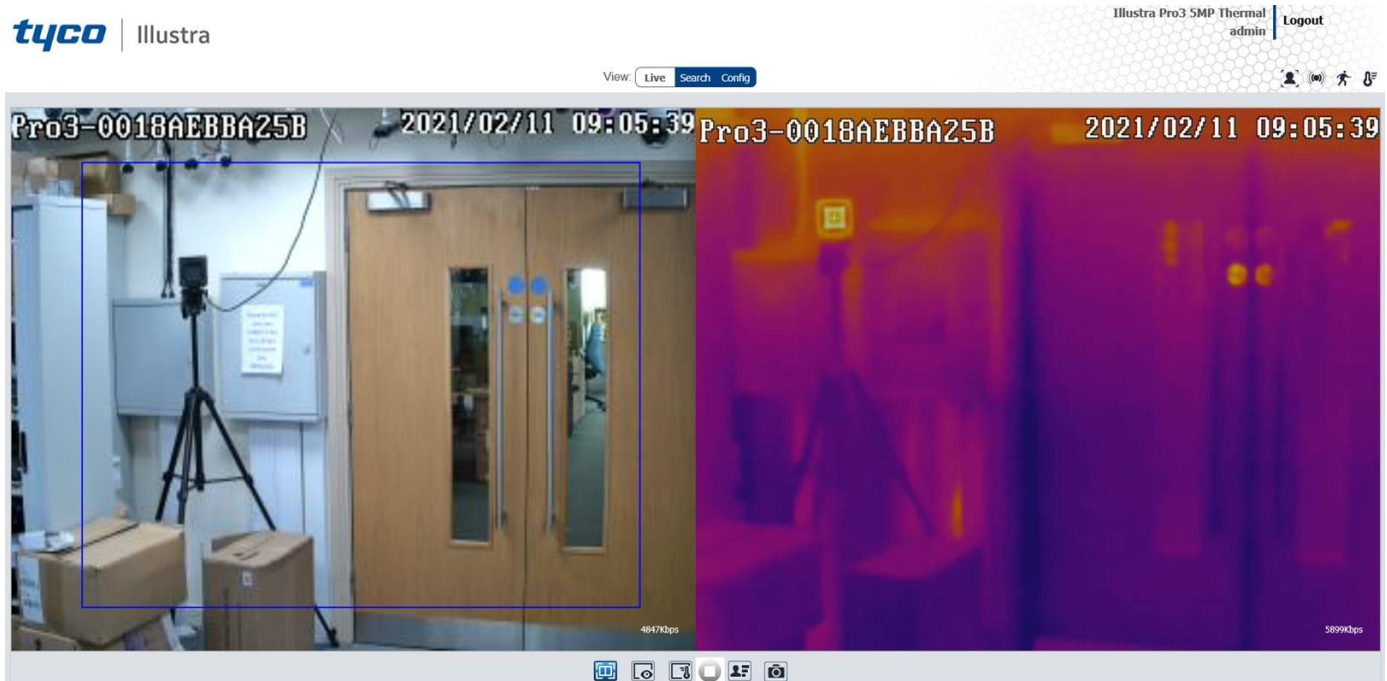






















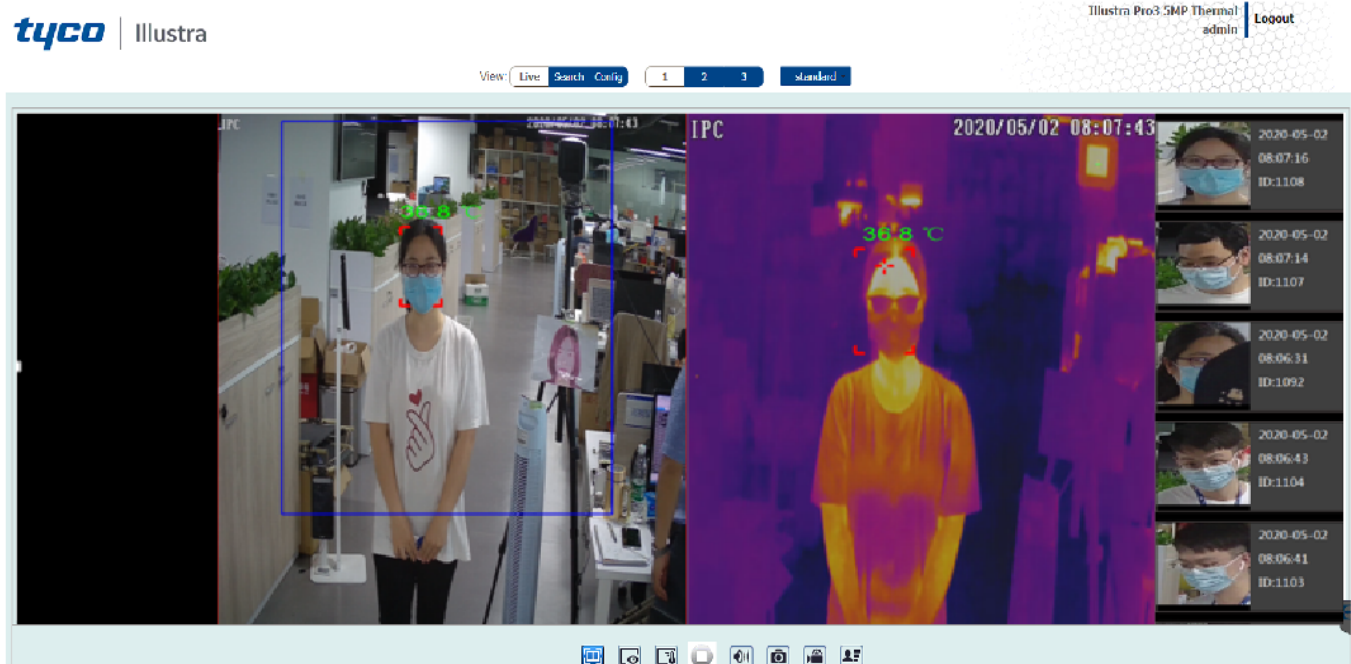
Table 20 Live view menu icons and descriptions

Icon	Description	Icon	Description
	Visible light image and thermal image display		Face detection indicator
	Visible light image display		Color abnormal indicator
	Thermal image display		Abnormal clarity indicator
	Start / stop live view		Scene change indicator
	Start / stop two-way audio		Sensor alarm indicator
	Snapshot		Motion alarm indicator
	Start / stop local recording		Line crossing indicator
	Zoom in		Region entrance indicator
	Zoom out		Region exiting indicator
	Face Detection		Intrusion indicator


Note: The smart alarm indicators flash only when the camera supports those functions and the corresponding events are enabled.

Face Detection View

Figure 21 Face Detection view menu



Procedure 9 Viewing captured face detection pictures

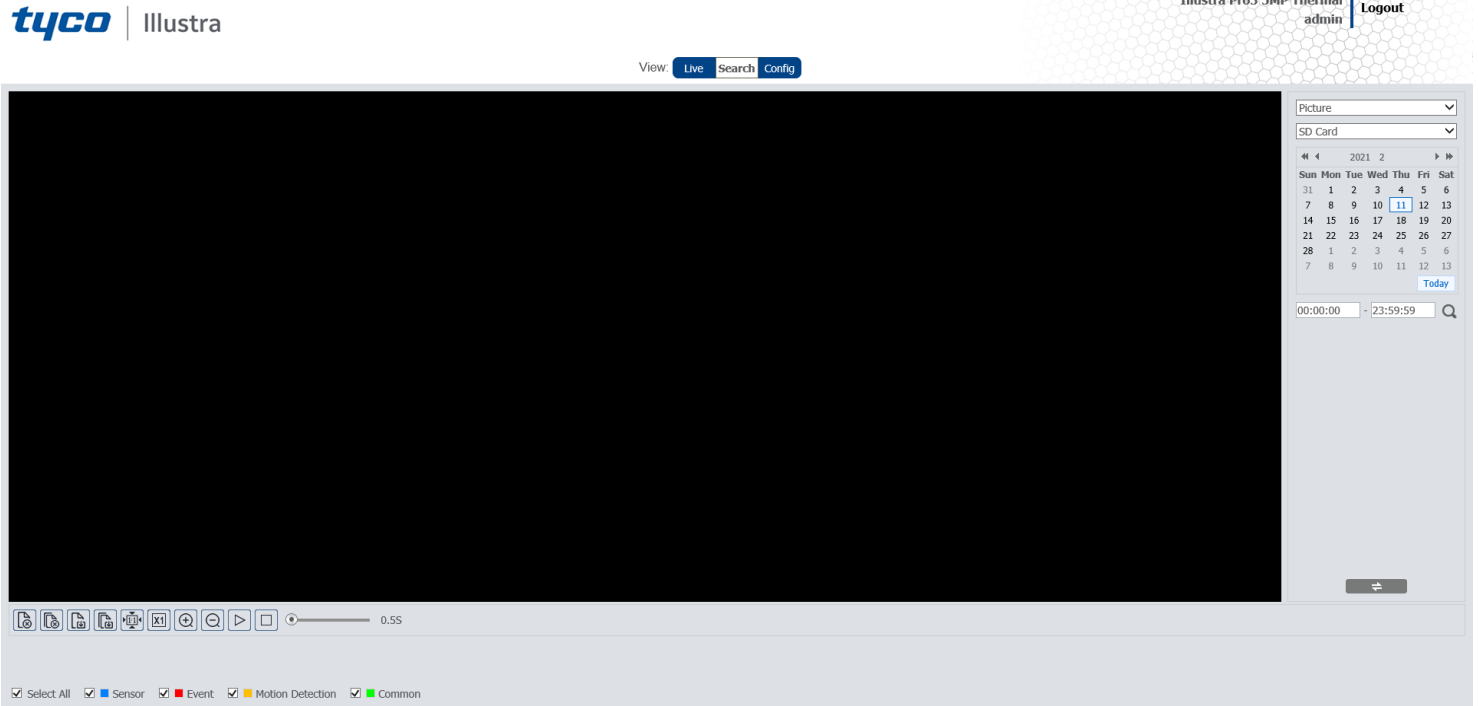
- 1 Select the **Live** button.
- 2 Select the  icon to view a list of all captured faces.

- End -


Search

You can search for images and recording clips within a specific time and date.

Figure 22 Search menu



Procedure 10 Searching for images locally


- 1 Select the **Search** button.
- 2 Select the **Record** drop-down menu and select Picture.
- 3 Select the **SD Card** drop-down menu and select Local.
- 4 Select a date in the calendar.
- 5 Select the first text box under the calendar and enter a start time.
- 6 Select the second text box under the calendar and enter a finish time.
- 7 Select the search icon to view a list of the images.
- 8 Double click a file name in the list to view the captured images.
- 9 Select the  icon to return to the previous interface.

Note: See Table 23 for a list of options available once you have located an image.

- End -

Procedure 11 Searching for images on the SD card












- 1 Select the **Search** button.

- 2 Select the **Record** drop-down menu and select Picture.
- 3 Select the **SD Card** drop-down menu and select SD Card.
- 4 Select a date in the calendar.
- 5 Select the first text box under the calendar and enter a start time.
- 6 Select the second text box under the calendar and enter a finish time.
- 7 Select the search icon to view a list of the recordings.
- 8 Double click a file name in the list to view the captured images.
- 9 Select the  icon to return to the previous interface.


Note: See Table 23 for a list of options available once you have located an image.

- End -

Table 23 Options available after you locate an image

Icon	Description	Icon	Description
	Close: Select an image and click this button to close the image.		Close all: Click this button to close all images.
	Save: Click this button to select the path for saving the image on the PC.		Save all: Click this button to select the path for saving all pictures on the PC.
	Fit size: Click to fit the image on the screen.		Actual size: Click this button to display the actual size of the image.
	Zoom in: Click this button to digitally zoom in.		Zoom out: Click this button to digitally zoom out.
	Slide show play: Click this button to start the slide show mode.		Stop: Click this button to stop the slide show.
	Play speed: Play speed of the slide show.		








Procedure 12 Searching for recordings locally

- 1 Select the **Search** button.
- 2 Select the **Record** drop-down menu and select Record.
- 3 Select the **SD Card** drop-down menu and select Local.
- 4 Select a date in the calendar.
- 5 Select the first text box under the calendar and enter a start time.
- 6 Select the second text box under the calendar and enter a finish time.
- 7 Select the search icon to view a list of recordings.
- 8 Double click a file name to play the recording.
- 9 Select the  icon to return to the previous interface.


Note:See Table 24 for a list of options available once you have located a recording.

- End -

Table 24 Options available after you locate a recording

Icon	Description	Icon	Description
	Play button. After pausing the video, click this button to continue playing.		Pause button
	Stop button		Speed down
	Speed up		Watermark display
	Enable / disable audio; drag the slider to adjust the volume after enabling audio.		

Procedure 13 Searching for recordings on the SD card



- 1 Select the **Search** button.
- 2 Select the **Record** drop-down menu and select Record.
- 3 Select the **Local** drop-down menu and select SD Card.
- 4 Select a date in the calendar.
- 5 Select the first text box under the calendar and enter a start time.
- 6 Select the second text box under the calendar and enter a finish time.
- 7 Select the **Alarm** check box at the bottom of the interface.
- 8 Select mix stream (video and audio stream) or video stream as needed.
- 9 Double click a file name in the list to view the captured recordings.
- 10 Select the  icon to return to the previous interface.


Note:See Table 24 for a list of options available once you have located a recording.

Note:The time table can be shown in 24H/12H/2H/1H format by clicking the corresponding buttons.

- End -

Procedure 14 Downloading a video clip

- 1 Search for the recording as per Procedure 14 or Procedure 15.
- 2 Select the start time by clicking on the overall recording time line.
- 3 Select the  icon to set the start time.
- 4 Select the end time by clicking on the overall recording time line.
- 5 Select the  icon to to set the end time.

- 6 Select the  icon to download the video file in the PC.
- Select the **Set up** button to set the storage directory of the video files.
 - Select the **Open** button to play the video.
 - Select the **Clear List** button to clear the downloading list.
 - Select the **Close** button to close the downloading window.

- End -

Configuration

The following sections explain how you can configure the Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera using the Web User Interface.

Accessing the Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera Web User Interface

Use the following procedure to access the camera Web User Interface. Use Internet Explorer 11 web browser.

Procedure 15 Logging in to the Camera

Step	Action
1	Refer to Network Connection on page 22 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 log into the camera you are prompted to change the password.
6	Once the above steps are complete, the Live view page is visible. This displays the current view of the camera.
<hr/> - End - <hr/>	

Changing the Camera Web User Interface Language

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

Procedure 16 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: <ul style="list-style-type: none">• English• Chinese (Simplified)• Chinese (Traditional)• Japanese• Korean The default language is English.
3	Enter the Username.
4	Enter the Password.
5	Select Log in.

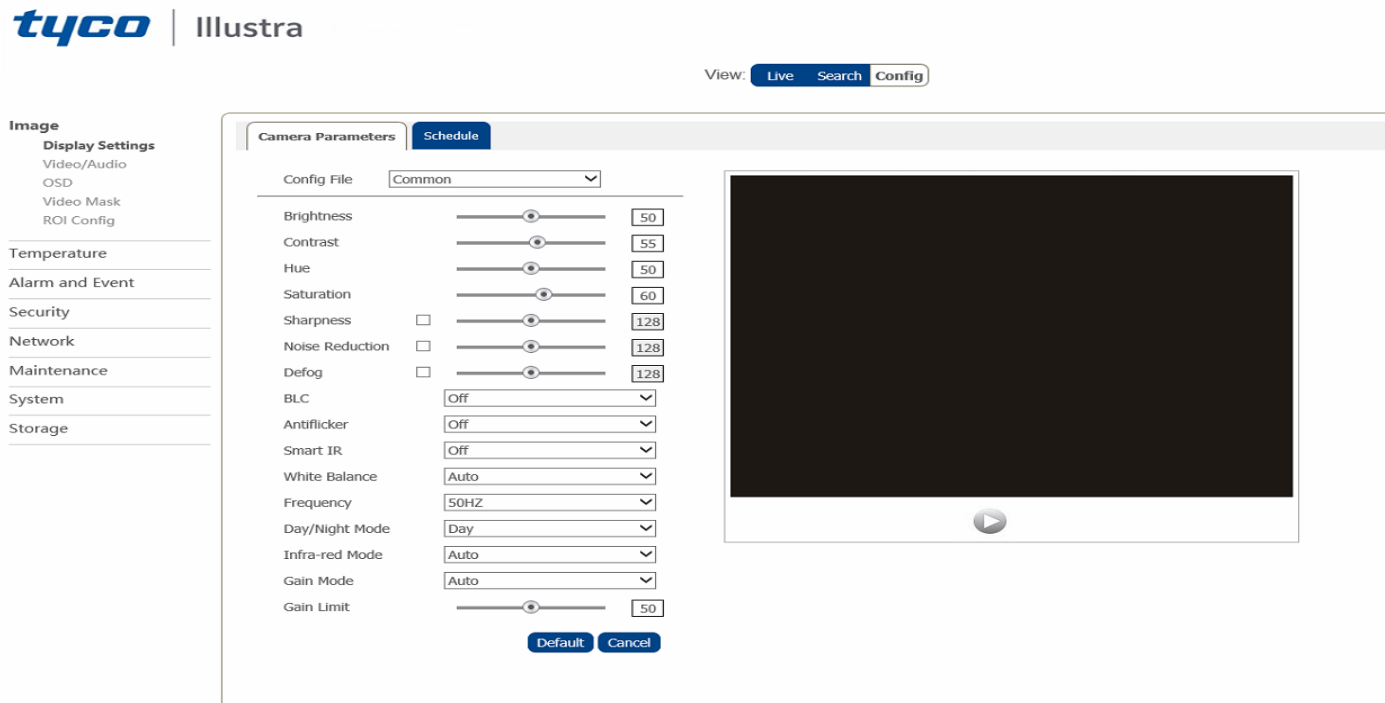
The camera web User Interface displays in the selected language.

- End -

Image

In this section you can configure the display settings, video and audio, on-screen display, video mask and regions of interest.

Figure 25 Image settings menu page



Display Settings

In this section you can adjust the camera parameter settings and schedule image parameters settings.

Procedure 17 Adjusting the camera parameters

- 1 Select **Image** on the Web User Interface banner to view the **Camera Parameters** tab.
- 2 Select the **Config File** drop-down menu and select one of the following:
 - **Common**
 - **Day**
 - **Night**
- 3 Adjust the slide-bar to select a value for the options in the list below:
 - **Brightness:** Set the brightness level of the camera's image.
 - **Contrast:** Set the color difference between the brightest and darkest parts.
 - **Hue:** Set the total color degree of the image.

- **Saturation:** Set the degree of color purity. The purer the color, the brighter the image is.
- **Sharpness:** Select the **Sharpness** check box and then set the resolution level of the image plane and the sharpness level of the image edge.
- **Noise Reduction:** Select the **Noise Reduction** check box and set the noise reduction value. Decrease the noise and make the image more thorough. Increasing the value will make the noise reduction effect better but it will reduce the image resolution.
- **Defog:** Select the **Defog** check box and set the defog value. Activating this function and setting an appropriate value as needed in foggy, dusty, smoggy or rainy environment to get clear images.

4 Select an option from the drop-down menu for each of the following:

- **Backlight Compensation (BLC):**

Off: disables the backlight compensation function. It is the default mode.

HWDR: WDR can adjust the camera to provide a better image when there are both very bright and very dark areas simultaneously in the field of the view by lowering the brightness of the bright area and increasing the brightness of the dark area. Recording will be stopped for a few seconds while the mode is changing from non-WDR to WDR mode.

HLC: lowers the brightness of the entire image by suppressing the brightness of the image's bright area and reducing the size of the halo area.

BLC: If enabled, the auto exposure will activate according to the scene so that the object of the image in the darkest area will be seen clearly.

- **Antiflicker:**

Off: disables the anti-flicker function. This is used mostly in outdoor installations.

50Hz: reduces flicker in 50Hz lighting conditions.

60Hz: reduces flicker in 60Hz lighting conditions.

- **Smart IR:** Choose "ON" or "OFF". This function can effectively avoid image overexposure and underexposure by controlling the brightness of the IR lights according to the actual conditions to make the image more realistic. Please enable it as needed.
- **White Balance:** Adjust the color temperature according to the environment automatically.
- **Frequency:** 50Hz and 60Hz can be optional.
- **Day/Night Mode:** Choose "Auto", "Day", "Night" or "Timing".
- **Infra-red Mode:** "On" or "Off".
- **Gain Mode:** Choose "Auto" or "Manual". If "Auto" is selected, the gain value will be automatically adjusted according to the actual situation. If "Manual" is selected, the gain value shall be set manually. The higher the value is, the brighter the image is.
- **Gain Limit:** Adjust the slide-bar to increase or decrease the value.

Note: To restore the settings to their default value then select the **Default** button.

Note:Select **Cancel** to undo any changes.

- End -

Procedure 18 Scheduling when certain camera parameters should be used

- 1 Select **Image** on the Web User Interface banner to view the **Camera Parameters** tabs.
- 2 Select the **Schedule** tab to view the schedule menu.
- 3 Select the **Schedule** drop-down menu and one of the following:
 - **Full Time** for common, day, night mode
 - **Timing** to enter a time.

Note:When Timing is selected then you must click and drag the **Timing Range** slide-bar to enter the time.

- 4 Select the **Config File** drop-down menu and select one of the following:
 - **Common**
 - **Day**
 - **Night**
 - **Auto**
- 5 Select the **Save** button to save the settings.

- End -

Video / Audio

In this section you can set the video and audio settings.

Procedure 19 Configuring the video settings

Four video streams can be adjusted at the same time.

- 1 Select **Image** on the Web User Interface banner to view the **Video / Audio** option in the menu list.
- 2 Select **Video / Audio** to view the **Video** tab to view the video menu.
- 3 Select the **Resolution** drop-down menu and select the size of the image.
- 4 Select the **Frame Rate** text box to enter a value for the frame rate.
- 5 Select the **Bitrate Type** drop-down menu and select one of the following:
 - **CBR** - no matter how much change is seen in the video scene, the compression bitrate will be kept constant.
 - **VBR** - the compression bitrate will be adjusted according to scene changes. For example, for scenes that do not have much movement, the bitrate will be kept at a lower value. This can help optimize the network bandwidth usage.
- 6 Select the **Bitrate(Kbps)** drop-down menu and select an option.

Note:This option is only available when CBR is selected in step 5.

- 7 Select the **Video Quality** drop-down menu and select an option. The higher the image quality then more bitrate will be required.

Note:This option is only available when VBR is selected in step 5.

- 8 Select the **I Frame Interval** text box to enter a value for the I frame.

Note:I frame determines how many frames are allowed between a “group of pictures”. When a new scene begins in a video, until that scene ends, the entire group of frames (or pictures) can be considered as a group of pictures. If there is not much movement in the scene, setting the value higher than the frame rate is fine, potentially resulting in less bandwidth usage. However, if the value is set too high, and there is a high frequency of movement in the video, there is a risk of frame skipping.

- 9 Select the **Video Compression** drop-down menu to select the video compression type.

Note:H264, H265, and MJPEG are optional.

Note:If H.265 is chosen, make sure the client system is able to decode H.265.

Note:Secondary streams also serve as the GUI stream. The GUI stream can only stream if these secondary streams are configured as MJPEG. Changing Resolution, Frame and Quality will affect the GUI stream quality, changing the Code will provide no GUI stream.

- 10 Select the **Profile** drop-down menu to select the profile type. For H.264. Baseline, main and high profiles are selectable.
- 11 Select the **Send Snapshot** drop-down menu to select the number of snapshots to generate for an event.
- 12 Select the **Video encode slice split** check box to ensure a smooth image even when using the low-performance computer.
- 13 Select the **Watermark** check box to enable this option when playing the local recorded video in the search interface.
- 14 Select the **Watermark** content text box and enter a description.
- 15 Select the **Save** button to save the settings.

- End -

Procedure 20 Configuring the audio settings

- 1 Select **Image** on the Web User Interface banner to view the **Video / Audio** option in the menu list.
- 2 Select the **Video / Audio** option and then the **Audio** tab to view the audio menu.
- 3 Select the **Enable** check box to enable audio.
- 4 Select the **Audio Encoding** drop-down menu and select one the following:
 - **G711A**
 - **G711U**
- 5 Select the **Audio Type** drop-down menu and select the following:

- **LIN**
- 6 Select the **Speaker** drop-down menu and select the following:
 - **Warning**

When “Talkback” is selected, the external audio output device will be used to output sound for two-way talk. When “Warning” is selected, the external audio output device will be used to output the pre-defined audio alarm.
 - 7 Select the **Speaker** drop-down menu and select the following:
 - **Warning**

When “Talkback” is selected, the built-in speaker will be used to output sound for two-way talk. When “Warning” is selected, the built-in speaker will be used to output the pre-defined audio alarm.
 - 8 Select the **Save** button to save the settings.

- End -

On Screen Display (OSD)

In this section you can select the date format, enter a device name, add OSD content and picture overlap here. After enabling the corresponding display and entering the content you can drag them to change their position.

Procedure 21 Settings up on screen display

You can add the date, time and device name to the on screen display.

- 1 Select **Image** on the Web User Interface banner to view the **OSD** option in the menu list.
- 2 Select the **OSD** option to view the OSD menu.
- 3 Select the **Date Format** drop-down menu and select a date format.
- 4 Select the **Show Timestamp** check box to view the date on screen.
- 5 Select the **Device Name** text box and enter the name of the device.
- 6 Select the **Show Device Name** check box to view the device name on screen.

Note: You can move the on screen display around the screen. Click and hold the on screen display to move it around the screen.

- 7 Select the **Save** button to save the settings.

- End -

Procedure 22 Uploading the on screen display settings

- 1 Select **Image** on the Web User Interface banner to view the **OSD** option in the menu list.
- 2 Select the **OSD** option to view the OSD menu.
- 3 Select the **OSD Content 1** check box drop-down menu and select **Picture Overlay** from the drop down menu.
- 4 Select **Browse** to select the overlap picture and then select **Upload** to upload the overlap picture.

Note: The pixel of the image shall not exceed 200*200, or it cannot be uploaded.

- 5 Select the **Save** button to save the settings.

- End -

Video Mask

A maximum of four video masks can be setup.

Procedure 23 Adding a video mask

- 1 Select **Image** on the Web User Interface banner to view the **View Mask** option in the menu list.
- 2 Select the **Video Mask** option to view the **Video Mask** menu.
- 3 Select the **Enable** check box to enable a video mask.
- 4 Select the **Draw Area** button and then drag the mouse over the video and draw the video mask.

Note: Select the **Clear** button to remove the video mask.

- 5 Select the **Save** button to save the settings.

- End -

Region of Interest (ROI) Configuration

An area in the image can be set as a region of interest. This area will have a higher bitrate than the rest of the image, resulting in better image quality for the identified area.

Procedure 24 Adding a region of interest

- 1 Select **Image** on the Web User Interface banner to view the **ROI Config** option in the menu list.
- 2 Select the **ROI Config** option to view the ROI menu.
- 3 Select the **Enable** check box to enable a region of interest
- 4 Select the **Draw Area** button and then drag the mouse over the video and draw the region of interest.

Note: Select the **Clear** button to remove the video mask.

- 5 Adjust the **Level** slide-bar to set the region of interest level on screen.
- 6 Select the **Save** button to save the settings.

- End -

Temperature

In this section you can set the temperature and an alarm type and schedule when the temperature measurement should be performed.

Figure 26 Temperature settings menu page

The screenshot displays the Tyco Illustra web interface for configuring temperature settings. The sidebar on the left lists various system categories, with 'Temperature' currently selected. The main panel is divided into 'Detection Config' and 'Schedule' tabs, with 'Detection Config' active. Under 'Enable', the checkbox is checked. The 'Temperature Switch' is set to '°F'. The 'High Temperature Alarm' is checked with a value of 96.5, and the 'Low Temperature Alarm' is checked with a value of 94.0. The 'Show Temperature' dropdown is set to 'Open'. The 'Front Size' is 25 and 'Line Width' is 100. There are three sections for showing temperature: 'Show Normal Temp' (checked, green), 'Show Elevated Temp' (checked, red), and 'Show Low Temp' (checked, blue). The 'Alarm Holding Time' is set to 3 seconds. The 'Trigger Alarm Out' checkbox is unchecked. Below these are several unchecked checkboxes for additional triggers: Audio Alarm, Light Alarm, Snap, SD Recording, Email, and FTP. A 'Save' button is located at the bottom right of the configuration area.

Temperature measurement

In this section you can set the temperature and an alarm type.

Procedure 25 Configuring temperature measurements

- 1 Select **Temperature** on the Web User Interface banner to view the **Detection Config** tab.
- 2 Select the **Enable** check box to enable temperature measurement.
- 3 Select the **Temperature Switch** drop-down menu and select one of the following:
 - Celsius
 - Fahrenheit
- 4 Select the **High Temperature Alarm** check box and enter a value in the text box
- 5 Select the **Low Temperature Alarm** check box and enter a value in the text box.

Note: When the body temperature measured is higher or lower than the set value, it will trigger alarms.

- 6 Select the **Show Temperature** drop-down menu and one of the following options:
 - **Open:** The temperature is now visible on the on-screen display.
 - **Closed:** The temperature is not visible on the on-screen display.
- 7 Select the **Font Size** drop-down menu and select a font size value.
- 8 Select the **Line Width** drop-down menu and select a line width value.
- 9 Select the **Show Normal Temp** check box to enable or disable the normal temperature on screen.
 - a You can change the Normal Temp color, select the existing color to the left of **Choose color** and select a new color.
- 10 Select the **Show Elevated Temp** check box to enable or disable the Elevated temperature.
 - a You can change the Show Elevated Temp color, select the existing color to the left of **Choose color** and select a new color.
- 11 Select the **Show Low Temp** check box to enable or disable the Low temperature.
 - a You can change the Show Low Temp color, select the existing color to the left of **Choose color** and select a new color.
- 12 Select the **Alarm Holding Time** drop-down menu and select an option.
- 13 Select the following check boxes to trigger that alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Audio Alarm:** If enabled, the warning voice will be triggered when the temperature exceeds the set value. (Please set the warning voice first. See Audio Alarm for details)
 - **Trigger Light Alarm:** If enabled, the light of the camera will flash when the temperature exceeds the set value. (Please set the light flashing time and frequency first. See Light Alarm for details)
 - **Trigger Snap:** If enabled, the system will capture images on detecting abnormal temperature alarm and save the images on an SD card.
 - **Trigger SD Recording:** If selected, video will be recorded on an SD card on detecting abnormal temperature alarm.
 - **Trigger Email:** If Trigger Email and Attach Picture are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If Trigger FTP is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
- 14 Select the **Save** button to save the settings.

- End -

Temperature measurement schedule

In this section you can schedule when the temperature measurement should be performed.

Figure 27 Temperature measurement schedule menu page

The screenshot shows the Tyco Illustra web interface. On the left is a sidebar with navigation links: Image, Temperature (highlighted), Alarm and Event, Security, Network, Maintenance, System, and Storage. Under 'Temperature', there are sub-links: Temperature Screening, Temp Calibration, and Display Settings. The main content area has two tabs: 'Detection Config' and 'Schedule'. The 'Schedule' tab is selected. It contains a 'Week Schedule' section with a timeline for each day of the week (Sun. to Sat.). Each day's timeline is divided into 24 hours, with a 'Manual Input' button for each hour. A 'Holiday Schedule' section is also visible, allowing users to add or delete specific dates. The 'Save' button is located at the bottom right of the 'Schedule' tab.

Procedure 26 Adding a weekly temperature schedule

You can set the alarm time from Monday to Sunday for a single week. Each day is divided in one hour increments. Blue in Figure 22 means scheduled. No colour means that its unscheduled.

- 1 Select **Temperature** on the Web User Interface banner to view the **Detection Config** tab.
- 2 Select the **Schedule** tab to view the schedule menu.
- 3 Select **Add** for any day to schedule the temperature measurement and then click and drag the mouse over the timeline to set the time.

Or

Select **Manual Input** for any day to select a specific start and end time. This adds more granularities (minutes).

Note: Select **Erase** for any day to delete the schedule in step 3 and then click and drag the mouse over the timeline to erase the time.

- 4 Select the **Save** button to save the settings.

- End -

Procedure 27 Adding a daily temperature schedule

You can set the alarm time for a special day, such as a holiday.

- 1 Select **Temperature** on the Web User Interface banner to view the **Detection Config** tab.

- 2 Select the **Schedule** tab to view the schedule menu.
- 3 Select the **Date** text box and enter a date.
- 4 Select **Add** for any day to schedule the temperature measurement and then click and drag the mouse over the timeline to set the time.

Or

Select **Manual Input** for any day to select a specific start and end time. This adds more granularities (minutes).

Note: Select **Erase** for any day to delete the schedule in step 3 and then click and drag the mouse over the timeline to erase the time.

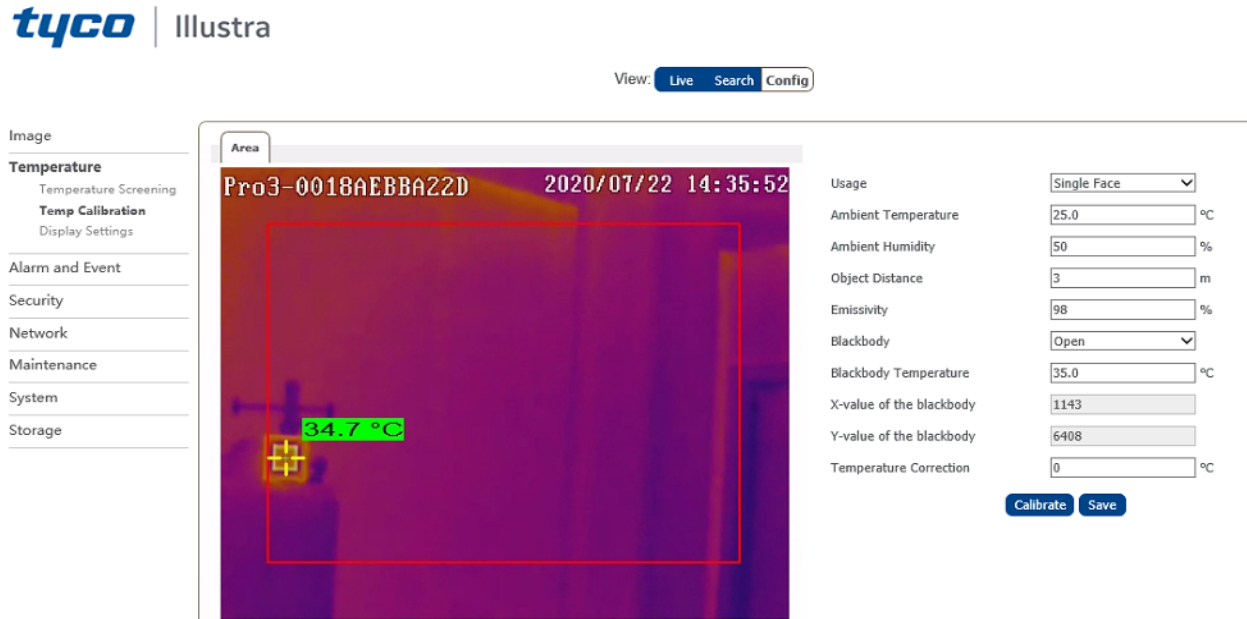
- 5 Select the **Save** button to save the settings.

- End -

Temperature Calibration

In this section you can configure a temperature calibration with or without the External Temperature Reference Source device.

Figure 28 Temperature Calibration menu page



Procedure 28 Configuring a temperature calibration with the External Temperature Reference Source device

- 1 Select **Temperature** on the Web User Interface banner and then select **Temperature Calibration** from the menu list.
- 2 Select the **Usage** drop-down menu and select **Single Face** or **Multiple Face**.
 - **Single Face Usage** = 1 Face at time between .7 and 1 Meter from the camera at a max rate of 10 to 15 people per minute or one every 4 seconds. (IEC compliant).
 - **Multi Face Usage** = Up to 20 faces at a time between 2 and 6 meters at a max rate of 200 people per minute or 20 people at a time. (Not IEC compliant).
- 3 Select the **Ambient Temperature** text box and enter the ambient temperature value.
The recommended ambient temperature should be 10~35°C (airless).
- 4 Select the **Ambient Humidity** text box and enter the ambient humidity value.
The recommended ambient humidity should be less than 50%.
- 5 Select the **Object Distance** text box and enter a value for the distance between the camera and user.
- 6 Select the **Emissivity** text box and enter a value.
For human skin, this value is normally set as 95%.
- 7 Select the **External Temperature Reference Source** drop-down menu and select **Open**.

Note:A red box is now visible in the thermal image window. See example in Figure 28. The External Temperature Reference Source device should not be visible within this area for accuracy measurement. If the External Temperature Reference Source device is outside of the box then move it within the box.

Note:It is important that the External Temperature Reference Source device is in a position where it will not be obscured during detection.

Figure 29 'Red Box' visible in the thermal image window



- 8 Select the **External Temperature Reference Source Temperature** text box and enter a value.

It is recommended that this is set to 35°C

Note:Turn on the External Temperature Reference Source device and then press “Up” or “Down” to increase or decrease the temperature value. It can take about 20~30 minutes for the External Temperature Reference Source device to be steady.

- 9 Select the **Temperature Correction** text box and input the value offset from the overlay External Temperature Reference Source device temperature.

Example: If The External Temperature Reference Source device is set to 35.0 and the camera is reading 34.9 – then the offset would be 0.1.

Note:Configure and save the calibration settings from this procedure before establishing this offset.

- 10 Select the **Calibrate** button and then select **Save** to save the settings.

Note:The External Temperature Reference Source device target icon will not update the read temperature value until the page is refreshed or the target icon is repositioned within the External Temperature Reference Source device.

Note:It may take up to 10 minutes to make the temperature module of the camera stable. Therefore, please measure the body temperature after 10 minutes.

Note: The External Temperature Reference Source device does not support IP40. If the External Temperature Reference Source device is used with the camera, it shall be installed 2 or 3 meters away from the camera. It cannot be blocked. During operation, do not move the camera and External Temperature Reference Source device and make sure the External Temperature Reference Source device is in a fixed and correct position in the camera image.

- End -

Display Settings

In this section you can select a colorization option.

Procedure 29 Selecting a temperature display setting

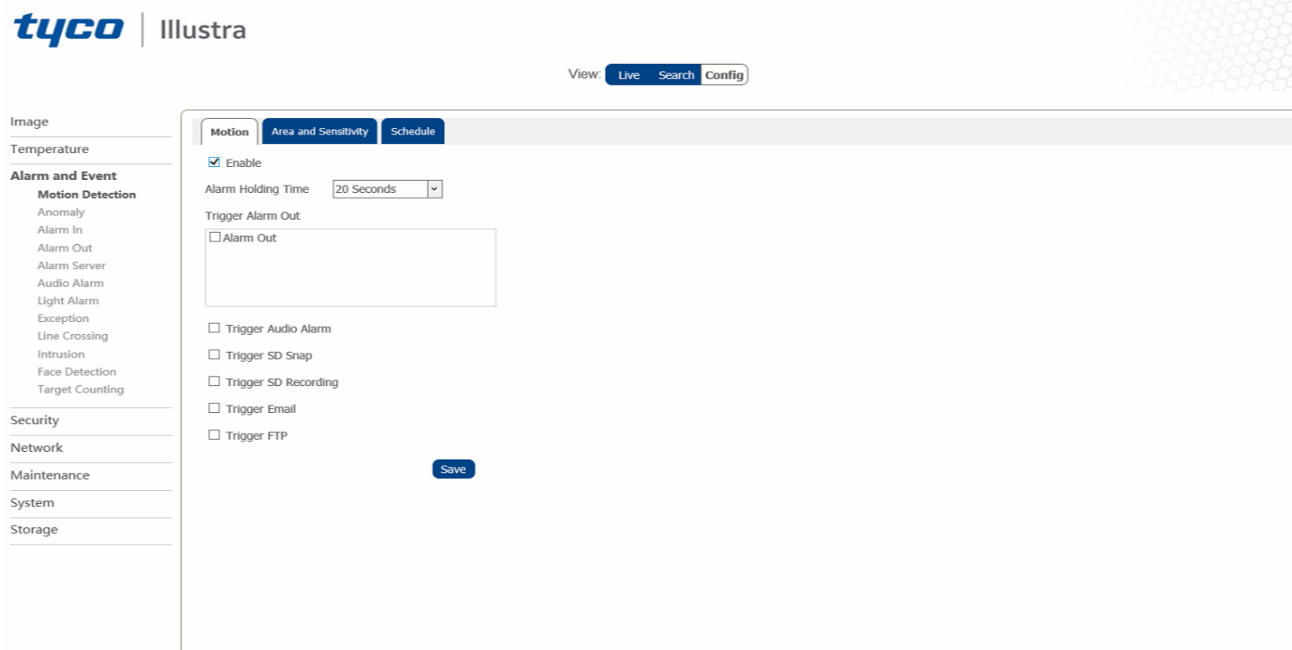
- 1 Select **Temperature** on the Web User Interface banner and then select **Display Settings** from the menu list.
- 2 Select the **Colorization** drop down menu and select one of the following:
 - **Iron oxide red**
 - **Rainbox**
 - **White hot**
 - **Black hot**
 - **Green jade**
- 3 Select the **Save** button to save the settings.

- End -

Alarm and Event

In this section you can configure motion detection, an SD card, alarm in and out, the alarm server, audio alarm, light alarm, set the camera to detect changes in the surveillance environment affected by the external factors, the sensitivity the system responds to the amplitude of the scene change, trigger alarms and set areas of interest.

Figure 30 Alarm and Event settings menu page



Motion Detection

Procedure 30 Configuring a motion detection alarm

Four video streams can be adjusted at the same time.

- 1 Select **Alarm and Event** on the Web User Interface banner to view the **Motion** tab.
- 2 Select the **Enable** check box to activate motion based alarms.

Note: If unchecked, the camera will not send out any signals to trigger motion-based recording to the NVR or CMS, even if there is motion in the video.

- 3 Select the **Alarm Holding Time** drop-down menu and select an option.
- 4 Select the following check boxes to enable that alarm:
 - **Alarm Out:** If selected, this would trigger an external relay output that is connected to the camera on detecting a motion based alarm.
 - **Trigger Audio Alarm:** If selected, the warning voice will be uttered on detecting a motion based alarm. (Please set the warning voice first. See Audio Alarm for details).

- **Trigger Snap:** If selected, the system will capture images on motion detection and save the images on an SD card.
- **Trigger SD Recording:** If selected, video will be recorded on an SD card on motion detection.
- **Trigger Email:** If “Trigger Email” and “Attach Picture” are selected (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
- **Trigger FTP:** If selected, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.

5 Select the **Save** button to save the settings.

- End -

Procedure 31 Select the motion detection area and sensitivity

- 1 Select **Alarm and Event** on the Web User Interface banner to view the **Motion** tab.
- 2 Select the **Area and Sensitivity** tab.
- 3 Move the **Sensitivity** slide-bar to set the sensitivity. A higher sensitivity value means that motion will be triggered more easily.
- 4 Select **Add** and then select the **Draw Area** button.
- 5 Click and drag the mouse over the screen to draw the motion detection area.

Note:Select the **Clear All** button and then click and drag the mouse over the screen to erase the motion detection area.

Note:Select the **Select All** button to select the full drawing.

Note:Select the **Invert** button to invert the drawing.

6 Select the **Save** button to save the settings.

- End -

Procedure 32 Schedule a motion detection alarm

- 1 Select **Alarm and Event** on the Web User Interface banner to view the **Motion** tab.
- 2 Select the **Schedule** tab.
- 3 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Anomaly

In this section you can take an action, such as triggering an alarm, if the SD card is full, has an error or if the camera experiences some error such as the IP collision or cable disconnection.

Procedure 33 Enable an alarm when the SD Card is full

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Anomaly**.
- 2 Select the **Enable** check box.
- 3 Select the **Alarm Holding Time** drop-down menu and select a time.
- 4 Select one of the following check boxes to trigger the alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Email:** If Trigger Email and Attach Picture are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If Trigger FTP is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
- 5 Select the **Save** button to save the settings.

- End -

Procedure 34 Enable an SD Card Error alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Anomaly**.
- 2 Select the **SD Card Error** tab.
- 3 Select the **Enable** check box.
- 4 Select the **Alarm Holding Time** drop-down menu and select a time.
- 5 Select one of the following check boxes to trigger the alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Email:** If Trigger Email and Attach Picture are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If Trigger FTP is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
- 6 Select the **Save** button to save the settings.

- End -

Procedure 35 Enable an IP Address Collision alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Anomaly**.
- 2 Select the **IP Address Collision** tab.
- 3 Select the **Enable** check box.

- 4 Select the **Alarm Holding Time** drop-down menu and select a time.
- 5 Select the following check box to trigger the alarm.
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
- 6 Select the **Save** button to save the settings.

- End -

Procedure 36 Enable an alarm when a cable is disconnected

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Anomaly**.
- 2 Select the **Cable Disconnected** tab.
- 3 Select the **Enable** check box.
- 4 Select the **Alarm Holding Time** drop-down menu and select a time.
- 5 Select the following check box to trigger the alarm.
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
- 6 Select the **Save** button to save the settings.

- End -

Alarm In

Procedure 37 Enable an Alarm In alarm.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Alarm In**.
- 2 Select the **Enable** check box.
- 3 Select the **Alarm Type** drop-down menu and select an option.
- 4 Select the **Alarm Holding Time** drop-down menu and select an option.
- 5 Select the **Sensor Name** text box and enter a name.
- 6 Select the following check boxes to trigger that alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Audio Alarm:** If enabled, the warning voice will be triggered when the temperature exceeds the set value. (Please set the warning voice first. See Audio Alarm for details)
 - **Trigger Light Alarm:** If enabled, the light of the camera will flash when the temperature exceeds the set value. (Please set the light flashing time and frequency first. See Light Alarm for details)
 - **Trigger SD Snap:** If enabled, the system will capture images on detecting abnormal temperature alarm and save the images on an SD card.
 - **Trigger SD Recording:** If selected, video will be recorded on an SD card on detecting abnormal temperature alarm.

- **Trigger Email:** If “Trigger Email” and “Attach Picture” are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
- **Trigger FTP:** If “Trigger FTP” is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.

7 Select the **Save** button to save the settings.

- End -

Procedure 38 Schedule an alarm in alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Alarm In**.
- 2 Select the **Schedule** tab.
- 3 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Alarm Out

Procedure 39 Enable an Alarm Out alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Alarm Out**.
- 2 Select one of the following from the **Alarm Out Mode** drop down menu:
 - **Alarm Linkage:** When selected, enter the **Alarm Out Name**, and select the **Alarm Holding Time** and **Alarm Type** from the drop-down menus.
 - **Manual Operation:** When selected, select the **Alarm Type** from the drop-down menu and select **Open** to immediately trigger the alarm. Select **Close** to stop the alarm.
 - **Day/Night Switch Linkage:** When selected, select the **Alarm Type** and then choose to open or close alarm out when the camera switches to **Day** mode or **Night** mode from the drop-down menus.
 - **Timing:** When selected, select the **Alarm Type** from the drop-down menu, select **Add** and then click and drag the mouse on the timeline to set the schedule of the alarm out. Select **Erase** and drag the mouse on the timeline to erase the set time schedule.
- 3 Select the **Save** button to save the settings.

- End -

Alarm Server

Procedure 40 Configure the alarm server

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Alarm Server**.

- 2 Select the **Server Address** text box and enter the server address.
- 3 Select the **Port** text box and enter the port number.
- 4 Select the **Heartbeat** drop-down menu and select an option.
- 5 Select the **Heartbeat Interval** and enter a number.
- 6 Select the **OK** button to save the settings.

- End -

Audio Alarm

Procedure 41 Configure an audio alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Audio Alarm**.
- 2 Select the **Language** drop-down menu and select a language.
- 3 Select the **Voice Content** drop-down menu and select an option.
- 4 Select the **Warnings Times** text box and enter a number.
- 5 Select the **Volume** slider-bar and select the volume level.
- 6 Select the **OK** button to save the settings.

- End -

Procedure 42 Configure a customized audio alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Audio Alarm**.
- 2 Select the **Language** drop-down menu and select **Customize**.
- 3 Select **Browse** and choose the file that you want to upload.
- 4 Select the **Audio Name** text box and enter a name.
- 5 Select **Upload** to upload the file.

Note:After you upload the audio file, you can select the audio name from the **Audio List**. Select **Listen** to listen to the audio. Select **Delete** to delete the audio.

- 6 Select the **Voice Content** drop-down menu and select an option.
- 7 Select the **Warnings Times** text box and enter a number.
- 8 Select the **Volume** slider-bar and select the volume level.
- 9 Select the **OK** button to save the settings.

- End -

Light Alarm

Procedure 43 Configure a light alarm.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Light Alarm**.
- 2 Select the **Flashing Time** text box and enter a number. The Flasing Time ranges from 1 - 60 seconds.

- 3 Select the **Flashing Frequency** drop-down menu and select an option:
 - **Low**
 - **Middle**
 - **High**
- 4 Select the **OK** button to save the settings.

- End -

Exception

This function can detect changes in the surveillance environment affected by the external factors.

Procedure 44 Configuring an exception detection.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Exception**.
- 2 You can choose the following options by selecting the respective check-box:
 - **Scene Change Detection:** Alarms will be triggered if the scene of the monitor video has changed.
 - **Video Blur Detection:** Alarms will be triggered if the video becomes blurry.
 - **Enable Video Color Cast Detection:** Alarms will be triggered if the video becomes obscured.
- 3 Select the **Alarm Holding Time** drop-down menu and select an option.
- 4 Select the following check boxes to trigger that alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Audio Alarm:** If enabled, the warning voice will be triggered when the temperature exceeds the set value. (Please set the warning voice first. See Audio Alarm for details)
 - **Trigger SD Snap:** If enabled, the system will capture images on detecting abnormal temperature alarm and save the images on an SD card.
 - **Trigger SD Recording:** If selected, video will be recorded on an SD card on detecting abnormal temperature alarm.
 - **Trigger Email:** If Trigger Email and Attach Picture are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If "Trigger FTP" is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
- 5 Select the **Save** button to save the settings.

- End -

Procedure 45 Configuring an exception detection sensitivity

The higher the value is, the more sensitive the system responds to the amplitude of the scene change.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Exception**.
- 2 Select the **Sensitivity** tab.
- 3 Move the slide-bar to increase or decrease the sensitivity.
- 4 Select the **Save** button to save the settings.

Note:The sensitivity value of Video Blur Detection: The higher the value is, the more sensitive the system responds to the blurriness of the image.

Note:The sensitivity value of Video Color Cast Detection: The higher the value is, the more sensitive the system responds to the obscuring of the image.

Note:Auto-focusing function should not be enabled for exception detection.

Note:Try not to enable exception detection when light changes greatly in the scene.

- End -

Line Crossing

Alarms will be triggered if the target crosses the pre-defined alarm lines.

Procedure 46 Configuring a line crossing detection.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Line Crossing**.
- 2 Select the **Enable** check box to enable line crossing.
- 3 Select the **Save Panoramic Picture**: If it is enabled, the detected panoramic pictures will be captured and saved to the SD card when there are targets detected.
- 4 Select the **Save Target Cutout**: If it is enabled, the detected target cutout pictures will be captured and saved to the SD card when there are targets detected.

Note:To save snapshots to the local PC, please enable "Local Smart Snapshot Storage" in the local config interface first. To save snapshots to the SD card, please install an SD card first.

- 5 Select one of the following **Detection Target** check boxes to enable an alarm:
 - **Human:** Alarms will be triggered if someone crosses the pre-defined alarm lines.
 - **Motor Vehicle:** Alarms will be triggered if a vehicle with four or more wheels (eg. a car, bus or truck) crosses the pre-defined alarm lines.
 - **Motorcycle/Bicycle:** Alarms will be triggered if a non-motor vehicle (eg. a motorcycle or bicycle) crosses the pre-defined alarm lines.
- Move the slide-bar to increase or decrease the sensitivity.

Note: These three types of objects can be selected simultaneously. Please select the detection objects as needed. If no object/target is selected, alarms will not be triggered even if line crossing detection is enabled.

- 6 Select the **Alarm Holding Time** drop-down menu and select an option.
- 7 Select the following check boxes to trigger that alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Audio Alarm:** If enabled, the warning voice will be triggered when the temperature exceeds the set value. (Please set the warning voice first. See Audio Alarm for details).
 - **Trigger Light Alarm:** If enabled, the light of the camera will flash when the temperature exceeds the set value. (Please set the light flashing time and frequency first. See Light Alarm for details)
 - **Trigger SD Snap:** If enabled, the system will capture images on detecting abnormal temperature alarm and save the images on an SD card.
 - **Trigger SD Recording:** If selected, video will be recorded on an SD card on detecting abnormal temperature alarm.
 - **Trigger Email:** If “Trigger Email” and “Attach Picture” are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If “Trigger FTP” is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
- 8 Select the **Save** button to save the settings.

- End -

Procedure 47 Adding a line crossing alarm area

Set the area and sensitivity of the line crossing alarm.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Line Crossing**.
- 2 Select the **Area** tab.
- 3 Select the **Alarm Line** drop-down menu and select a line number.
- 4 Select the **Direction** drop-down menu and select an option. See all line direction options explained below.

Note: A<->B, A->B and A<-B optional. This indicates the direction of the intruder/vehicle crosses over the alarm line.

Note: A<->B: The alarm will be triggered when the intruder/vehicle crosses over the alarm line from B to A or from A to B.

Note: A->B: The alarm will be triggered when the intruder/vehicle crosses over the alarm line from A to B.

Note:A<-B: The alarm will be triggered when the intruder/vehicle crosses over the alarm line from B to A.

- 5 Select the **Draw Area** button and click and drag the mouse over the video to draw a line on the image.

Note:Select the **Clear** button to delete the lines.

- 6 Select the **Save** button to save the settings.

- End -

Configuration of the camera and surrounding area

- Avoid the scenes with many trees or the scenes with various light changes (like many flashing headlights). The ambient brightness of the scenes shouldn't be too low.
- Cameras should be mounted at a height of 2.8 meters or above.
- Keep the mounting angle of the camera at about 45°.
- The detected objects should not be less than 1% of the entire image and the largest sizes of the detected objects should not be more than 1/8 of the entire image.
- Make sure cameras can view objects for at least 2 seconds in the detected area for accurate detection.
- Adequate light and clear scenery are crucial for line crossing detection.

Procedure 48 Scheduling a line crossing alarm.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Line Crossing**.
- 2 Select the **Schedule** tab.
- 3 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Intrusion

Alarms will be triggered if the target intrudes and loiters in the pre-defined areas.

Procedure 49 Configure an Intrusion detection

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Intrusion**.
- 2 Select the **Enable** check box to enable intrusion.
- 3 Select the **Save Panoramic Picture** check box: If it is enabled, the detected panoramic pictures will be captured and saved to the SD card when there are targets detected.
- 4 Select the **Save Target Cutout** check box: If it is enabled, the detected target cutout pictures will be captured and saved to the SD card when there are targets detected.

Note:To save snapshots to the local PC, please enable "Local Smart Snapshot Storage" in the local config interface first. To save snapshots to the SD card, please install an SD card first.

- 5 Select one of the following **Detection Target** check boxes to enable an alarm:

- **Human:** Alarms will be triggered if someone crosses the pre-defined alarm lines.
- **Motor Vehicle:** Alarms will be triggered if a vehicle with four or more wheels (eg. a car, bus or truck) crosses the pre-defined alarm lines.
- **Motorcycle/Bicycle:** Alarms will be triggered if a non-motor vehicle (eg. a motorcycle or bicycle) crosses the pre-defined alarm lines.

Move the slide-bar to increase or decrease the sensitivity.

Note: These three types of objects can be selected simultaneously. Please select the detection objects as needed. If no object/target is selected, alarms will not be triggered even if line crossing detection is enabled.

- 6 Select the **Alarm Holding Time** drop-down menu and select an option.
- 7 Select the following check boxes to trigger that alarm.
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Audio Alarm:** If enabled, the warning voice will be triggered when the temperature exceeds the set value. (Please set the warning voice first. See Audio Alarm for details).
 - **Trigger Light Alarm:** If enabled, the light of the camera will flash when the temperature exceeds the set value. (Please set the light flashing time and frequency first. See Light Alarm for details)
 - **Trigger SD Snap:** If enabled, the system will capture images on detecting abnormal temperature alarm and save the images on an SD card.
 - **Trigger SD Recording:** If selected, video will be recorded on an SD card on detecting abnormal temperature alarm.
 - **Trigger Email:** If "Trigger Email" and "Attach Picture" are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If "Trigger FTP" is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
- 8 Select the **Save** button to save the settings.

- End -

Procedure 50 Configure an Intrusion alarm area

Set the alarm area of the intrusion detection.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Intrusion**.
- 2 Select the **Area** tab.
- 3 Select the **Alarm Area** drop down menu and select a number. Up to 4 alarm areas can be added.
- 4 Select the **Draw Area** button and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area).

- Select the **Stop Draw** button to stop drawing.
- Select the **Clear** button to delete the alarm area.

5 Select the **Save** button to save the settings.

- End -

Procedure 51 Schedule an Intrusion alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Intrusion**.
- 2 Select the **Schedule** tab.
- 3 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Configuration of camera and surrounding area

- Avoid the scenes with many trees or the scenes with various light changes (like many flashing headlights). The ambient brightness of the scenes shouldn't be too low.
- Cameras should be mounted at a height of 2.8 meters or above.
- Keep the mounting angle of the camera at about 45°.
- The detected objects should not be less than 1% of the entire image and the largest sizes of the detected objects should not be more than 1/8 of the entire image.
- Make sure cameras can view objects for at least 2 seconds in the detected area for accurate detection.
- Adequate light and clear scenery are crucial for line crossing detection.

Face Detection

The Face detection function is to detect the face appearing in the surveillance scene. Alarms will be triggered when a face is detected.

Procedure 52 Configure a face detection alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Face Detection**.
- 2 Select the **State** text box and enter a state.
- 3 Select the **Enable** check box to enable face detection.
- 4 Select the **Save Source Information** check box: If it is enabled, the whole picture will be saved to the SD card when detecting a face.
- 5 Select the **Save Face Information** check box: If it is enabled, the captured face picture will be saved to the SD card when detecting a face.

Note: To save images to the local PC, please enable the local smart snapshot storage first (Config - System - Local Config). To save images to the SD card, please install an SD card first.

- 6 Select the **Trigger alarm condition** drop-down menu and select one of the following:
 - **Mask Off:** Face detection with added Face Mask not present

- **All Alarm:** Normal Face detection alerts
- 7 Select the **Alarm Holding Time** drop-down menu and select an option.
 - 8 Select the following check boxes to trigger that alarm:
 - **Alarm Out:** If enabled, the alarm output device will be triggered when detecting abnormal temperature.
 - **Trigger Audio Alarm:** If enabled, the warning voice will be triggered when the temperature exceeds the set value. (Please set the warning voice first. See Audio Alarm for details).
 - **Trigger Light Alarm:** If enabled, the light of the camera will flash when the temperature exceeds the set value. (Please set the light flashing time and frequency first. See Light Alarm for details)
 - **Trigger SD Snap:** If enabled, the system will capture images on detecting abnormal temperature alarm and save the images on an SD card.
 - **Trigger SD Recording:** If selected, video will be recorded on an SD card on detecting abnormal temperature alarm.
 - **Trigger Email:** If “Trigger Email” and “Attach Picture” are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
 - **Trigger FTP:** If “Trigger FTP” is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
 - 9 Select the **Save** button to save the settings.

- End -

Procedure 53 Configure a face detection area

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Face Detection**.
- 2 Select the **Area** tab.
- 3 Select the **Draw Area** button and then click and drag the mouse over the video and draw rectangular border lines.
Select the **Clear** button to delete the alarm area.
- 4 Set the detectable face size by defining the maximum value and the minimum value in the **Min** and **Max** text boxes. (The default size range of a single face image occupies from 3% to 50% of the entire image).
- 5 Select the **Save** button to save the settings.

- End -

Procedure 54 Configure face detection advanced settings

You can choose the snapshot interval and number as needed to avoid capturing multiple similar pictures in a short period of time.

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Face Detection**.
- 2 Select the **Advanced** tab.
- 3 Select the **Snapshot Interval** drop-down menu and select the interval.

Note:For example, if 5 seconds is selected, the camera will capture the same target once every 5 seconds during its continuous tracking period.

- 4 Select the **Snapshot Number** check box and enter a number in the text box.

Note:For example, if the snapshot number is enabled and set (eg. 3), the camera will capture the same target once every 5 seconds and it will capture this target 3 times at most during its continuous tracking period. If the snapshot number is disabled, the camera will capture the same target once every 5 seconds until the target disappears in the detected area.

- 5 Select the **Save** button to save the settings.

- End -

Procedure 55 Schedule a face detection alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Face Detection**.
- 2 Select the **Schedule** tab.
- 3 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Configuration requirements of camera and surrounding area

- Cameras must be installed in the area with stable and adequate light sources.
- The installation height ranges from 2.0m to 3.5m, adjustable according to the focal-length of different lenses and object distances.
- The depression angle of the camera shall be less than or equal to 15°.
- The object distance depends on the focal-length of the lens mounted in the camera.
- To ensure the accuracy of face detection, the captured faces are only allowed to deviate less than 30° leftward or rightward or 20° upward or downward.

Target Counting

This function is to calculate the number of the people or vehicles crossing the alarm line through detecting, tracking and counting the shapes of the people or vehicles.

Note:Enabling target counting disables EST temperature measurements.

Procedure 56 Configure a target counting alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Target Counting**.
- 2 Select the **Enable** check box to enable Target Counting.

- 3 Select the **Save Panoramic Picture** check box: If it is enabled, the detected panoramic pictures will be captured and saved to the SD card when there are targets detected.
- 4 Select the **Save Target Cutout** check box: If it is enabled, the detected target cutout pictures will be captured and saved to the SD card when there are targets detected.

Note: To save snapshots to the local PC, please enable "Local Smart Snapshot Storage" in the local config interface first. To save snapshots to the SD card, please install an SD card first.

- 5 Select one of the following **Detection Target** check boxes to enable an alarm:

- **Human:** Alarms will be triggered if someone crosses the pre-defined alarm lines.
- **Motor Vehicle:** Alarms will be triggered if a vehicle with four or more wheels (eg. a car, bus or truck) crosses the pre-defined alarm lines.
- **Motorcycle/Bicycle:** Alarms will be triggered if a non-motor vehicle (eg. a motorcycle or bicycle) crosses the pre-defined alarm lines.

Move the slide-bar to increase or decrease the sensitivity.

Note: These three types of objects can be selected simultaneously. Please select the detection objects as needed. If no object/target is selected, alarms will not be triggered even if line crossing detection is enabled.

- 6 Select the **Timing** drop-down menu and select an option.
The current number of the targets to be counted can be reset. You can choose to reset the counting daily, weekly or monthly.
- 7 Select the **Reset** button to manually reset the current number of crossing line people/car/bike counting.
- 8 Select the **Save** button to save the settings.

- End -

Procedure 57 Configure a target counting area

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Target Counting**.
- 2 Select the **Area** tab.
- 3 Select the **Alarm Line** drop-down menu and select an alarm line number.
- 4 Select the **Direction** drop-down menu and select the line direction. Only one alarm can be added. See all line direction options explained below.

Note: A<->B, A->B and A<-B optional. This indicates the direction of the intruder/vehicle crosses over the alarm line.

Note: A<->B: The alarm will be triggered when the intruder/vehicle crosses over the alarm line from B to A or from A to B.

Note: A->B: The alarm will be triggered when the intruder/vehicle crosses over the alarm line from A to B.

Note:A<-B: The alarm will be triggered when the intruder/vehicle crosses over the alarm line from B to A.

- 5 Select the **Draw Area** button and then click and drag the mouse over the video and draw rectangular border lines.
Select the **Clear** button to delete the alarm area.
- 6 Set the detectable face size by defining the maximum value and the minimum value in the **Min** and **Max** text boxes. (The default size range of a single face image occupies from 3% to 50% of the entire image).
- 7 **Optional** - Select the **Statistics** check box to enable Statistics
 - If enabled, you can see the statistical information in the live view interface. If disabled, the statistical information will not be displayed in the live view interface.
 - A red box is visible on screen when Statistics is enabled. Click and drag the red box with the mouse to change the position of the statistical information displayed on the screen.
- 8 Select the **Save** button to save the settings.

Note:If the OSD content4 is enabled, then it will be disabled after you enable Statistics.

- End -

Procedure 58 Schedule a target counting alarm

- 1 Select **Alarm and Event** on the Web User Interface banner and then select **Face Detection**.
- 2 Select the **Schedule** tab.
- 3 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Security

In this section you can add, delete and modify users and assign them permissions. You can see who is using the camera. An administrator can remove all the other users (including other administrators). An administrator can block a user and or give them access to the camera.

In order to prevent against malicious password unlocking, the 'locking once illegal login' function can be enabled. If this function is enabled, then after six unsuccessful login attempts the login interface locks. The camera can be logged in again after a half hour or after the camera reboots.

Figure 31 Security setting menu page

The screenshot shows the Tyco Illustra Pro3 5MP Thermal camera web interface. The top right corner displays the camera model and a 'Logout' button. Below the header, there are 'View', 'Live', 'Search', and 'Config' buttons. On the left side, a navigation menu lists various settings: Image, Temperature, Alarm and Event, Security (highlighted), User (sub-menu), Online User, Block and Allow Lists, Security Management, Network, Maintenance, System, and Storage. The main content area shows a table with two columns: 'Index' and 'User Name'. The table contains two entries: '1' with 'admin' and '2' with 'brice'. Above the table, there are 'Add', 'Modify', and 'Delete' buttons. The 'User Type' column is also visible, showing 'Administrator' for both users.

Index	User Name	User Type	Bind MAC
1	admin	Administrator	
2	brice	Administrator	

User

You can add, modify and delete users and assign them permissions.

Procedure 59 Adding a user

- 1 Select **Security** on the Web User Interface banner to view the **Users** menu.
- 2 Select the **Add** button.
- 3 Select the **User Name** text box and enter a name.
- 4 Select the **Password** text box and enter a password that meets the password criteria.
- 5 Select the **Confirm Password** text box and re-enter the password.
- 6 Select the **User Type** drop-down menu and select one of the following:
 - **Administrator**: User has all permissions.
 - **Normal User**: User can only view the live video.

- **Advanced User:** User has the same permissions as an Administrator except for; user, backup settings, factory reset, and upgrading the firmware.

- 7 Select the **Bind MAC** check box and enter the MAC Address.
When this option is enabled, only the PC with the specified MAC address can access the camera for that user.
- 8 Select the **OK** button to save the settings.

- End -

Procedure 60 Modifying a user

- 1 Select **Security** on the Web User Interface banner to view the **Users** menu.
- 2 Select the user that you want to modify and then select the **Modify** button.
- 3 Select the **Modify Password** check box.
- 4 Select the **Old Password** text box and enter a password that meets the password criteria.
- 5 Select the **New Password** text box and re-enter the password.
- 6 Select the **Confirm Password** text box and re-enter the password.
- 7 Optional - Select the **Bind MAC** check box and enter the MAC Address.
When this option is enabled, only the PC with the specified MAC address can access the camera for that user.
- 8 Select the **OK** button to save the settings.

Note: To change the access level of a user, the user must be deleted and added again with the new access level.

- End -

Procedure 61 Deleting a user

- 1 Select **Security** on the Web User Interface banner to view the **Users** menu.
- 2 Select the user that you want to delete and then select the **Delete** button.

Note: The default administrator account cannot be deleted.

- End -

Online User

You can see who is using the camera. An administrator can remove all the other users (including other administrators).

Procedure 62 Viewing a list of current users and removing them

- 1 Select **Security** on the Web User Interface banner and then select **Online User** from the menu list.

Note: A list of all online users is now visible.

- 2 Select the **Kick-off** button for any user to remove them.

- End -

Block and Allow lists

An administrator can block a user and or give them access to the camera.

Procedure 63 Blocking or enabling a user access

- 1 Select **Security** on the Web User Interface banner and then select **Block and Allow** from the menu list.
- 2 Select the **Enable address filtering** check box.
- 3 Select the **Block the following address** option to block the user.
Or
Select the **Allow the following address** option to allow the user access.
- 4 Select one of the following options:
 - **IPv4**
 - **IPv6**
 - **MAC**
- 5 Select the text box and enter the **IP address** or **MAC address** and then select the **Save** button to save the settings.

- End -

Security Management

In order to prevent against malicious password unlocking, the 'locking once illegal login' function can be enabled. If this function is enabled, after six unsuccessful login attempts the login interface locks. The camera can be logged in again after a half hour or after the camera reboots.

Procedure 64 Enable screen lock after six unsuccessful login attempts

- 1 Select **Security** on the Web User Interface banner and then select **Security Management** from the menu list to view the **Security Service** tab.
- 2 Select the **Enable "locking once illegal login" function** check box.
- 3 Select the **Save** button to save the settings.

- End -

Procedure 65 Setting specific password criteria

- 1 Select **Security** on the Web User Interface banner and then select **Security Management** from the menu list.
- 2 Select the **Password Security** tab.
- 3 Select the **Password Level** drop-down menu and select one of the following:

- **Medium Level:** 9~15 characters, including at least two of the following categories: numbers, special characters, upper case letters, lower case letters.
- **Strong Level:** 9~15 characters. Numbers, special characters, upper case letters and lower case letters must be included.

Note:For your account security, it is recommended to set a strong password and change your password regularly.

- 4 Select the **Expiration Time** drop-down menu and select an password expiration time.
- 5 Select the **Save** button to save the settings.

- End -

Procedure 66 Set the user automatic logout time

A user can be automatically logged out of the GUI when no activity is detected.

- 1 Select **Security** on the Web User Interface banner and then select **Security Management** from the menu list.
- 2 Select the **Logout time** tab.
- 3 Select the **Expiration Time** check box to enable or disable the logout time.
- 4 Adjust the slider-bar to enter the number of seconds when a user should be automatically logged out when no activity is detected.
- 5 Select the **Save** button to save the settings.

- End -

Network

In this section you can configure the IPv4, IPv6 and PPPoE settings on the camera. If PPPoE is used to connect to the internet, the camera receives a dynamic WAN IP address. This IP address changes frequently. To be notified, the IP change notification function can be used.

You can also configure settings for the ports, server, DDNS, 802.1x, RTSP, UPnP, Email, FTP, HTTPS, Spvmn and Quality of Service (QoS).

Figure 32 Network settings menu page

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View: Live Search Config

Image

Temperature

Alarm and Event

Security

Network

TCP/IP

More...

Maintenance

System

Storage

IPv4

IPv6

PPPoE Config

IP Change Notification Config

☐ Enable

User Name

Password

Save

TCP/IP

In this section you can configure the IPv4, IPv6 and PPPoE settings on the camera. If PPPoE is used to connect to the internet, the camera receives a dynamic WAN IP address. This IP address changes frequently. To be notified, the IP change notification function can be used.

Procedure 67 Configure the IPv4 settings

- 1 Select **Network** on the Web User Interface banner to view the **IPv4** tab.
- 2 Select the **Obtain an IP address automatically** option to automatically enable DHCP and disable manual settings.

Or

Select the **Use the following IP address** option to manually enter the settings.

- 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 Select the **Test** button to ensure that the IP address is correct.
- c Enter the Subnet Mask in the **Subnet Mask** text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0'

- d Enter the Gateway IP address in **Gateway** text box xxx.xxx.xxx.xxx.
 - e Enter the Preferred DNS Server IP address in the **Preferred DNS Server** text box.
 - f Enter the Alternate DNS Server IP address in the **Alternate DNS Server** text box.
- 3 Select the **Save** button to save the settings.

- End -

Procedure 68 Configure the IPv6 settings

- 1 Select **Network** on the Web User Interface banner to view the **IPv4** tab.
- 2 Select the **IPv6** tab.
- 3 Select the **Obtain an IP address automatically** option to automatically enable DHCP and disable manual settings.
Or
Select the **Use the following IP address** option to manually enter the settings.
 - a Select the **IP Address** text box and enter the IP address.
 - b Select the **Subnet Prefix Length** text box and enter a value.
 - c Select the **Gateway** text box and enter the Gateway number.
- 4 Select the **Save** button to save the settings.

- End -

Procedure 69 Configure the PPOE Config settings

- 1 Select **Network** on the Web User Interface banner to view the **IPv4** tab.
- 2 Select the **PPOE Config** tab.
- 3 Select the **Enable** check box to enable PPPoE.
- 4 Select the **User Name** text box and enter a username.
- 5 Select the **Password** text box and enter a password.
- 6 Select the **Save** button to save the settings.

Note: If PPPoE is used to connect to the internet, the camera receives a dynamic WAN IP address. This IP address changes frequently. To be notified, the IP change notification function can be used.

- End -

Procedure 70 Configure the IP Change Notification Config settings

- 1 Select **Network** on the Web User Interface banner to view the **IPv4** tab.
- 2 Select the **IP Change Notification Config** tab.
- 3 Select the **Trigger Email** check box so that when the IP address of the device is changed, the new IP address is sent to the email address that has been set up.
Or
Select the **Trigger FTP** check box so that when the IP address of the device is changed, the new IP address is sent to FTP server that has been set up.

- 4 Select the **Save** button to save the settings.

- End -

Ports

In this section you can configure the ports.

Procedure 71 Configuring the HTTP, HTTPS, Data and RTSP ports

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **HTTP Port** text box and a number. The default HTTP port is 80. It can be changed to any port which is not occupied.
- 3 Select the **HTTPS Port** text box and a number. The default HTTPs port is 443. It can be changed to any port which is not occupied.
- 4 Select the **Data Port** text box and a number. The default data port is 9008. Please change it as necessary.
- 5 Select the **RTSP Port** text box and a number. The default port is 554. Please change it as necessary.
- 6 Select the **Persistent connection Port** text box and a number.
- 7 Select the **Save** button to save the settings.

- End -

Server

This function is mainly used for connecting to a network video management system.

Procedure 72 Connecting to a video management system

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **Server** tab.
- 3 Select the **Enable** check box to enable server configuration.
- 4 Select the **Server Port** text box and enter the server port number
- 5 Select the **Server Address** text box and enter the server address number.
- 6 Select the **Device ID** text box and enter the Server ID number.
- 7 Select the **Save** button to save the settings.

- End -

DDNS

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. You may need to apply for and create a domain name before you proceed with this section.

Procedure 73 Configure Dynamic DNS

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **DDNS** tab.
- 3 Select the **Enable** check box to enable DDNS configuration.
- 4 Select the **Server Type** drop-down menu and select a server type.
- 5 Select the **User Name** text box and enter a user name.
- 6 Select the **Password** text box and enter a password.
- 7 Select the **Domain** text box and enter the domain.
- 8 Select the **Save** button to save the settings.

- 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 74 Configure IEEE 802.1x security

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **802.1X** tab.
- 3 Select the **Enable** check box to enable 802.1x configuration..
- 4 Select the **Protocol Type** drop-down menu and select a protocol type.
- 5 Select the **EAPOL Version** drop-down menu and select a version.
- 6 Select the **User Name** text box and enter a user name.
- 7 Select the **Password** text box and enter a password.
- 8 Select the **Confirm Password** text box and enter the domain.
- 9 Select the **Save** button to save the settings.

- End -

RTSP

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 75 Viewing RTSP Stream through media player

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **RTSP** tab.
- 3 Select the **Enable** check box to enable RTSP configuration.
- 4 Select the **Port** text box and enter the access port of the streaming media. The default number is 554.
- 5 Select the **Address** text box and enter RTSP address (unicast) format that can be used to play the stream in a media player.
- 6 Select the **Save** button to save the settings.

- 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 76 Configure Multicast streaming

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **RTSP** tab.
- 3 Select the **Enable** check box.
- 4 Select the **Main stream** text box and enter an address in the following format “rtsp://IP address: rtsp port/profile1?transportmode=mcast”.
- 5 Select the **Sub stream** text box and enter an address in the following format “rtsp://IP address: rtsp port/profile2?transportmode=mcast”.
- 6 Select the **Third stream** text box and enter an address in the following format “rtsp://IP address: rtsp port/profile3?transportmode=mcast”.
- 7 Select the **Thermal** text box and enter an address in the following format...
- 8 Select the **Audio** text box and enter an address in the following format...

Note: Having entered the main/sub stream in a VLC player, the video and audio will play automatically.

Note: If the **Allow anonymous login** check box is selected then there is no need to enter the username and password to view the video.

Note: This camera supports local play through a VLC player. Enter the RTSP address (unicast or multicast, eg rtsp://192.168.226.201:554/profile1?transportmode=mcast) in a VLC player to realize the simultaneous play with the web client.

Note: The IP address mentioned above cannot be the address of IPv6.

Note: Avoid the use of the same multicast address in the same local network.

Note:When playing the video through the multicast streams in a VLC player, please pay attention to the mode of the VLC player. If it is set to TCP mode, the video cannot be played.

Note:If the coding format of the video of the main stream is MJPEG, the video may be disordered at some resolutions.

Note:If “auto start” is enabled, the multicast received data should be added into a VLC player to play the video.

- 9 Select the **Save** button to save the settings.

- End -

UPnP Discovery

Enable or disable UPnP Discovery on the camera.

Procedure 77 Enable or disable UPnP Discovery

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **UPnP** tab.
- 3 Select the **Enable** check box to enable and disable the UPnP Discovery.

- End -

E-mail

If you need to trigger Email when an alarm happens or IP address is changed, then set the e-mail address here first.

Procedure 78 Configure e-mail settings

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **Email** tab.
- 3 Select the **Sender Address** text box and enter the e-mail address.
- 4 Select the **User Name** text box and enter the sender's user name.
- 5 Select the **Password** text box and enter the sender's password.
- 6 Select the **Server Address** text box and enter the SMTP IP address or host name.
- 7 Select the **Secure Connection** drop-down menu and select an option.
- 8 Select the **SMTP Port** text box and enter the port number.
- 9 Select the **Send Interval** check box and enter a number.

Note:For example, if this is set to 60 seconds and multiple motion detection alarms are triggered within 60 seconds, they will be considered as only one alarm event and only one email will be sent. If one motion alarm event is triggered and then another motion detection alarm event is triggered after 60 seconds, two emails will be sent.

When different alarms are triggered at the same time, multiple emails will be sent separately.

- 10 Select the **Test** button to test the connection of the account.
- 11 Select the **Receipt Address** text box and enter the receipts e-mail address and then select the **Add** button.
- 12 Select the **Save** button to save the settings.

- End -

FTP

After an FTP server is set up, captured pictures from events will be uploaded to the FTP server.

Procedure 79 Adding FTP server settings

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **FTP** tab.
- 3 Select the **Add** button.
- 4 Select the **Server Name** text box and enter the FTP server name.
- 5 Select the **Server Address** text box and enter the FTP IP address or domain name.
- 6 Select the **Port** text box and enter the FTP port number.
- 7 Select the **Username** text box and enter the FTP server login username.
- 8 Select the **Upload Path** text box and enter the directory where the file will be uploaded.
- 9 Select the **Save** button to save the settings.

- End -

Procedure 80 Modyfing FTP server settings

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **FTP** tab.
- 3 Select the **Modify** button.
- 4 Select the **Server Name** text box and enter the FTP server name.
- 5 Select the **Server Address** text box and enter the FTP IP address or domain name.
- 6 Select the **Port** text box and enter the FTP port number.
- 7 Select the **Username** text box and enter the FTP server login username.
- 8 Select the **Upload Path** text box and enter the directory where the file will be uploaded.
- 9 Select the **Save** button to save the settings.

- End -

Procedure 81 Deleting an FTP server settings

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **FTP** tab.

- 3 Select the FTP settings that you want to delete.
- 4 Select the **Delete** button.
- 5 Select the **Save** button to save the settings.

- End -

Procedure 82 Testing FTP server settings

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **FTP** tab.
- 3 Select the FTP server settings in the list and then select the **Test** button.
- 4 Select the **Save** button to save the settings. A sample text file will be sent to the specified FTP destination to confirm that FTP settings are correct.

- End -

HTTPS

HTTPSs provide authentication of the web site and protects user privacy.

Procedure 83 Adding the default HTTPS certificate

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **HTTPS** tab.

Note: There is a certificate installed by default.

- 3 Select the **Enable** button to enable HTTPS configuration.

Note: When you enable HTTPS then a check box is visible to disable HTTP. Select the check box to disable HTTP.

- 4 Select the **Save** button.

Note: The camera can be accessed by entering https://IP: https port via the web browser (eg. https://192.168.226.201:443).

- End -

Procedure 84 Adding a private HTTPS certificate

A private certificate can be created if users don't want to use the default one.

- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **HTTPS** tab.

Note: There is a certificate installed by default

- 3 Select the **Delete** button to delete the default HTTPS certificate.
- 4 If you have a signed certificate, select the **Browse** button to navigate to it and then select **Install** to install it.

Or

Select the **Create a private certificate** option and then select the **Create** button to create a private certificate and enter the following:

- **Country** (only two letters available).
- **Domain** (camera's IP address/domain).
- **Validity date**
- **Password**
- **Province/state**
- **Region**

5 Select the **Save** button to save the settings.

- End -

Procedure 85 Request an HTTPS certificate

1 Select **Network** on the Web User Interface banner and then select **More**.

2 Select the **HTTPS** tab.

Note: There is a certificate installed by default

3 Select the **Delete** button to delete the default HTTPS certificate.

Select the **Create a certificate request** option and then select the **Create** button.

Then download the certificate request and submit it to the trusted certificate authority for signature. After receiving the signed certificate, import the certificate to the device.

4 Select the **Save** button to save the settings.

- End -

SPVMN

Procedure 86 Enabling SPVMN and viewing its details

1 Select **Network** on the Web User Interface banner and then select **More**.

2 Select the **SPVMN** tab.

3 Select the **Enable** check box to enable or disable SPVNM and view the following details:

- **Protocol Version**
- **Server IP**
- **Server Session Port**
- **Server Domain**
- **Server ID**
- **Password**
- **IPC Session Port**
- **Device ID**
- **Device Owner**
- **Civil Code**

- **Install Address**
- **Valid Time**
- **Heartbeat Period**
- **Number of Heartbeat Timeout**
- **Alarm Channel ID**
- **Video Channel ID**
- **Talk Channel ID**

4 Select the **Save** button to save the settings.

- End -

Quality of Service (QoS)

QoS (Quality of Service) function is used to provide different quality of services for different network applications. With the deficient bandwidth, the router or switch will sort the data streams and transfer them according to their priority to solve the network delay and network congestion by using this function.

Procedure 87 Enabling SPVMN and viewing its details

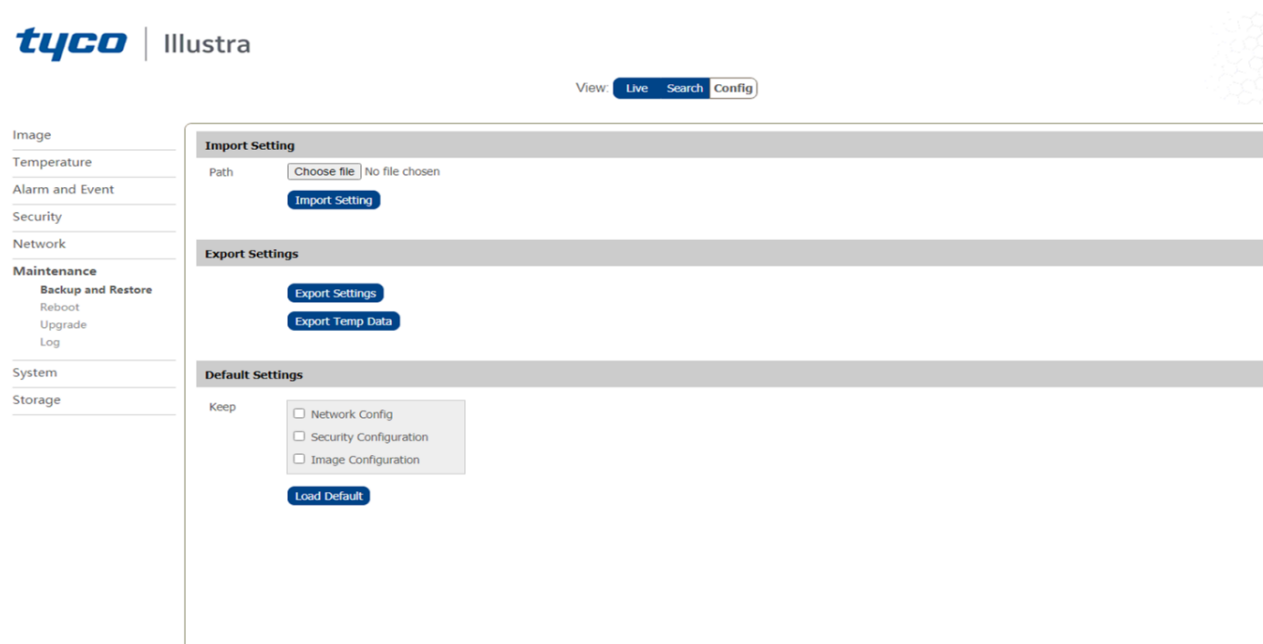
- 1 Select **Network** on the Web User Interface banner and then select **More**.
- 2 Select the **QoS** tab.
- 3 Select the **Video/Audio DSCP** text box and enter a value. The range is from 0 to 63.
- 4 Select the **Alarm DSCP** text box and enter a value. The range is from 0 to 63.
- 5 Select the **Manager DSCP** text box and enter a value. The range is from 0 to 63.
Generally speaking, the larger the number is, the higher the priority is.
- 6 Select the **Save** button to save the settings.

- End -

Maintenance

In this section you can import and export settings from one camera to another, reboot the camera, update the camera firmware and thermal driver and view and export log information.

Figure 33 Maintenance settings menu page



Backup and Restore

You can import and export settings from one camera to another.

Procedure 88 Importing settings from one camera to another

- 1 Select **Maintenance** on the Web User Interface banner to view the **Backup and Restore** tab.
- 2 Select the **Choose File** button and navigate to the import information on your computer.
- 3 Select the **Import Setting** button to import the settings.
- 4 Select the **Save** button to save the settings.

- End -

Procedure 89 Exporting settings from one camera to another

- 1 Select **Maintenance** on the Web User Interface banner to view the **Backup and Restore** tab.
- 2 Select the **Choose File** button and navigate to the export information on your computer.
Select the **Export Settings** button to export the settings.
Or

Select the **Export Temp Data** button to export the temperature data.

- 3 Select the **Save** button to save the settings.

- End -

Procedure 90 Restore settings to their factory default state

- 1 Select **Maintenance** on the Web User Interface banner to view the **Backup and Restore** tab.

You can restore all settings to their factory default state or select specific settings that you want to keep before you restore others settings to their factory default state.
- 2 Select the **Load Default** button to restore **all** settings to their factory default state.

Or

Select the check box of the settings that you do **not** want to restore to their factory default settings and then select the **Load Default** button.

- End -

Reboot

You can reboot the camera.

Procedure 91 Rebooting the camera

- 1 Select **Maintenance** on the Web User Interface banner and then select **Reboot**.
- 2 Select the **Reboot** button the reboot the camera.

Note: This may take up to 5 minutes. Once successful the browser reconnects automatically.

- End -

Procedure 92 Enabling a timed reboot

- 1 Select **Maintenance** on the Web User Interface banner and then select **Reboot**.
- 2 Select the **Time Settings** check box and then select a **Date** and **Time**.
- 3 Select the **Save** button to save the settings

- End -

Upgrade

You can update the camera firmware and thermal driver and the Novatel thermal driver.

Procedure 93 Updating the camera firmware and thermal driver

- 1 Select **Maintenance** on the Web User Interface banner and then select **Upgrade**.
- 2 Select the **Browse** button and navigate to the upgrade firmware and thermal driver file.
- 3 Select the **Upgrade** button to start upgrading the firmware and thermal driver.

The device restarts automatically.

Note: Do not close the browser or disconnect the camera from the network during the upgrade.

- End -

Procedure 94 Updating the Novatel thermal driver

You can update the Novatel thermal driver.

- 1 Select **Maintenance** on the Web User Interface banner and then select **Upgrade**.
- 2 Select the **Browse** button and navigate to the upgrade file.
- 3 Select the **Upgrade** button to start upgrading the Novatel thermal driver.
The device restarts automatically.

Note: Do not close the browser or disconnect the camera from the network during the upgrade.

- End -

Log

You can view and export log information.

Procedure 95 Viewing and exporting logs

- 1 Select **Maintenance** on the Web User Interface banner and then select **Log** to view a list of all log information.
- 2 Select the **Main Type** drop-down list and select a log type or all logs.
- 3 Select the **Sub Type** drop-down list and select a sub log type or all logs.
- 4 Select the **Start Time** calendar icon and select a date and time.
- 5 Select the **End Time** calendar icon and select a date and time.
- 6 Select the **Search** button to view the operation log.
- 7 Select the **Export** button to export the operation log.

- End -

System

In this section you can view the following system information, Device Name, Model, Product Code, Brand, Software Version, Software Build Date, Kernel Version, Hardware Version, Onvif Version, Temperature Version, Video Structured Version, Face Detection Version, OCX Version and MAC.

Figure 34 System settings menu page

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View: Live Search Config

Image

Temperature

Alarm and Event

Security

Network

Maintenance

System

Basic Information

Date and Time

Local Config

Storage

Basic Information

Device Name

Model

Product Code

Brand

Software Version

Software Build Date

Kernel Version

Hardware Version

Onvif Version

Temperature Version

Video Structured Version

Face Detection Version

OCX Version

MAC

Pro3-0018AEBBA22D

Illustra Pro3 5MP Thermal

IPT05-B29-BI03

Tyco Security Products

Illustra.S011.01.00.00.9143

2020-06-16

02030217

1.4-1325321

19.12

00005299

1.0.0

1.0.0

2.1.2.0

00:18:ae:bb:a2:2d

Basic Information

In this section you can view the following system information in this section, Device Name, Model, Product Code, Brand, Software Version, Software Build Date, Kernel Version, Hardware Version, Onvif Version, Temperature Version, Video Structured Version, Face Detection Version, OCX Version and MAC.

Procedure 96 Viewing the system information

- 1 Select **System** on the Web User Interface banner to view the **Basic Information** tab.

Note: Some versions may support device ID and QR code. If P2P is enabled (see Network Configuration section), the network camera can be quickly added to mobile surveillance client, by scanning the QR code or entering device ID.

- End -

Date and Time

You can select a time zone and daylight saving time.

Procedure 97 Selecting a time zone and enabling daylight saving time

As the camera has no capability to retain Date and Time settings when powerloss or disconnection occurs, it is advised you set the camera to sync to an NTP server. This improve's analytics integration with local servers.

- 1 Select **System** on the Web User Interface banner to view the **Date and Time** option in the menu list.
- 2 Select **Date and Time** to view the **Zone** tab menu.
- 3 Select the **Zone** drop-down menu and select a time zone.
- 4 Select the **DST** check box to enable DST.
- 5 Select **Auto DST** to automatically select the DST.
- OR
Select **Manual DST** and then enter a **Start Time** and **End Time**.
- 6 Select the **Time Offset** drop-down menu and select an option.
- 7 Select the **Save** button to save the settings.

- End -

Procedure 98 Setting the Date and Time

- 1 Select **System** on the Web User Interface banner to view the **Date and Time** option in the menu list.
- 2 Select **Date and Time** and then the **Date and Time** tab.
You can synchronize the date and time with the NTP server, synchronize the date and time with the computer or manually set the date and time. Select one of the following:
 - a To synchronize with the NTP server: select the **Synchronize with NTP** option and then the **NTP server** text box and enter the IP Address. Select the **Update period** text box and enter a number.
 - a To synchronize with the computer: select the **Synchronize with computer time** option and then the **Date** text box and enter a date. Select the **Time** text box and enter a time.
 - a To set manually: select the **Set Manually** option and then the **Date** text box and enter a date. Select the **Time** text box and enter a time.
- 3 Select the **Save** button to save the settings.

- End -

Local Config

You can set up the storage path of captured pictures and recorded videos on the local PC. There is also an option to enable or disable the bitrate display in the recorded files.

Procedure 99 Selecting a folder to save snapshots and recording files

- 1 Select **System** on the Web User Interface banner to view the **Local Config** option in the menu list.
- 2 Select **Local Config** to view the Local Config menu.

- 3 Select the Save snapshots to **Browse** button and navigate to the folder that you want to save the snapshots in.
- 4 Select the Save Recording file to **Browse** button and navigate to the folder that you want to save the recording files in.
- 5 Select the **Audio Recording** 'Open' or 'Close' option.
- 6 Select the **Bitrate Overlay** 'Open' or 'Close' option.
- 7 Select the **Local Smart Snapshot Storage** 'Open' or 'Close' option.
- 8 Select the **Save** button to save the settings.

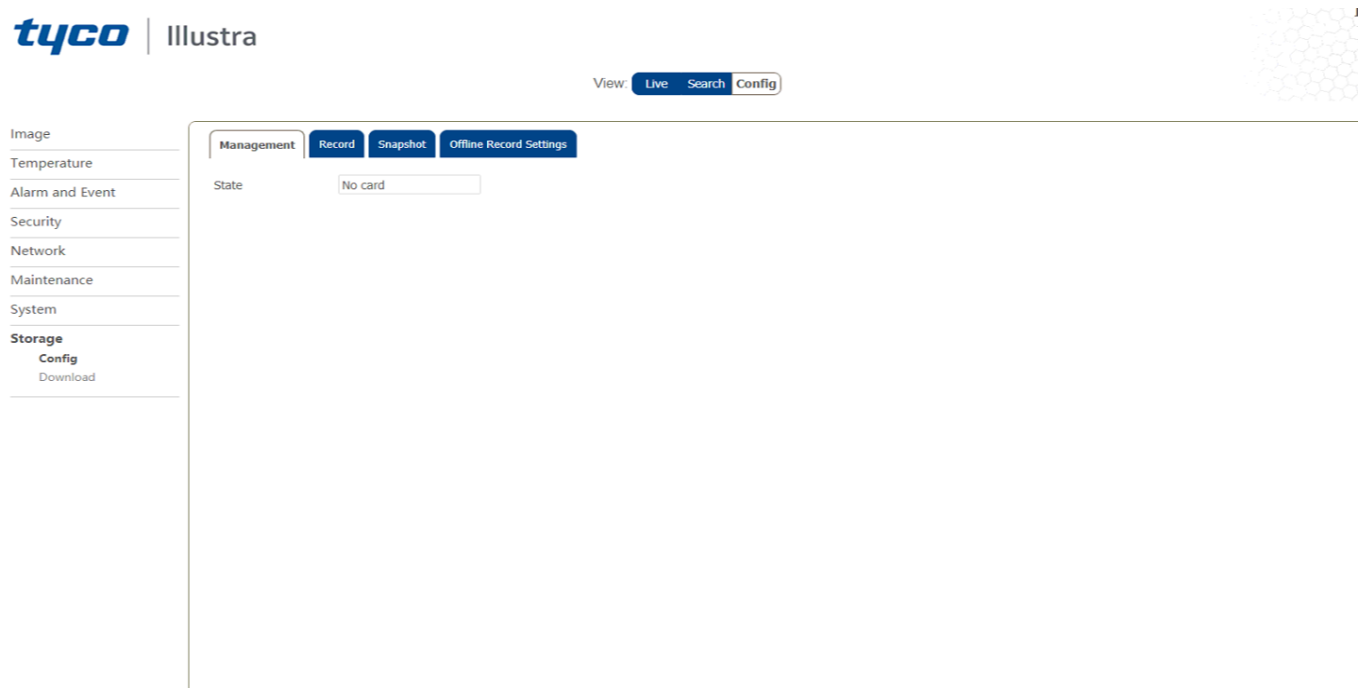
- End -

Storage

In this section you can eject or format the SD Card and divide space up on the SD card between snapshots and videos. You can set recording parameters and schedule the recording date and time. You can set the format, resolution and quality of the image saved on the SD card, the snapshot interval, quantity and snapshot timing. 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.

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.

Figure 35 Storage settings menu page



Config

In this section you can eject or format the SD Card and divide space up on the SD card between snapshots and videos. You can set recording parameters and schedule the recording date and time. You can set the format, resolution and quality of the image saved on the SD card, the snapshot interval, quantity and snapshot timing. 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.

Procedure 100 SD Card Management

- 1 Select **Storage** on the Web User Interface banner to view the **Management** tab.
 - 2 You can format or Eject the SD card.
 - a Select the **Format** button to format the SD card. All data is cleared by selecting this button.
 - a Select the **Eject** button to stop writing data to SD card. Then the SD card can be ejected safely.
- You can divide the SD card up to hold a percentage of snapshots and videos.
- 3 Select the **Snapshot Quota** text box and enter a value. This percentage of the SD is available for snapshots.
 - 4 Select the **Video Quota** text box and enter a value. This percentage of the SD is available for videos.

- End -

Procedure 101 Schedule a recording

- 1 Select **Storage** on the Web User Interface banner and then select the **Record** tab.
- 2 Select the **Record Stream** drop-down menu and select a stream.
- 3 Select the **Pre Record Time** drop-down menu and select a pre record time.
- 4 Select the **Cycle White** drop-down menu and select an option.
- 5 See the Schedule section in the Temperature Measurement Schedule section on page 42 for assistance.

- End -

Procedure 102 Setting snapshot parameters

- 1 Select **Storage** on the Web User Interface banner and then select the **Snapshot** tab.
- 2 Select the **Image Format** drop-down menu and select a format.
- 3 Select the **Resolution** drop-down menu and select a resolution.
- 4 Select the **Image Quality** drop-down menu and select an image quality.
- 5 Select the **Snapshot Interval** text box and enter a number.
- 6 Select the **Snapshot Quantity** text box and enter a number.

Note: This is the maximum quantity of snapshots. The actual quantity of snapshots may be less than this number. For example, if the occurrence time of an alarm event is less than the time of capturing pictures, the actual quantity of snapshots is less than the set quantity of snapshots.

- 7 Select the **Enable Timing Snapshot** check box to enable a snapshot interval.
- 8 Select the **Snapshot Interval** text box and enter a number.
- 9 You can schedule a time and date for when you want the recording to start, see the Schedule section for assistance with this.

- End -

Procedure 103 Configure offline recording settings

- 1 Select **Storage** on the Web User Interface banner and then select the **Offline Record Settings** tab.
- 2 Select the **Enable** check box to enable offline record settings.
- 3 Select the **NVR IP Address** text box and enter the IP address.
- 4 Select the **Pre Record Time** text box and enter a number.
- 5 Select the **Record Delay** text box and enter a number.
- 6 Select the **Save** button to save the settings.

- End -

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.

Procedure 104 Configure offline recording settings

- 1 Select **Storage** on the Web User Interface banner and then select **Download**.
- 2 Select the **Start Time** calendar icon and select a date and time.
- 3 Select the **End Time** calendar icon and select a date and time.
- 4 Select the **Search button** to view all downloads.

- End -

Appendix A: Shutdown Procedure

The following steps are a guideline to shutdown the thermal imaging system.

- 1 Stop the flow of people past the camera.
- 2 Log off the camera Web User Interface.
- 3 Remove power (12VDC or PoE) from the camera.
- 4 Remove power from the External Temperature Reference Source device.

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 105 Viewing RTSP Stream through Media Player

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

You can use Media Player to view live video 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. <ul style="list-style-type: none">• Stream 1: rtsp://IP or domain name:port/profile1 For example: rtsp://192.168.1.168:554/profile1 |
| 3 | Select Play . The live video stream displays. |

- End -

Appendix C: Technical Specifications

The table below lists technical specifications of the Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection camera.

Model	Description
IPT05-B29-BNDA3 (IPT05-B29-BIA3 = Camera Product Code)	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera camera, Visible/Thermal, 5MP/384*288, 8mm/12mm, 20M IR, sound-light alarm, Alarm/Audio, Micro SD, DC/PoE, IP40, with additional indoor 110V External Temperature Reference Source device
IPT05-B29-BN2A3 (IPT05-B29-BIA3 = Camera Product Code)	Tyco Illustra Pro Thermal Elevated Skin Temperature Detection Camera, Visible/Thermal, 5MP/384*288, 8mm/12mm, 20M IR, sound-light alarm, Alarm/Audio, Micro SD, DC/PoE, IP40, with additional indoor 220V External Temperature Reference Source device
Accessories (sold separately)	
Model	Description
IATR-ISTR	Illustra Tripod Mount - 1/4" - 20
IBJB-TIS-WB-A	Illustra Pro Thermal EST Back Box Mount
IBJB-TIS-WB-B	Illustra Pro Thermal EST Back Box with Side Conduit Opening
BPN-TIS-WB	Illustra Pro Thermal EST Ceiling Pendant Mount
IBPM-TIS-0	Illustra Pro Thermal EST Pole Mounting Box with Straps
IBCM-TIS-0	Illustra Pro Thermal EST Corner Mount
Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera	
Detector Type	Amorphous-silicon Bolometers
Pixel Pitch	17µm
Infrared Spectral Range	8~14µm
Effective Pixels	384 × 288
Noise Equivalent Temperature Difference	<50mK
Thermal Response Time	≈40ms
Lens Type	Fixed
Focal Length	12mm@F1.0
Field of View	Horizontal 29.7°, Vertical 22.5°
Visible Camera	

Imager	1 / 2.7" 5MP Progressive CMOS
Effective Pixels	2592 x 1944
Minimum Illumination	Color .012 Lux @ F2.0 B/W 0.0012 @ F2.0, 0 Lux with IR
Shutter Speed	1 / 30 s - 1 / 10,000 s
S/N Ratio	≥52 dB
Lens Type	Fixed
Focal Length	8mm
Field of View	Horizontal 38°, Vertical 27.5°
Lens Mount	M12
Video	
Video Compression	H.264 / H.265 / MJPEG
H.264 Compression Standard	Base Line / Main Profile / High Profile
H.264 Compression Standard	Main Profile @Level 4.1 High Tier
Resolution	Visible 5MP (2592x1944), 4MP (2592x1520), 2560x1440, 3MP (2304x1296), 1080P (1920x1080), 720P (1280x720), D1 (720x576), 480x240, CIF (352x240) Thermal 704x576 (Upscaled from 384x288)
Max.Frame Rate	Visible: 30fps @ all resolution. Thermal: 30fps @ 704x576 (Upscaled)
Video Bit Rate	64 Kbps ~ 5 Mbps
Multiple Streaming	Triple stream
Stream 1 (Primary)	50Hz - Stream.1.Resolution 2592x1944 2592x1520 2560x1440 2304x1296 1920x1080 1280x720 60HZ - Stream.1.Resolution 2592x1944 2592x1520 2560x1440 2304x1296 1920x1080 1280x720
Stream 2 (Secondary)	50Hz - Stream.2.Resolution - 1280x720 704x576 352x288 60HZ - Stream.2.Resolution - 1280x720 704x480 352x240
Stream 3 (Third)	50Hz - Stream.3.Resolution - 704x576 480x240 352x288 60HZ - Stream.3.Resolution - 704x480 480x240 352x240
Stream 4 (Thermal)	50Hz - Stream.4.Resolution - 704x576 60HZ - Stream.4.Resolution - 704x480

Bitrate Control	VBR / CBR
Quality Control	5 levels under VBR; Freely adjustable under CBR
Image Setting	ROI, Saturation, Brightness, Chroma, Contrast, Wide Dynamic, Sharpen, NR.
Audio	
Audio Communication	1CH audio input; 1CH built-in speaker
Audio Compression Format	G .711A, G.711U
Audio Bit Rate	128Kbps
Operational	
Day and Night	True Day/Night with Auto IR Cut Filter
Backlight Compensation	BLC/HLC
Effective IR Distance	20M
Digital Noise Reduction	2D/3D DNR
Digital Zoom	Yes
Video Privacy	4 zone video mask
Smart Codec	8 zone ROI
Display Mode	Visible only, Picture-in-picture, Dual Window
Intelligent Video Analytics	Visible Camera Line crossing direction, Object Abandoned / Removed, Enter an area, Motion detection Thermal Camera Elevated Skin Temperature Detection
Alarm Triggers	Alarm in, Intelligent analytics, Network disconnect, SD card full, SD card error
Back filling	iAPI3
Supported languages	English, Chinese (Simplified), Chinese (Traditional), Japanese, Korean
Temperature Detection	
Detection Mode	Skin temperature detection / Forehead temperature detection
Detection Method	Multiple Face
Workable Target Plane	320 image pixels by 240 image pixels, minimum Note: For improved performance the workable target plan should be parallel to the face.
Effective Distance	2~6m
Temperature alarm	Over temperature / Temperature anomaly

Response Time	Less than 50ms
Calibration	Automatic calibration with External Temperature Reference Source device
Accuracy	±0.2°C with External Temperature Reference Source device calibration, over the range of 30 C to 42 C
Network	
Network Protocol	TCP / IP, UDP, DHCP, NTP, RTSP, PPPoE, DDNS, SMTP, FTP, SNMP, UPnP, Unicast, Multicast
Cyber Security	HTTPS / IP Filter / IEEE 802.1X / Blacklist & white list / account security
Online Connection	Support simultaneous monitoring for up to 10 users
API	ONVIF, iAPI3
Interface	
Network	RJ45
Audio	1CH audio input; 1CH built-in speaker
Alarm	Alarm in/out, Built-in sound-light alarm
Hardware Reset	Supported
Environmental	
Operating Temperature	10°C ~ 35°C (50°F ~ 95°F)
Operating Humidity	10 % ~ 90 % relative (50% or lower recommended for accuracy)
Storage / transport Temperature	-40°C ~ 60°C (-40°F ~ 140°F)
Ingress Protection	IP40
Vandal Resistance	-
General	
Power Supply (camera)	12VDC, 2A - For 12VDC power supply, use Phihong AC adaptor, model PMA36R-120. (not provided) PoE 48VDC, 0.35A - For PoE power, use AXIS Communications, AXIS T8134 MIDSPAN 60W, model 5900-331-01. (not provided)
Power Consumption	<9W
Dimensions (LxWxH)	10.94 inches (278mm) x 3.78 inches (96mm) x 3.50 inches (89mm)
Material	Aluminium
Net Weight	Approx. 2.6lbs, 1.2Kg
Installation	Wall mounting, Ceiling mounting, Tripod mounting
Certification	Certification testing is pending for major markets, including North America and the European Union.

External Temperature Reference Source device Calibrator	
Temperature Range	20.0°C to 70.0°C (68°F to 158°F)
Emissive Area	100mm x 100mm
Display Resolution	0.01°C (0.0018°F)
Radiance temperature expanded uncertainty	± 0.25°C between 33°C and 40°C (± 0.45°F between 91.4°F and 104°C)
Stability	± 0.05°C (± 0.09°F)
Emissivity	0.96
Power Supply	<p>IPT05-B29-BNDA3 includes a 110V 60Hz External Temperature Reference Source device.</p> <p>IPT05-B29-BN2A3 includes a 220V 50Hz External Temperature Reference Source device.</p>
Net Weight	Less than 2kg
Calibration Certificate	24 months from manufacturing

Appendix D: Manufacturer and Local Contact Information

The term manufacturer is defined as follows based on IEC 60601-1:2005 +A1:2012.

"natural or legal person with responsibility for the design, manufacture, or labeling of the medical system, assembling a medical system, or adapting medical system, regardless of whether these operations are performed by that person or on that person's behalf by a third part."

For the Tyco Illustra Pro 5MP Thermal Elevated Skin Temperature Detection Camera, the manufacturer is:

Illustra, Div of Sensormatic Electronics LLC,
195 Airport Road,
West Belfast, BT3 9ED,
Northern Ireland.

Country / Region	Number
North America	(800) 507-6268 (800) 392-2873
Latin America / Caribbean	
Argentina – Buenos Aires	(+54-11-5199-3104)
Chile – Santiago	(+56-2-3210-9662)
Colombia – Medellin	(+57-4-204-0519)
Colombia – Cali	(+57-2-891-2476)
Dominican Rep.- Sto Domingo	(+1-829-235-3047)
Guatemala – Guatemala City	(+502-2 268-1206)
Panama – Panama City	(+507-836-6265)
Venezuela – Caracas	(+58-212-720-2340)
Brazil – Sao Paulo	(+55-11-3181-7377)
Costa Rica- National VOIP	(+506-4000-1655)
El Salvador – San Salvador	(+503-2136-8703)
Mexico – Mexico City	(+52-55-8525-1801)
Peru – Lima	(+51-1-642-9707)
Europe, Middle East and Africa	
UK	(+44 330 777 1300)

Israel	(+972-772 201 350)
France	(0800 90 79 72)
Italy	(+39-0230 510 112)
Ireland	(1800943570)
Denmark	(+45-4494 9001)
Greece	(00800-312 294 53)
Turkey	(00800-31923007)
South Africa	(+27 (0) 10 100 3292)
Oman	((00) 80074364)
KSA	+9668008500509
Spain	(900 99 31 61)
Germany	(0800 1806 757))
Belgium	(0800 76 452)
Bahrain	((0)800-04127)
Russia	81080020521031
Nordic	(04494 9001)
UAE	((0)800-03107123)
Qatar	((00) 800100841)
Kuwait	((0) 22062915)
Lebanon	01-426-801, new dial tone and then dial 8552343677
Asia Pacific	
India	+91-80-4199-0994
Australia	+1-800-580-946
China	+86-21-6163-8644
Oceania and New Zealand	+64-9942-4004

Note:For compliant handling information then please visit <http://illustracameras.com/thermal-camera/feedback-form/> for additional information.

Appendix E: Stream Tables

Pro3 Thermal 5MP EST Bullet camera Stream Table

Table 36 5MP Camera Stream Set (all resolution, codes and frame rate combinations of Stream 1, 2, 3 and 4 are valid)

		60 Hz		50 Hz	
Profile	Codec	Resolution	Max FPS	Resolution	Max FPS
Stream 1 (Visible Primary)	H.264 H.265	2592x1944	30	2592x1944	25
		2592x1520		2592x1520	
		2560x1440		2560x1440	
		2304x1296		2304x1296	
		1920x1080		1920x1080	
Stream 2 (Visible Secondary)	MJPEG	1280x720	30	1280x720 (20)	25
		704x480		704x576	
		352x240		352x288	
Stream 3 (Thermal Primary)	H.264	704x480	25	704x576	25
	H.265			480x240	
	MJPEG			352x288	
Stream 4 (Visible Secondary)	MJPEG	704x480	25	704x576	25

Note:A maximum of three concurrent streams are supported by the camera. This includes shared streams.

Note:Secondary streams also serve as the GUI stream. The GUI stream can only stream if these secondary streams are configured as MJPEG. Changing Resolution, Frame and Quality will affect the GUI stream quality, changing the Code will provide no GUI stream.

Disclaimer and Regulatory

Disclaimer

With regard to the product with internet access, the use of product shall be wholly at your own risks. Our company shall not be responsible for abnormal operation, privacy leakage or other damages resulting from cyber attack, hacker attack, virus inspection, or other internet security risks; however, our company will provide timely technical support if necessary.

Surveillance laws vary from country to country. Check all laws in your local region before using this product for surveillance purposes. We shall not take the responsibility for any consequences resulting from illegal operations.

Regulatory Information

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the device is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Operation of this product is subject the following two conditions: (1) this device may not cause harmful interface, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

European Union

The products have been manufactured to comply with the following directives.

EMC Directive 2014/30/EU

Low Voltage Directive: 2014/35/EU

RoHS

The products have designed and manufactured in accordance with Directive EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

2012/19/EU (WEEE directive): The Directive on waste electrical and electronic equipment (WEEE Directive). To improve the environmental management of WEEE, the improvement of collection, treatment and recycling of electronics at the end of their life is essential. Therefore, the product marked with this symbol must be disposed of in a responsible manner.

Directive 94/62/EC: The Directive aims at the management of packaging and packaging waste and environmental protection. The packaging and packaging waste of the product in this manual refers to must be disposed of at designated collection points for proper recycling and environmental protection.

REACH(EC1907/2006): REACH concerns the Registration, Evaluation, Authorization and Restriction of Chemicals, which aims to ensure a high level of protection of human health and the environment through better and earlier identification of the intrinsic properties of chemical substances. The product in this manual refers to conforms to the rules and regulations of REACH. For more information of REACH, please refer to DG GROWTH or ECHA websites.

Medical - Patient monitoring equipment

As to electric shock, fire, and mechanical hazards only in accordance with:

- AAMI ES60601-1(2005) + AMD 1(2012)
- CSA C22.2 No. 60601-1(2014)
- IEC 80601-2-59:2017
- CSA C22.2 No. 80601-2-59:2010

- ME system is not specified for use only in a shielded location.
- (Need statement(s) of the environments for which the ME system is suitable.)
- Essential performance of the medical system exists when video monitoring is carried out in the designated area to detect the body temperature within the monitoring range of the camera in real time with high precision. The monitoring images and body temperature can be viewed in real time through the web client on a PC. Essential performance may be lost or degraded due to electromagnetic (EM) disturbance. The system operator may experience one or more of the following conditions due to degraded or lost essential performance.
 - Temporary loss or drop out of video
 - Video flicker but
 - System reboot
 - Variation in set temperature ($< 0.1^{\circ}\text{C}$)
 - Loss of alarm functions

The system resumes normal operation after the EM disturbance is removed.

- Avoid stacking or placing equipment adjacent with other equipment to prevent improper operation of the products.
- The use of accessories, transducers, and cables, other than those specified or provided by the manufacturer could result in increased electromagnetic emissions or decreased electromagnetic immunity and result in improper operation.
- Portable RF communications equipment, including peripherals such as antenna cables and external antennas should be no closer than 12 inches (30cm) to and part of the medical system, including cables specified by the manufacturer.

Manufacturer's Declaration – Electromagnetic Emissions		
The medical system is intended for use in the electromagnetic environment shown below. The user shall ensure that it is used in such an environment.		
Emission test	Compliance	Note: The emissions characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If used in a residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measure, such as relocating or re-orienting the equipment.
RF Emissions CISPR 11	Group 1	
RF Emissions CISPR 11	Class A	
Harmonic Emissions IEC 6100-3-2	Class A	
Voltage Fluctuations and Flicker IEC 61000-3-3	Complies	

Manufacturer's Declaration – Electromagnetic Immunity			
The medical system is suitable for use in a professional healthcare facility environment and not in environments exceeding immunity test conditions shown below. The user shall ensure that it is used in such an environment.			
Immunity Testy	IEC 60601-1-2	Compliance	Electromagnetic Environment Guidance
Electrostatic Discharge IEC 61000-4-2	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	Complies	Floors should be wood, concrete, ceramic tile or anti-static tile. If floors are covered with synthetic material, then the relative humidity should be at least 30%.
Radiated RF EM fields IEC 61000-4-3	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	Complies	<p>Portable and mobile RF communications equipment should follow the guidance in the table titled "Recommended separation distances between portable and mobile RF communication equipment and the medical equipment."</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey should be less than the compliance level in each frequency range.</p> <p>Interference may occur in the vicinity</p>

			of RF radiation equipment.
Electrical fast transients / Bursts IEC 61000-4-4	100 kHz repetition frequency ± 2 kV for AC and DC power input ± 1 kV for input / output lines	Complies	AC and DC power quality should be that of a typical commercial or home healthcare, environment.
Surge IEC 61000-4-5	$\pm 0,5$ kV, ± 1 kV Line-to-line (AC and DC) $\pm 0,5$ kV, ± 1 kV, ± 2 kV Line-to-ground (AC and DC) ± 2 kV Line-to-ground Input/output lines	Complies	AC and DC power quality should be that of a typical commercial or home healthcare, environment.
Conducted disturbances induced by RF fields IEC 61000-4-6	10 V a) 0,15 MHz – 80 MHz 6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz	Complies	Portable and mobile RF communications equipment should follow the guidance in the table titled “Recommended separation distances between portable and mobile RF communication equipment and the medical equipment.” Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey should be less than the compliance level in each frequency range. Interference may occur in the vicinity of RF radiation equipment.
Rated power frequency magnetic fields IEC 61000-4-8	30 A/m 50 Hz and 60 Hz	Complies	Power frequency magnetic fields should be that of a typical commercial or home healthcare, environment.
Voltage Dips IEC 61000-4-11	0 % UT; 0,5 cycle At 0° , 45° , 90° , 135° , 180° , 225° , 270° and 315° 0 % UT; 1 cycle and 40% UT; 10/12 at 50/60Hz b) and 70 % UT; 25/30 cycles Single phase: at 0°	Complies	AC and DC power quality should be that of a typical commercial or home healthcare, environment. If the medical equipment requires continued operation during power interruptions, then it is recommended that the equipment be powered from an uninterruptable power supply.
Voltage Interruptions IEC 61000-4-11	0 % UT; 250/300 cycle	Complies	AC and DC power quality should be that of a typical commercial or home healthcare, environment.
a) Voltage level increased to reflect requirement in EN 61000-6-2.			

b) Test parameter added to reflect requirement in EN 61000-6-2.

Recommended separation distances between portable and mobile RF communication equipment and the medical equipment

The medical equipment is intended to be installed in an environment in which radiated RF disturbances are controlled. To minimize electromagnetic interferences, the user should maintain distances from portable and mobile RF communications equipment (e.g. transmitters) and the medical equipment and its cables as shown below. The user should also ensure that maximum power, as shown below, from nearby RF devices is not exceed.

Test Frequency (MHz)	Band (MHz)	Service	Modulation	Maximum Power (W)	Distance (m)	Immunity Test Level (V/m)
385	380 – 390	TETRA 400	Pulse modulation 18 Hz	1,8	0,3	27
450	430 – 470	GMRS 460, FRS 460	FM \pm 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 – 787	LTE Band 13, 17	Pulse modulation 217 Hz	0,2	0,3	9
745						
780						
810	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0,3	28
870						
930						
1720	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217 Hz	2	0,3	28
1845						
1970						
2450	2400 – 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	2	0,3	28
5240	5100 - 5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0,2	0,3	9
5500						
5785						

End User License Agreement (EULA)

End User License Agreement for Telethermographic System Software(EULA)

Copyright © 2021 Johnson Controls. All rights reserved.

Use of the software and firmware contained in this product is subject to the following End User License terms:

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2. Johnson Controls does not and cannot guarantee that the Device will be granted FDA clearance in the United States or clearance for use in any other country.

3. The Software and the Device are intended to be used only:

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- ii. where an elevated skin temperature measurement is confirmed in the context of use with secondary evaluation methods (e.g., non-contact infrared thermometer (NCIT) or clinical grade contact thermometer); and
- iii. where such devices do not create an undue risk in light of the public health emergency.

4. Additional Guidance:

- i. the Software and the Device should not be solely or primarily relied upon to diagnose or exclude a diagnosis of COVID-19, or any other disease;

ii. public health officials, through their experience with the Device in the particular environment of use, should determine the significance of any fever or elevated temperature based on the skin telethermographic temperature measurement;

iii. the system and technology should be used to measure only one subject's temperature at a time; and

iv. visible thermal patterns are only intended for locating the points from which to extract the thermal measurement.

5. Important information describing Software's and the Device's performance specifications, use and calibration instructions, External Temperature Reference Source device reference source and configuration requirements, environmental conditions, imaging distance, and system set up and installation factors is contained in the Device's User Manual.

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