surveillix

NETWORK CAMERA

Model:
IKS-WP8103
IKS-WP8203R

User's Manual

For information on our latest products and peripheral devices, refer to the following web site:

www.toshibasecurity.com

If the URL changes, refer to www.toshiba.com

IKS-WP8103 IKS-WP8203R 3MP PTZ IP Dome Camera
User Manual

Manual Edition 33506AA – SEPTEMBER 2015

TOSHIBA
Irvine, CA ● U.S.A.

Important Safeguards

1. **Read Instructions**

Read all the safety and operating instructions before operating the product.

2. **Retain Instructions**

Retain the safety instructions and user's manual for future reference.

3. **Warnings**

Comply with all warnings on the product and in the user's manual.

4. **Follow Instructions**

Follow all operating and use instructions.

5. **Cleaning**

Disconnect this camera from the power supply before cleaning.

6. **Attachments**

Do not use attachments not recommended by the camera manufacturer as they may pose safety risks.

7. **Accessories**

Do not place this camera on an unstable cart, stand, tripod, bracket or table. The camera may fall, causing serious injury to a person, or serious damage to the product. Use only withstand, tripod, bracket, or table recommended by the manufacturer, or sold with the camera. Any mounting of the product should follow the manufacturer's instructions, and should use amounting accessory recommended by the manufacturer.

8. **Ventilation**

This camera should never be placed near or over a radiator or heat register. If this product is placed in a built-in installation, verify that there is proper ventilation so that the camera temperature operates within the recommended temperature range.

9. **Power Sources**

This camera should be operated only from the type of power source indicated on the information label. If you are not sure of the type of power supply at your location, consult your product dealer.

10. **Power-Cord Protection**

Power cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, screws and the point where they exit the product.

11. **Installation**

Install this camera on a secure part of the ceiling or wall. If installed on an unsecured location the camera could fall causing injury and damage.

12. **Lightning**

For additional protection on this camera during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the power supply and cable system. This will prevent damage to the camera due to lightning and power line surges. If lightning occurs, do not touch the unit or any connected cables in order to avoid electric shock.

13. **Overloading**

Do not overload the power supply or extension cords as this can result in a risk of fire or electric shock.

14. **Object and Liquid Entry**

Never push objects of any kind into this camera through openings as they may touch dangerous electrical points or short-out parts that could result in a fire or electrical shock. Never intentionally spill liquid of any kind on the camera.

15. **Servicing**

Do not attempt to service this camera yourself as opening or removing covers may expose you to dangerous electrical or other hazards. Refer all servicing to qualified service personnel.

16. **Damage Requiring Service**

Disconnect this camera from the power supply and refer servicing to qualified service personnel under the following conditions.

a. When the power-supply cord or plug is damaged.

b. If liquid has been spilled, or objects have fallen into the camera.

c. If the camera has been submerged in water.

d. If the camera does not operate normally by following the operating instructions in the user's manual. Adjust only those controls that are covered by the user's manual as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the camera to its normal operation.

e. If the camera has been dropped or the cabinet has been damaged.

f. When the camera exhibiting a distinct change in performance which indicates a need for service.

g. Other trouble.

17. **Replacement Parts**

When replacing parts, be sure the service technician uses parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

18. **Safety Check**

Upon completion of any service or repairs to this camera, ask the service technician to perform safety checks to determine that the camera is in proper operating condition**.**

Precautions

Operating

- Before using, make sure power supply and other cables are properly connected.
- While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.

Handling

- Do not disassemble or tamper with parts inside the camera.
- Do not drop or subject the camera to shock and vibration as this can damage camera.
- Do not block the cooling holes on the bracket. This camera has a cooling fan inside the housing. Blocking the cooling holes will cause heat to build up and cause malfunction.
- Care must be taken when you clean the clear dome cover. Scratches and dust will ruin the image quality of your camera. Do not use strong or abrasive detergents when cleaning the camera body. Use a dry cloth to clean the camera when it is dirty. In case the dirt is hard to remove, use a mild detergent and wipe the camera gently.

Installation and Storage

- Install electricity wiring carefully. Please note that input electricity to the unit is at tolerance of AC 24V ± 10%. The camera is capable of surge protection; ensure AC power model unit is grounded appropriately against damage by heavy current or electric shock.
- Do not install the camera in areas of extreme temperatures in excess of the allowable range.
- Avoid installing in humid or dusty places. The relative humidity must be below 90%.
- Avoid installing in places where radiation is present.
- Avoid installing in places where there are strong magnetic fields and electric signals.
- Avoid installing in places where the camera would be subject to strong vibrations.
- Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise the camera may be smeared and damaged.

Should you notice any trouble

- If any trouble occurs while you are using the camera, turn off the power and contact your dealer. If you continue to use the camera when there is something wrong with it, the trouble may get worse and an unpredictable problem may occur.

Disclaimer

- We disclaim any responsibility and shall be held harmless for any damages or losses incurred by the user in any of the following cases:

  1. Fire, earthquake or any other act of God; acts by third parties; misuse by the user, whether intentional or accidental; use under extreme operating conditions.

  2. Malfunction or non-function resulting in indirect, additional or consequential damages, including but not limited to loss of expected income and suspension of business activities.

  3. Incorrect use not in compliance with instructions in this user's manual.

  4. Malfunctions resulting from misconnection to other equipment.

  5. Repairs or modifications made by the user or caused to be made by the user and carried out by an unauthorized third party.
- Notwithstanding the foregoing, Toshiba's liabilities shall not, in any circumstances, exceed the purchase price of the product.

Copyright and Right of Portrait

- There may be a conflict with the Copyright Law and other laws when a customer uses, displays, distributes, or exhibits an image picked up by the camera without permission from the copyright holder. Please also note that transfer of an image or file covered by copyright is restricted to use within the scope permitted by the Copyright Law.

Protection of Personal Information

- Images taken by the camera that reveal the likeness of an individual person may be considered personal information. To disclose, exhibit or transmit those images over the internet or otherwise, consent of the person may be required.

Usage Limitation

- The product is not designed for any "critical applications." "Critical applications" means life support systems, exhaust or smoke extraction applications, medical applications, commercial aviation, mass transit applications, military applications, homeland security applications,

nuclear facilities or systems or any other applications where product failure could lead to injury to persons or loss of life or catastrophic property damage.

- Accordingly, Toshiba disclaims any and all liability arising out of the use of the product in any critical applications.

Regulation

FCC (USA) Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2)This device must accept any interference received, including interference that may cause undesired operation.

NOTE: 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 equipment 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 own expense.

CAUTION: Your authority to operate this FCC verified equipment could be voided if you make changes or modifications not expressly approved by the party.

Industry Canada Information

CAN ICES-3 A / NMB-3 A

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste in accordance with Directive 2002/96/EC. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By proper waste handling of this product you ensure that it has no negative consequences for the environment and human health, which could otherwise be caused if this product is thrown into the garbage bin. The recycling of materials will help to conserve natural resources.

For more details information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

any 

Compliance is evidenced by written declaration from our suppliers, assuring that potential trace contamination levels of restricted substances are below the maximum level set by EU Directive 2002/95/EC, or are exempted due to their application

Warning

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

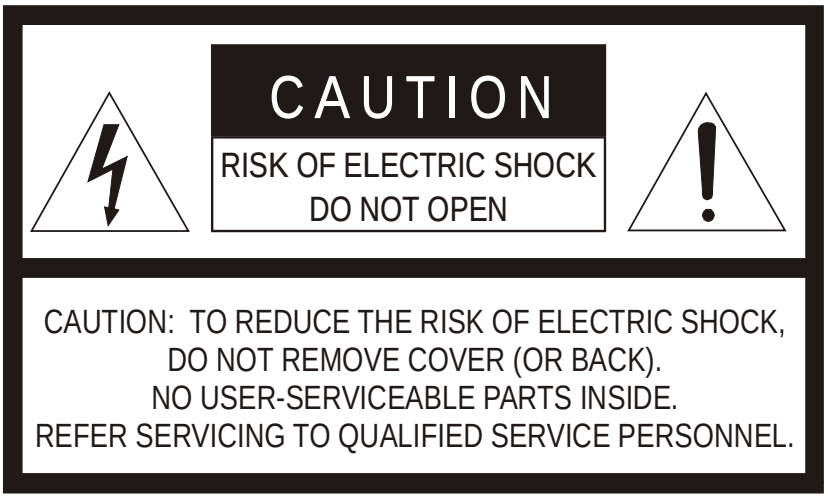
DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE.

DO NOT OPEN THE CABINET.

THIS INSTALLATION SHOULD BE MADE BY A QUALIFIED SERVICE PERSON AND SHOULD CONFORM TO ALL LOCAL CODES.

REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

Caution



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INTRODUCTION

OVERVIEW

Toshiba IKS-WP8103 and IKS-WP8203R IP PTZs provide users with crystal clear video thanks to 3MP resolution and 20x optical zoom. The cameras' continuous 360º rotation and 190º tilt range make them a versatile PTZ solution for live monitoring environments. Digital WDR and a true day/night IR cut filter produce superior video in a variety of lighting conditions. The IKS-WP8103 is designed for indoor installation. The IKS-WP8203R is IP66 rated and comes equipped with a sunshield, heater, and blowers to accommodate a variety of environmental conditions. Both models can be operated using PoE + power for easy, single cable installation.

All Toshiba cameras are fully ONVIF compliant and compatible with the Toshiba Web Services platform, allowing multiple users to view high quality images and perform setup through a remote web browser.

PRODUCT FEATURES

- 3M (2048x1536) Maximum Resolution
- 30 FPS
- 4.7 – 94 mm Focal Length (20x)
- True Day/Night (IR Cut Filter)
- Digital Wide Dynamic Range
- Full PTZ Operation Over PoE*
- Audio / Relay / Sensor Connections
- ONVIF Profile S Compliant
- IP66 Outdoor Rating and Heater (IKS-WP8203R Only)
- Sunshield (IKS-WP8203R Only)

*IKS-WP8203R requires 24v for heater operation

SYSTEM REQUIREMENTS

Minimum Requirements

- Intel Core i5-2430M @ 2.4 GHz
- 4 GB Ram
- Windows Vista / Windows XP / Windows 7
- Microsoft Internet Explorer 6.0 or above, Firefox, Chrome, Safari Web Browser
- 10Base-T (10 Mbps), 100Base-TX (100 Mbps) or 1000Base-T (1000 Mbps) operation
- ActiveX control plug-in for Microsoft Internet Explorer

Recommended Requirements

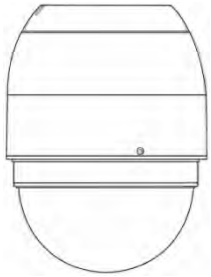
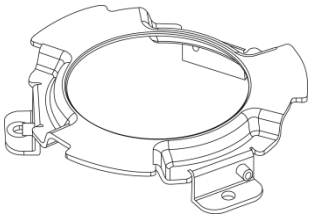
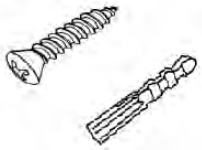
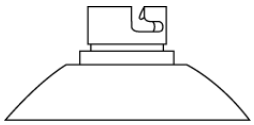
- Intel Core i7-870 @ 2.93 GHz
- 8 GB Ram
- Windows Vista / Windows XP / Windows 7
- Microsoft Internet Explorer 6.0 or above, Firefox, Chrome, Safari Web Browser
- 10Base-T (10 Mbps), 100Base-TX (100 Mbps) or 1000Base-T (1000 Mbps) operation
- ActiveX control plug-in for Microsoft Internet Explorer

CONTENTS

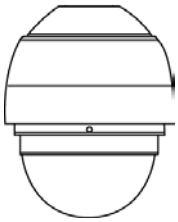
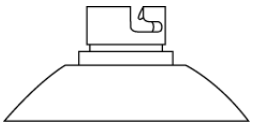
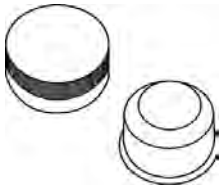
CAMERA BOX CONTENTS

Before proceeding, please check that the box contains the items listed here. If any item is missing or has defects, do not install or operate the product and contact your dealer for assistance.

IKS-WP8103 (INDOOR)

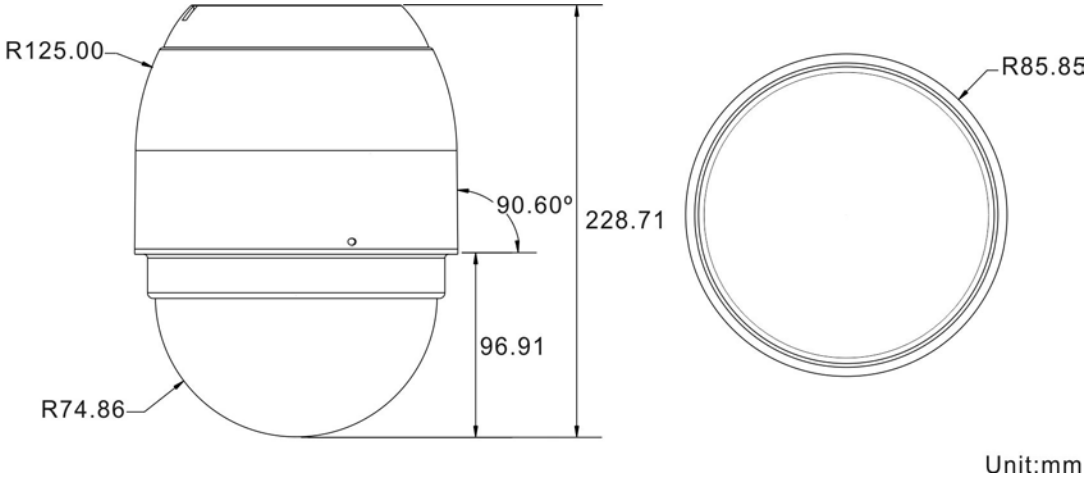
 **Dome Body**	 **Ceiling Mount**
 **M4 Screws (x5) with Anchors**	 **Pendant Mount**

IKS-WP8203R (OUTDOOR)

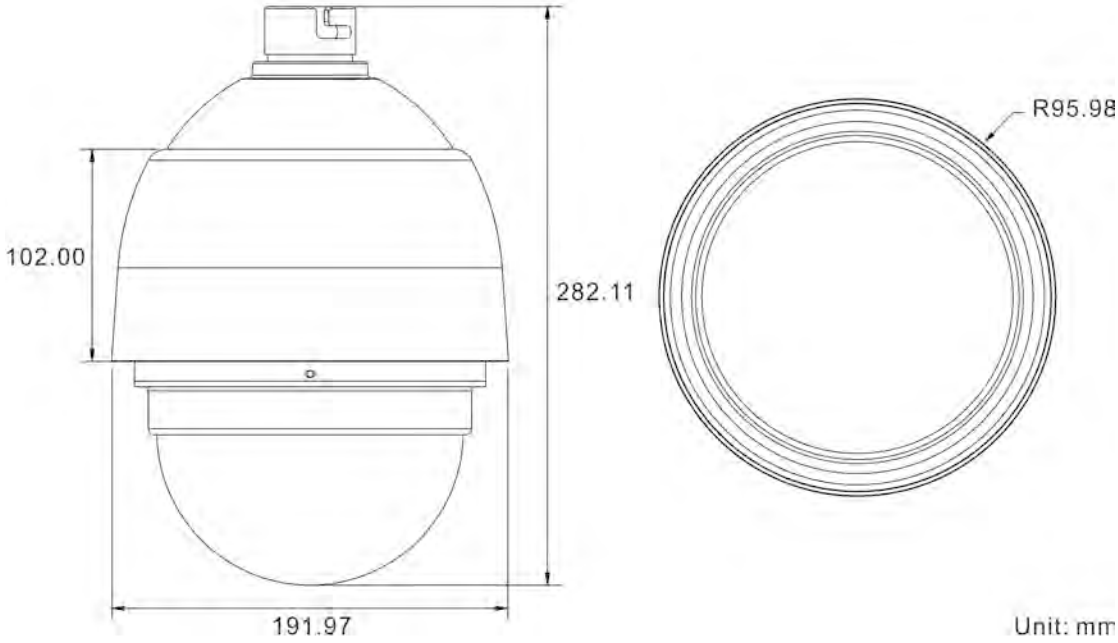
 **Dome Body**	 **Pendant Mount**
 **M3 Standard Screw** **M3 Security Screw**	 **M5 Standard Screw** **M5 Security Screw**
 **Security Torx Tool**	 **Waterproof Gasket** **and Gasket Lubricant**

DIMENSIONS

IKS-WP8103 / WITHOUT PENDANT MOUNT

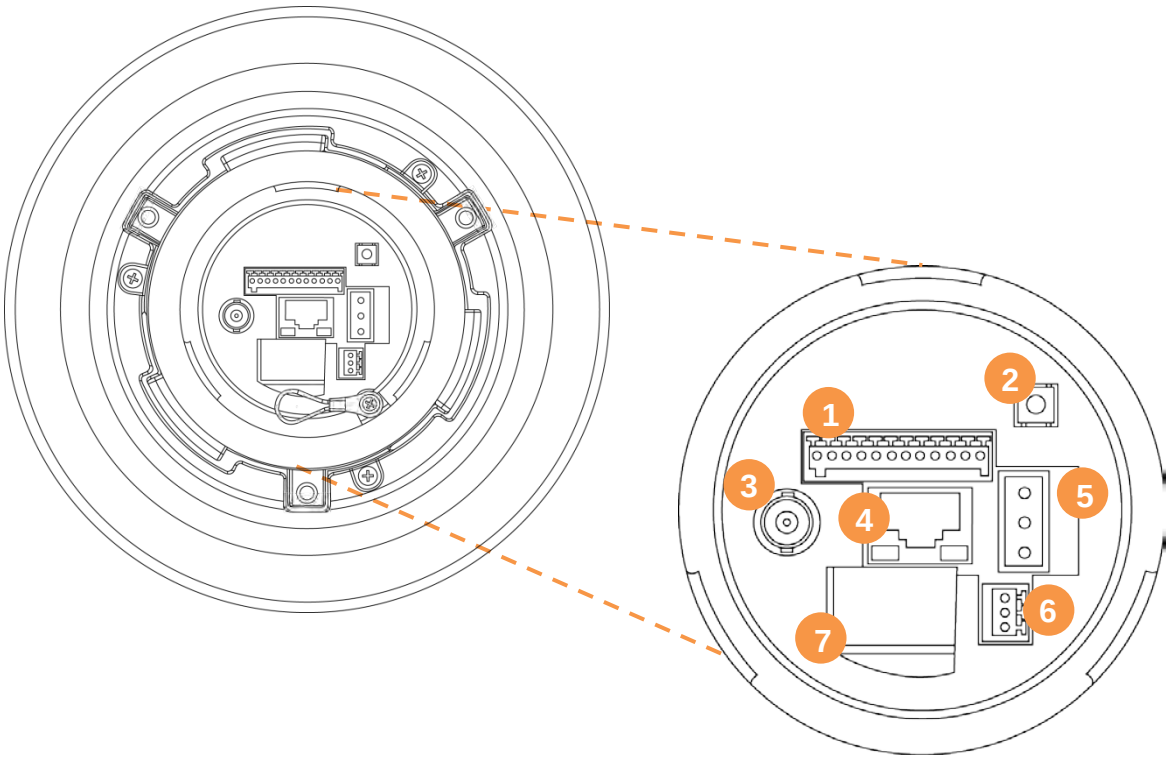


IKS-WP8203R WITH PENDANT MOUNT



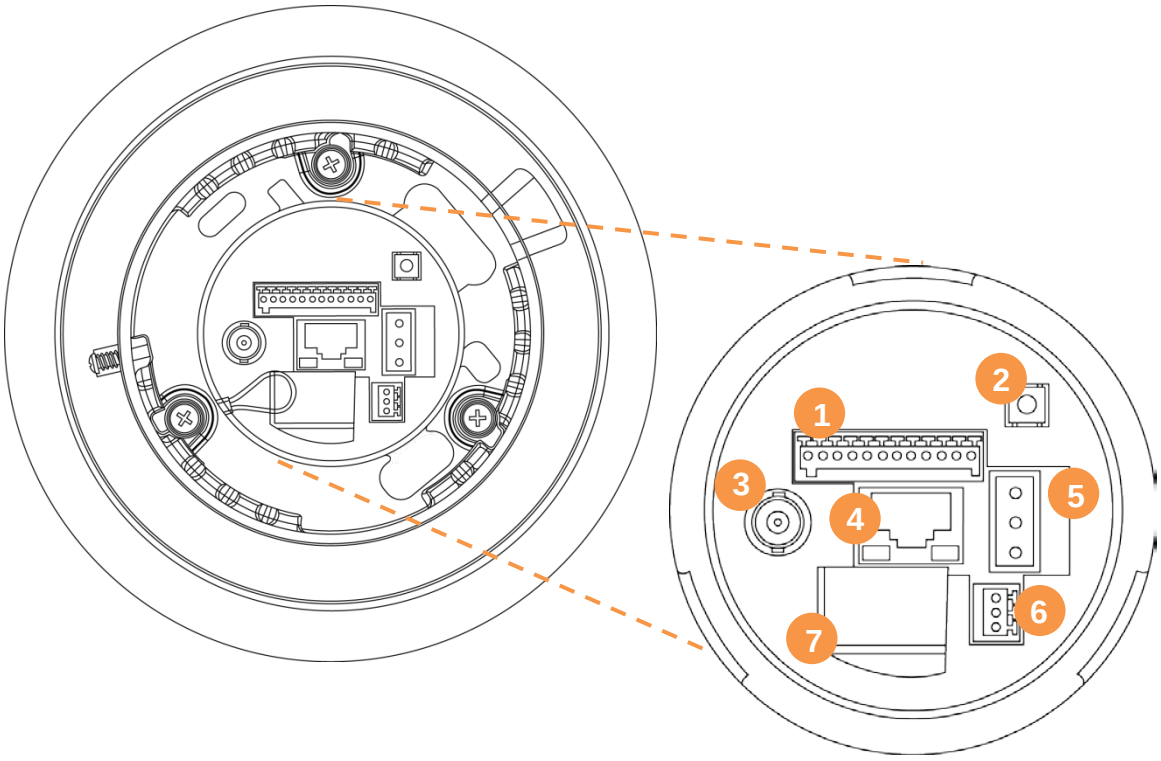
CONNECTIONS

IKS-WP8103 INDOOR



Pin	Connection	Definition
1	Alarm I/O	Alarm I/O connections
2	Default Button	Press the button with one figure for at least 20 seconds to reset the system to factory settings
3	BNC	For analog video output
4	RJ-45	For network and PoE+ connections
5	Power	Power supply connection
6	Audio I/O	Audio I/O connection
7	microSD Card Slot	Insert the microSD card into the card slot to store videos and snapshots. Do not remove the microSD card when the camera is powered on

IKS-WP8203R OUTDOOR



Pin	Connection	Definition
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5	Power	Power supply connection
6	Audio I/O	Audio I/O connection
7	microSD Card Slot	Insert the microSD card into the card slot to store videos and snapshots. Do not remove the microSD card when the camera is powered on

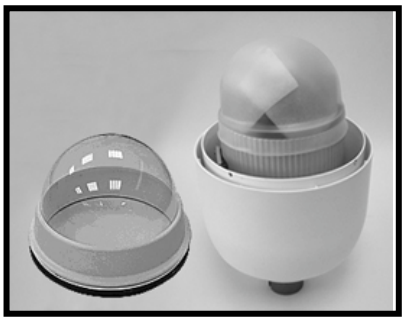
DOME SETUP AND CABLE CONNECTION

Before installing or connecting the dome camera, please refer to this section and complete preparations for dome setup and all switch settings.

PREPARATIONS FOR DOME SETUP

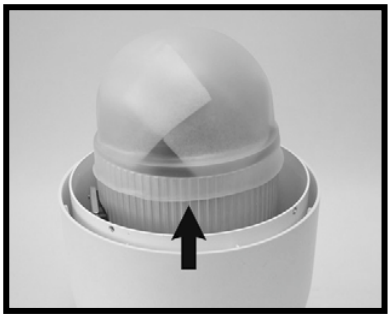
The following installation procedure is for the outdoor dome equipped with the sunshield housing. Please follow the steps below to complete dome housing installation.

1. Unpack the dome package and take out the dome body.

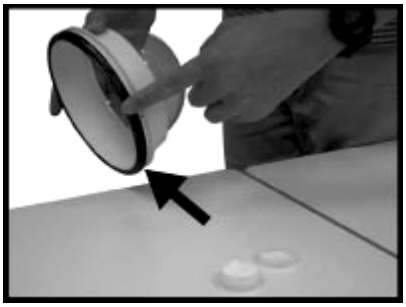


2. Rotate the top holder and take it off from the dome body.

3. Remove the protective cover and PE sheet.

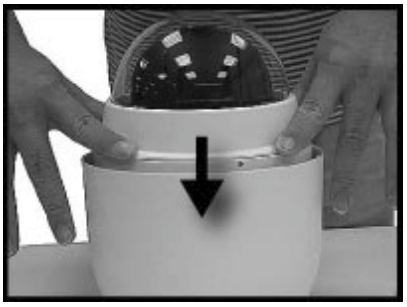


4. Apply some lubricant on the cover's waterproof gasket. This helps make the installation easier.



5. Attach the dome cover to the camera body.
6. Note that the tiny protrusion on the cover must align with one of the four holes on the camera body.

7. Using both hands, gently press the dome cover.



Note Do not apply pressure to the dome itself. This could cause damage to the dome or the camera.

8. Screw the dome cover and body together.

DOME CABLE DEFINITION AND REQUIREMENTS

For operation, the IP dome camera requires a network cable to carry the video signals to the remote viewing site and a power cable to power the dome.

Cable Requirements

For operation, the IKS-WP8103 / IKS-WP8203R camera requires 24vAC power to the dome.

Power Wire Length Specifications

Wire Gauge	Maximum Distance	Wire Gauge	Maximum Distance
22	27 feet	14	175 feet
20	44 feet	12	279 feet
18	69 feet	10	444 feet
16	110 feet		

Note Ensure that the power supply corresponds with the dome's power requirement or the camera may be damaged. Contact a qualified maintenance engineer with any problems.

Network Cable Length Specifications

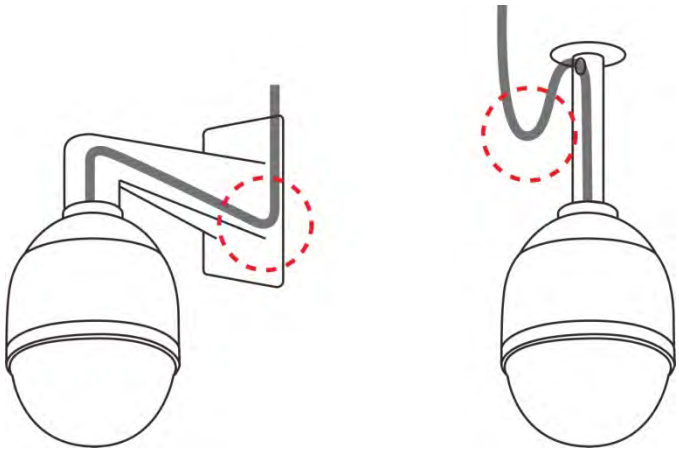
Cable Type	Maximum Distance	Wire Gauge	Maximum Distance
CAT5	300 feet	CAT6	300 feet
CAT5e	300 feet	CAT6a	300 feet

Note An Ethernet crossover cable can be used to connect the camera directly to a PC during configuration.

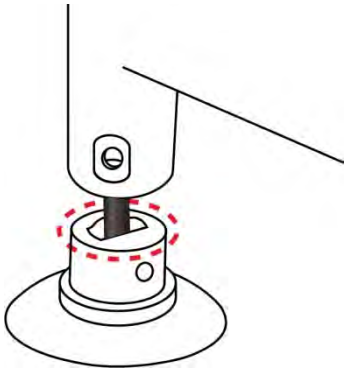
Camera Cabling Considerations

The IKS-WP8203R has an IP66 Outdoor rating to prevent water from entering the camera. However, proper installation is required for this rating. To ensure that the camera is as water resistant as possible, follow these tips:

- Place all cables and the adaptor in a dry and well insulated environment, such as waterproof boxes. The purpose of the waterproof box is to prevent moisture accumulation inside the camera and moisture penetration into the cables.
- While running cables, slightly bend the cables into a U-shaped curve to make a low point (as illustrated below). The purpose is to prevent water from entering the camera along the cables from above.



- The cable entry hole of the outdoor mounting kit (as illustrated below) needs to be sealed to avoid water from entering the camera.

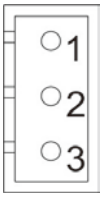


Power Connection

This camera is compatible with 24vAC and Power over Ethernet (PoE+). Connect power to the camera using the provided power connector lead, or the terminal connector blocks. If you are connecting 24vAC power, verify the polarity of the power connection. If you are using PoE+, make sure the Power Sourcing Equipment (PSE) is in use in the Network.

Note The 'notches' on the left side of the graphic above correspond to notches in the green plastic of the power connector.

1. Connect **POSITIVE** 24 volt AC power to pin **1**.
2. Connect ground wire to pin **2**.
3. Connect **NEGATIVE** 24 volt AC power to pin **3**.



Note Be careful not to pull the cables improperly during installation. Toshiba suggests that you fasten the cables after installation is complete.

Grounding Recommendation

The GND (ground) wire must be directly connected to the middle pin of the 24vAC power connector. Failure to connect the ground can cause damage and failure of the camera and may void the warranty.

Ethernet Cable Connection

Connect one end of the CAT 5 Ethernet cable to the RJ-45 connector of the camera and the other end of the cable to the network switch or recorder.

Note If you are connecting the camera directly to a recorder, a crossover cable is necessary for most configuration.

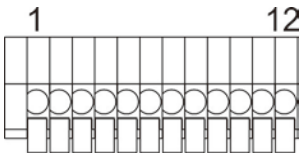
Check the status of the link indicator and activity indicator LEDs. If the LEDs are unlit, check the LAN connection.

The Orange activity light flashes to indicate network activity.

The Green link light indicates a good network connection.

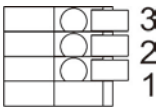
12-Pin Alarm Input / Output Connection

Using the 12-pin connector, installers can connect 4 digital alarm inputs and 2 digital alarm outputs. The alarm pins are serviceable for connecting alarm input and output devices such as sensors, sirens, or flashing lights to the surveillance system. For the definition of each pin, refer to the list below.



Pin	Definition
1	Alarm OUT NO 1
2	Alarm OUT NC 1
3	Alarm OUT COM 1
4	GROUND
5	Alarm OUT NO 2
6	Alarm OUT NC 2
7	Alarm OUT COM 2
8	GROUND
9	Alarm IN 4
10	Alarm IN 3
11	Alarm IN 2
12	Alarm IN 1

Audio Input / Output Connection



Pin	Definition
1	Audio OUT
2	GROUND
3	Audio IN

INSTALLATION

OPTIONAL ACCESSORIES

MOUNTING ACCESSORIES

Wall Mount Bracket (w/Anti-Drop)
Part Number: JK-510W

Long Wall Mount Bracket (w/Anti-Drop)
Part Number: JK-510WL

50 cm Pole
Part Number: JK-510P50

25 cm Pole
Part Number: JK-510P25

Corner Mounting Plate
Part Number: JK-510C

Large Pole Mount
Part Number: JK-510PML

1 ¼" Threaded Adapter
Part Number: JK-510PA25

1 ½" Threaded Adapter
Part Number: JK-510PA50

Visit www.toshibasecurity.com for compatible accessories.

CEILING MOUNTING WITH POLE

The ceiling mount pole is available in two lengths: 25 cm and 30 cm.

Note	Ensure that the ceiling can support the weight of the dome camera and the ceiling pole.

Items Needed

- IKS-WP8103 / IKS-WP8203R IP Dome Camera
- Ceiling Pole Accessory
- Waterproof Gasket (supplied)
- Screws and Anchors for the mounting surface (not supplied)

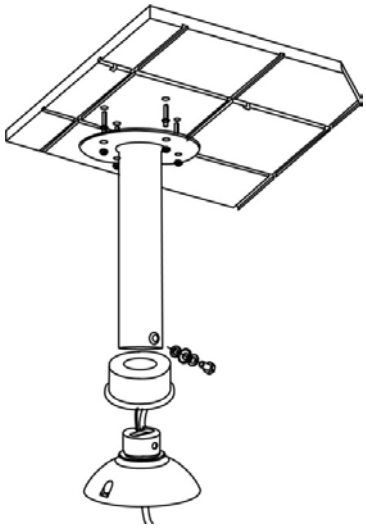
Tools Needed

- Drill
- Screwdriver

1. Cut a cable access hole in the ceiling.
2. Attach the **ceiling pole** to the ceiling with the appropriate **screws** and **screw anchors** (not provided).
3. Attach the **waterproof gasket** to the Ceiling Pole.
4. Thread the cables through the ceiling pole and the top holder.

Note	After threading the cables through the tube, block the cable entry hole with the supplied sponges to prevent insects from entering the tube.

5. Attach the **top holder** to the ceiling pole with the supplied screws and washers and adjust the gasket to the junction of the ceiling pole and the top holder.
6. Connect the **cables** to the dome camera.
7. Attach the **dome** to the **top holder** and secure them with the **supplied screw.**



WALL MOUNTING WITH WALL MOUNT BRACKET

Items Needed

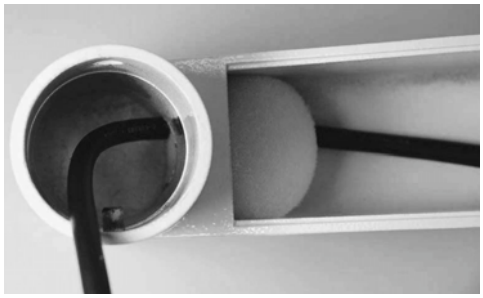
- IKS-WP8103 / IKS-WP8203R IP Dome Camera
- Wall Mount Bracket or Long Wall Mount Bracket
- Waterproof Gasket (supplied)
- Screws and Anchors for the mounting surface (not supplied)

Tools Needed

- Drill
- Screwdriver

1. Cut a cable access hole on the wall. Cables can also be threaded through the cable entry knockout on the tube if desired.
2. Thread the cables through the **wall mount bracket**.
3. Block the cable entry hole with the **supplied sponge.**
4. Attach the **wall mount bracket** to the wall with the **appropriate screws** and **screw anchors** (not provided).
5. Attach the **waterproof gasket** to the wall mount bracket.

6. Thread the cables through the **top holder** and attach the dome to the wall mount bracket with the supplied screws and washers.
7. Connect the cables to the dome camera.
8. Attach the dome to the top holder and secure them with the supplied screw.



WALL MOUNTING WITH CORNER MOUNT

The corner mount must be used in conjunction with the wall mount bracket.

Items Needed

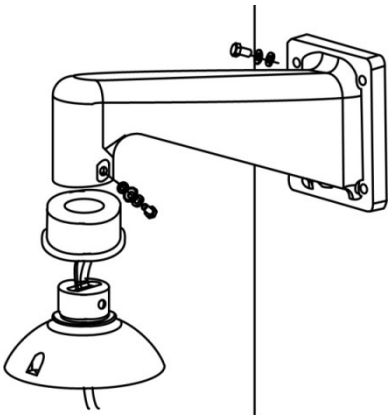
- IKS-WP8103 / IKS-WP8203R IP Dome Camera
- Wall Mount Bracket Accessory
- Corner Mounting Plate
- Waterproof Gasket (supplied)

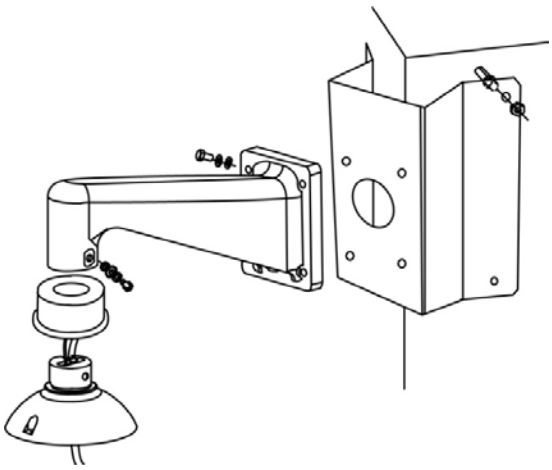
Tools Needed

- Drill
- Screwdriver

Note	Screws and Anchors appropriate for the mounting surface (not supplied).

1. Cut a cable access hole on the wall. Cables can also be threaded through the cable entry knockout on the bracket if desired.
2. Secure the **corner mount plate** on the corner wall with the **appropriate screws** and **screw anchors**.
3. Attach the **wall mount bracket** to the **corner mount plate** with the **supplied screws** and **washers**.
4. Thread the cables through **wall mount bracket** and the **top holder.**
5. Block the cable entry hole with the **supplied sponge**.
6. Attach the **waterproof gasket** to the **wall mount bracket.**
7. Attach the top holder to the wall mount bracket with the supplied screws and washers and adjust the gasket to the junction of the wall mount bracket and the top holder.
8. Connect the cables to the dome camera.
9. Attach the dome to the top holder and secure them with the supplied screw.





POLE MOUNTING

The dome can be mounted on a pole with the small or large direct mounting accessory and a wall mount bracket.

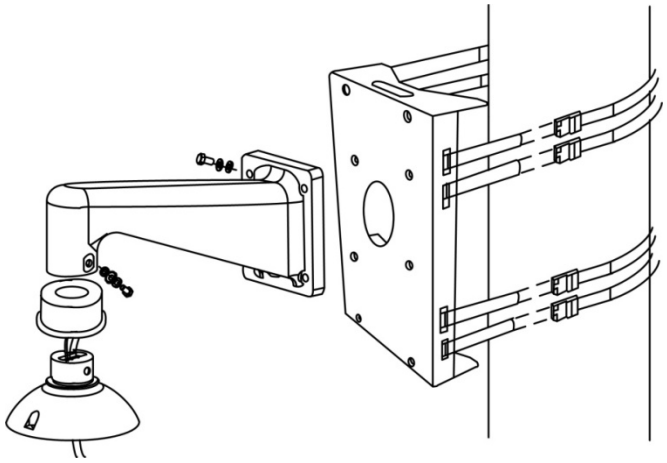
Items Needed

- IKS-WP8103 / IKS-WP8203R IP Dome Camera
- Wall Mount Bracket Accessory
- Small / Large Pole Mount Accessory
- Stainless Steel Straps
- Waterproof Gasket (supplied)

Tools Needed

- Stainless Steel Strap Cutter
- Screwdriver

1. Fasten the **small/large pole mount** to the pole with **stainless steel straps**.
2. Attach the **wall mount bracket** to the pole mount with the **supplied screws** and **washers**.
3. Attach the **waterproof gasket** to the **wall mount bracket.**
4. Thread the cables through the **wall mount** and the **top holder.**
5. Block the cable entry hole with the **supplied sponge.**
6. Attach the top holder to the wall mount with the supplied screws and washers and adjust the gasket to the junction of the wall mount and the top holder.
7. Connect the cables to the dome camera.
8. Attach the dome to the top holder and secure them with the supplied screw.



SETUP AND CONFIGURATION

TOSHIBA DEVICE SEARCH

Toshiba Device Search is a software tool that allows you to quickly and easily connect and configure your Toshiba IP Cameras. This software allows you to assign IP addresses, manage users, configure video settings, and update firmware on multiple cameras at once.

The Device Search software is available for download on the Toshiba website.

INSTALLATION

You can run Device Search on any personal computer (PC) by navigating to **http://www.toshibasecurity.com** and downloading the software.

Note	Device Search will only work on PCs or laptops that use a Windows operating system. It is compatible with Windows XP, Vista, 7, and 8.

STARTING DEVICE SEARCH

After installing the program on your PC or laptop, open the program to begin configuring your cameras.

To access Device Search on an Toshiba recorder, you must operate the recorder in Windows Mode.

1. In the Live Screen, click **Exit**.
2. Click **Restart in Windows Mode**.
3. Click **OK**.
4. Double-click the **Device Search** icon on the Desktop.

Viewing a Network Camera

1. To view a network camera over the web using the camera's viewer software, double-click the **name of the camera**.
2. Click **Browse**.
3. Enter the **Username** and **Password** for the camera. The username and password are case sensitive. It is strongly recommended that the password be changed after the initial setup to prevent unauthorized access. The default username and password for Toshiba IP cameras are as follows.

   Username – admin

   Password – 1234

4. The viewer software is now opened in **Internet Explorer**.

Note The viewer software will install automatically the first time you connect to the camera. If your internet browser does not install the viewer software, check the security settings or ActiveX controls and plug-in settings. If your internet browser asks for permission to install the ActiveX control, you must allow the ActiveX control to continue the installation. If you are prompted to allow an add-on, click **Allow**.

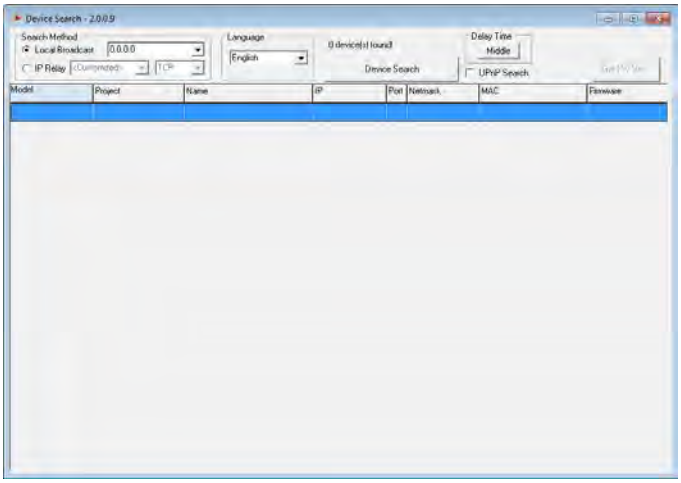
5. You can now configure your camera using the Viewer Software. For more information on using Viewer software, please see the user manual for your camera.

DEVICE ADDRESSING

The functions on the Device Addressing tab allow you to find, configure, and view network cameras.

Finding Network Devices

1. Click **Device Search**
2. To narrow your search by **Camera Model**, **Project**, or **Camera Name**, select your desired criteria from the appropriate lists.



CONNECTING TO THE CAMERA

1. Locate the camera on the **IP Finder** list.
1. Double-click the camera to open the Viewer software in your web browser.
2. Click **Browse** in the pop-up window.
3. Log in to the camera with the appropriate **Username** and **Password**.

Note The default **Username** is 'admin' and the default **Password** is '1234'. The username and password are case sensitive.

Resetting the Camera

If it is necessary to reset the camera to the factory default settings, hold down the Reset button (see Camera Overview) for 30 seconds. This will return all settings, including network setup, to the factory default.

Administrator/User Privileges

The Administrator account has the authority to configure the IP camera and authorize users' access to the camera. The User accounts have access to the camera with limited authority.

Connecting Over the Internet

There are some challenges with connecting to Toshiba IP cameras over WAN (internet) connections because the camera streams video over RTSP. RTSP is an excellent protocol for media and is now used on many IP cameras (including Toshiba) as the default streaming option.

RTSP, however, is not suitable for transmission between two locations that are behind different routers. In this case, the client (for example, the Toshiba HVR or NVR server software) connects to the camera, and then requests a stream. The camera uses that connection to return a stream, but since the connection originated on the client side and has now switched to the camera (remote) side, the router does not have any way to determine where the traffic should be routed, so no video appears at the recorder. There are three solutions to this.

1. Connect modems on both sides directly to the recorder and camera. If there is no router, no network address translation is needed.
2. Use routers with VPN support and set up a small VPN. Once this is done, the traffic will be treated as though it were all on the local network.
3. **(Best solution)** – Use routers with **connection tracking**. This is quite easy; VOIP also uses RTSP and faces the same challenges. If a router is marketed as having “VOIP Support”, it will have the necessary connection tracking capability to allow any type of RTSP communication (not just VOIP).

With proper planning and the correct equipment, RTSP cameras CAN stream over the WAN to a recording device for minimal additional cost and labor.

Please contact Toshiba support if you require any additional information on these topics.

VIEWER SOFTWARE

To access the setup menu, you need to install the viewer software on your PC or recorder. The viewer software will install automatically the first time you connect to the camera. If your internet browser doesn't install the viewer software, check the security settings or ActiveX controls and plug-in settings. If your internet browser asks for permission to install the ActiveX control, you must allow the ActiveX control to continue the installation.

The first time you connect to a camera, the browser will ask for permission to install the ActiveX Control necessary to display the camera video. Right-click the information bar, and then click **Install ActiveX Control** to allow the installation.

Note IP camera audio is only available on the Indoor IP mini dome camera. The Talk button will not be available on the Outdoor version of the camera.

VIEWER TABS

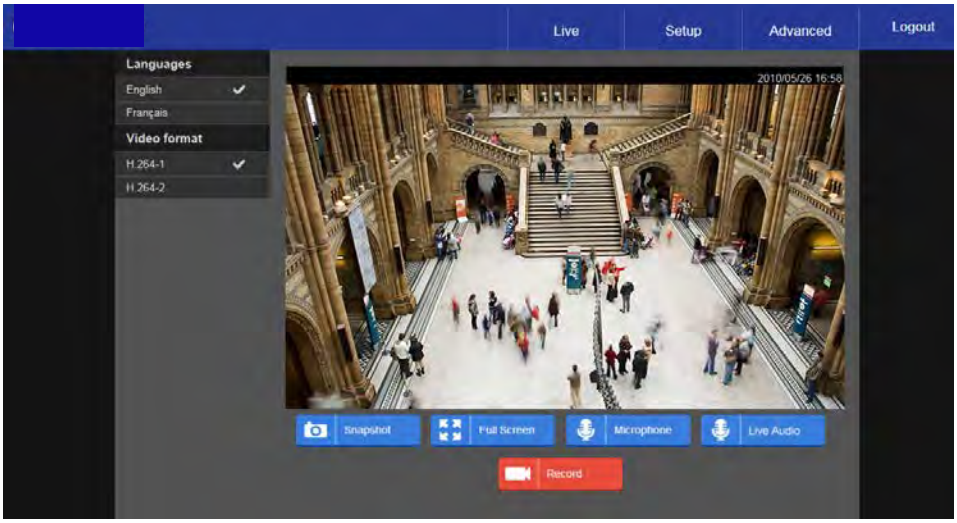
Live – Monitor video and perform other video related functions.

Setup – Set the camera name, IP address, and define users. This tab also allows you to configure the camera settings and view streams.

Advanced – Perform advanced setup configurations, like network setup, security, alarms and maintenance.

Logout – Change user.

LIVE



Full Screen – This will display the live feed in full screen.

Snapshot – Click the button, and a JPEG snapshot will automatically be saved in the appointed place. The default location is: C:\.

Note	If you are using Windows Vista or 7, you will need to change the Snapshot location. Windows UAC does not allow internet programs to write directly to C:\ for security reasons.

Record – Click **Record** to star recording live video. Click **Record** again to stop recording video. Recorded video will be saved automatically to the designated location on the local workstation. The default location is C:/. This location can be changed in **File Location**, in the **System** menu.

Note	If you are using Windows Vista or 7, you will need to change the video clip location. Windows UAC does not allow internet programs to write directly to C:\ for security reasons.

Microphone – PC Network Camera Manager Software audio to camera, enables audio through an audio out on the camera.

Live Audio – Camera to PC Network Camera Manager Software, enables audio if a microphone is equipped to the camera.

Note	The Microphone and Live Audio functions are only available on enable cameras. If the camera is not enabled for these features, an error message will display.

SETUP

The Setup menu includes System Settings, Picture Setup, and Streaming Settings.

Note The Setup menu displays limited setup options. For a complete list of setup options, see the *Advanced* section.

SYSTEM SETTING

CAMERA NAME

Host Name – The Host Name is used to identify the camera on your system. If camera based Motion Detection is enabled and is set to send alarm message by Mail/FTP, the host name entered here will display in the alarm message.

Time Zone – Select your time zone.

Time Format – Select your desired time format.

Sync With Computer Time – Select to synchronize the camera date and time with the connected recorder.

Sync with NTP Server – Manual allows you to define the date and time manually. Network Time Protocol (NTP) is an alternate way to synchronize your camera's clock with a NTP server. Specify the server you wish to synchronize in the **NTP Server** box. Then select an **Update Interval**. For more information about NTP, visit www.ntp.org.

IP ADDRESS

You can choose to use a fixed IP address or a dynamic IP address (assigned by a DHCP server or router) for the camera.

Get IP an Address Automatically (DHCP)

The camera comes preconfigured with a fixed IP address, selecting **Get IP address automatically** requires a router or DHCP server to assign an IP address to the camera.

Note	Every network device has a unique Media Access Control (MAC) address that can be used for identification. The MAC address is located on the bottom of each camera, and on the box label (Toshiba Network Camera Manager also displays the MAC address for identification). Record your camera's MAC address for identification in the future.

Note	If no DHCP is available, the camera will default to a static IP address of 192.168.0.250 after 4 minutes.

Use Static IP Address

1. Select the **Use Static IP Address** option.
2. Type a new IP address in the **IP address** box.
3. Type a new address in the **Default Gateway** box.
4. Click **Apply** to confirm the new setting.

When using static IP address to log in to the IP Camera, you can access it either through Toshiba IP Finder software or type the IP address directly in the address bar of your Internet Explorer.

IP Address – The IP Address is necessary for network identification.

Subnet mask – Used to determine if the destination is in the same subnet. The default value is 255.255.255.0.

Default gateway – Used to forward frames to destinations on different subnets or for internet access.

Primary DNS – The primary domain name server that translates hostnames into IP addresses.

Secondary DNS – A secondary domain name server that backups the primary DNS.

Web Server port – Defines the port that Internet Explorer uses to connect over the web and view video. If this port is changed then the new port must be defined when attempting to web connect (ex: if your camera's IP address is 192.168.0.100 and you change the web port to 8001, then you must type http://192.168.0.100:8001 in your browser).

RTSP port – The default RTSP port is 554; setting range: 1024 ~65535.

MJPEG over HTTP port – The default HTTP Port is 8008; setting range: 1024 ~65535.

HTTPS port – The default HTTPS Port is 443; setting range: 1024 ~65535.

Note	No port number can be used in duplication on more than one item.

IPv6 Address Configuration

To enable IPv6 select **Enable IPv6** and click **Save**. See your network administrator if you are unsure of your network configuration.

USER SETUP

Admin Password

Manage the password for the Administrator account.

1. Type a new **Administrator Password**, and then type again to confirm the password.
2. Click **Save**.

Add User

The user name and passwords are limited to 16 characters with no spaces permitted. There is a maximum of twenty user accounts.

1. Type the new **Username** and **Password**.
2. Select I/O Access, Camera Control, Talk, and/or Listen as permissions for the User.

   I/O Access – All functions in the Setup and Advanced menus are available to the User.

   Camera Control– Allows the User to change camera controls in the Setup menu.

   Talk – Allow the user to speak through the camera microphone.

   Listen – Allow the user to listen to audio captured by the camera.

3. Click **Add**.

Delete User

1. Select the user name on the **User Name list.**
2. Click **Delete** to remove the user.
3. Click **OK** in the confirmation window.

There is a momentary wait time while the Network Camera Manager saves parameters. When this period is complete, the User will be deleted.

Modify User

1. Select the user name on the **User Name list**.
2. Click **Edit.**
3. In the resulting window, modify the Password and/or feature permissions.
4. Click **Save**.

Note For security reasons, every time the user properties are opened the access check boxes are automatically cleared. Make sure you select any user access options each time you edit the user properties.

FILE LOCATION

This is the destination location that snapshot photos and recorded videos will be saved to.

1. Click **Select.**
2. Choose a location or folder.
3. Click **Save** in the file window, and then click **Save** again.

PICTURE SETUP

CAMERA TAB

Use the Camera Tab section to modify picture settings for the camera. The sample image will change as you modify the picture settings.

Note These settings can drastically affect the camera image. Toshiba suggests that these settings are only modified by a CCTV professional, or at the instruction or a technical support representative.

Exposure

Min Shutter Speed – Choose a pre-determined shutter speed.

Manual Mode – Changing the shutter mode to manual will allow you to select the minimum shutter speed that the camera will use. This can drastically change the amount of light entering the camera.

Click **Set** to save your changes.

White Balance

Use the white balance setting to change color representation in difficult lighting conditions.

Auto – White balance works within its color temperature range and calculates the best-fit white balance.

ATW – Auto-tracing white balance, the camera removes the signals within a range of 2500K to 10000K, which helps to even out the bright white portions of an image.

One Push – Balances color temperature based on a white object within the viewing area.

Manual – Change the white balance value by specifying the R grain and B grain.

Click **Set** to save your changes.

Picture Adjustment

Each of the Picture Adjustment settings is set to the recommended default.

Brightness – Adjust the image's brightness on the camera. The Backlight value is adjustable from **0** (dim) ~ **+20** (brightest).

Sharpness – Increasing the sharpness level can make the image looked sharper; it especially enhances an object's edge. The value of sharpness is adjustable from **0 ~ +10** (sharpest).

Contrast– Adjust the contrast value from **-6 to 19**.

Saturation– Adjust the color saturation form **-6 to 19** (most saturation)**.**

Hue– Adjust the hue from **-12 to 13**.

Backlight– Backlight compensation can correct for overly-bright backlit scenaries.

D-WDR Function– Turn the Digital Wide Dynamic Range Off, or adjust between **1 and 3**.

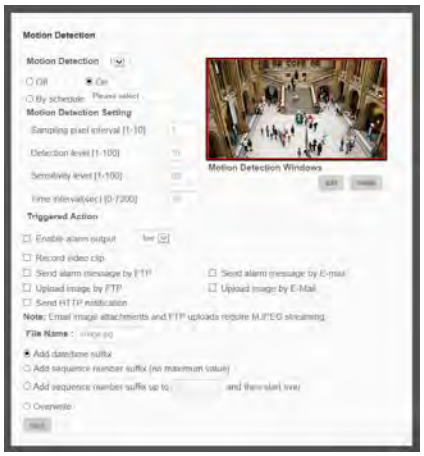
MOTION DETECTION

Use the Motion Detection menu to configure the motion detection window(s). Here, Motion Detection can be turned On or Off, and other general settings can be specified.

1. Use the **Motion Detection** dropdown to select a motion detection preset (1-4). If choosing an additional preset after 1, check the **On** checkbox.

> **Note** A motion detection preset can be turned **Off** at a later time.

2. If desired, check the **By Schedule** check box and use the dropdown menu to select a schedule.
3. Designate the **Motion Detection Setting** values.
4. Check the appropriate boxes to designate the **Trigger Action**.
5. Click **Save**.



Add Detection Window

1. Use the **Motion Detection** dropdown to select a motion detection preset.
2. Click **Add**.

> **Note** The selected motion detection square will be red.

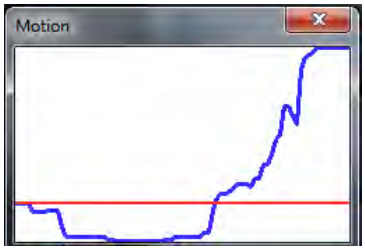
3. Arrange and size the motion detection window as desired.
4. Click **Save**.

Delete Motion Detection Window

1. Click to select the desired motion detection window.
2. Click **Delete**.

Motion Window

The motion window displays a red line and a dynamic blue line. The red line represents the Detection Level. The blue line will also be present if motion is present in the camera frame. The blue line will react accordingly based on the motion in the camera frame.



VIDEO RESOLUTION

The camera provides eight codec options under video resolution (two single streaming options, two sets of dual streaming options, two sets of tri-streaming options, and two sets of quad-streaming options):

- H.264 Only
- MJPEG Only
- H.264 + H.264
- H.264 + MJPEG
- H.264 + H.264 + H.264
- H.264 + H.264 + MJPEG
- H.264 + H.264 + H.264 + H.264
- H.264 + H.264 + H.264 + MJPEG

Once a codec option is selected, multiple resolutions are available for each stream.

Note Due to resource management, some resolutions may be unavailable when selecting a dual stream option.

Video Orientation

Normal Video – The video will be oriented as the camera position dictates.

180 Degree Rotate – Rotate the video 180 degrees.

90 Degree Clockwise – Rotate the video 90 degrees clockwise.

90 Degree Counter Clockwise– Rotate the video 90 degrees counter clockwise.

Mirror Video – Flip the video across the vertical axis.

Mirror + 180 Degree Rotate – Flip the video across the vertical axis and rotate 180 degrees.

GOP Size

The Group of Pictures settings allow you to modify the frame structure of the video stream. This setting changes the frequency of the I-frames that occur within the stream of P-frames (2~64). Increasing this number increases the number of P-frames between each I-frame; decreasing the file size of the stream, but increasing the risk of video decoding errors. Decreasing this number decreases the number of P-Frames between each I-frame; increasing the file size of the stream, but decreasing the risk of video decoding errors. Toshiba recommends setting the GOP to be approximately twice the frame rate (e.g.: if the frame rate is 10 IPS, then set the GOP to 20).

H.264 Profile

The H.264 Profile may need to be changed if you are using a third party recorder that is not capable of decoding H.264 Main Profile video compression. Select compatible compression type for each stream if necessary.

VIDEO FRAME RATE

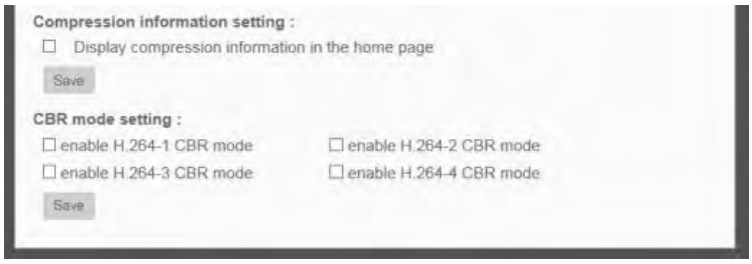
Setting the camera to transmit fewer frames can save bandwidth. Use the Frame Rate Control screen to adjust the frame rate of each stream.

Each of the MJPEG and H.264 streams can have a separate frame rate setting from 1 to 30 frames per second.

Note Higher frame rate will increase video smoothness, as well as file size and bandwidth usage.

Note Lower frame rate will decrease video smoothness, as well as file size and bandwidth usage.

VIDEO COMPRESSION



You can select an MJPEG / H.264 compression mode on the video compression page appropriate for your application. You can also select to display compression inflation on the Live Screen.

H.264 compression settings include:

- 1024kbps, highest compression, lowest quality
- 2048kbps
- 4096kbps, middle compression, default
- 6144kbps
- 8192kbps, low compression, highest quality

MJPEG compression settings include:

- High compression, low bitrate, low quality
- Middle compression, default
- Low compression, high bitrate, high quality

CBR Mode Setting

- The Constant Bit Rate mode allows you to lock in the bit rate of the H.264 stream. If this setting is not enabled, bit rate may fluctuate based on available bandwidth.

ADVANCED

SYSTEM SETTING

NETWORK SETUP

The Network Setup settings will automatically be set at the recommended default after the camera connection is made.

DDNS

DDNS (Dynamic Domain Name Service) is a service that allows a connection to an IP address using a hostname (URL) address instead of a numeric IP address. Most ISPs use Dynamic IP Addressing that frequently changes the public IP address of your internet connection; this means that when connecting to the camera over the internet, you need to know if your IP address has changed. DDNS automatically redirects traffic to your current IP address when using the hostname address.

Enable DDNS – Select the check box to enable DDNS.

Provider – Select a DDNS host from the Provider list.

Host name – Type the registered domain name in the field.

Username/E-mail – Type the username or e-mail required by the DDNS provider for authentication.

Password/Key – Type the password or key required by the DDNS provider for authentication.

NETWORK ADVANCED

QoS

Quality of Service allows you to prioritize network traffic services of the camera's functions. The QoS function utilizes the Differentiated Services prioritized using Codepoint vales (DSCP).

Note	Routers and switches on the network must be QoS or DSCP capable, and have these settings enable for this function to operate on your network.

SNMP Settings

With Simple Network Management Protocol (SNMP) enabled, the camera can be monitored and managed remotely with a network management system. Contact your network administrator if you are not familiar with SNMP setup.

UPnP (Universal Plug N' Play)

Enable UPnP – When enabled, the camera will appear in My Network Places on Windows computers running UPnP on the same network.

Enable UPnP Port Forwarding – When enabled, the camera will attempt to open the web server port on the router automatically.

Friendly Name – Set a name to easily identify the camera.

NETWORK SECURITY

HTTP

The camera can send alarm messages to a specific Hypertext Transfer Protocol (HTTP) site when motion is detected or when the sensor input is activated. You can assign alarm messages to up to two HTTP sites.

IP Filtering

IP Filtering allows you limit access to your IP cameras by IP address. You can “Allow” or “Deny” a specific IP address by adding it to the appropriate list. IP addresses on the “Allowed IP List” will be able to access the IP camera. IP addresses on the “Deny IP List” will NOT be able to access the IP camera.

IEEE 802.1XSEAP-TLS

This is a well supported security protocol commonly used by wireless vendors. This security method requires a valid CA certification and key. When properly configured, all communication between the client (usually a recorder) and the camera is encrypted.

ALARM APPLICATION

The alarms menu is where alarm connections are configured.

Alarm Switch – Designate when the alarm will be active; Off, On, or By Schedule.

Alarm Type – Designate if the alarm is normally open or normally closed.

- NOH – NO stands for Normally Open.
- NC/L – NC stands for Normally Closed.

Example: A door sticker consists of two contacts that are connected when under normal conditions. This type of input would be a NC/L or normally closed alarm. The alarm will trigger when the two contacts are no longer connected, such as an abnormal condition when the door is opened.

Alarm Output – Choose high or low.

Trigger Action – Specify which actions the camera should take when motion is detected.

Send Alarm Message by FTP / E-mail – Select to send an alarm message to a configured FTP and/or e-mail address when motion is detected. When sending to email, the alarm notification is text only. When sending to FRP, the alarm notification will upload a text file to the FRP location.

Upload Images by FTP – Select to assign an FTP site and configure various parameters as shown in the figure below. When motion is detected, event images will be uploaded to the appointed FRP site.

Upload Image by E-mail – Select to assign an e-mail address and configure various parameters as shown in the figure below. When motion is detected, event images will be sent to the appropriate e-mail address.

Note	Make sure SMTP or FTP configuration has been completed. See the Mail and FTP sections for more information.

File Name – Enter a file name in the box, ex. Image.jpg. The uploaded image's file name format can be set in this section. Select the one that meets your requirements.

Consult the documentation to the sensor input device to determine which of these to use.

TAMPERING AND NETWORK FAILURE DETECTION

Tampering Alarm – Turn the Tampering Alarm On, Off, or On By Schedule.

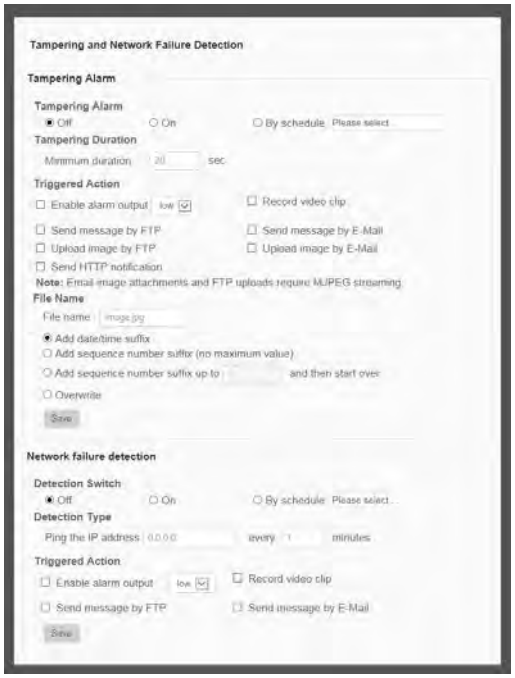
Tampering Duration – Designate the amount of time (in seconds) that tampering must occur in order for a Tampering Alarm to activate.

Triggered Action – Designate the actions that will occur upon a Tampering Alarm activating.

Network Failure Detection – Turn the Network Failure Detection On, Off, or On By Schedule.

Detection Type – Designate the IP Address that will be tested and how often (in minutes).

Triggered Action – Designate the actions that will occur upon Network Failure Detection activation.



MAIL, HTTP, AND FTP SETUP

The camera can send an e-mail via Simple Mail Transfer Protocol (SMTP) when a variety of events occur. SMTP is a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified and the message text is transferred. The configuration page is shown as follows:

Two sets of SMTP accounts can be configured. Each set includes SMTP Server, Account Name, Password and E-mail Address settings. For SMTP server, contact your network service provider for more specific information.

SD CARD

All Toshiba IP cameras include an integrated microSD™ card slot that can be used to record video or images. The card slot is compatible with a microSD™ card up to 16GB.

Load Device Information – Displays the storage total size and free space information of the included microSD™ card.

Current Recording Partition – Amount of space designated for recording on the microSD card.

Format – Allows you to format the microSD card.

Eject – Safely eject the microSD card.

Recording List – Displays a list of files saved to the card. You can delete files from the card, or save them to your local PC.

Note If you are using Windows Vista, 7, or 8, you will need to change the Snapshot location. Windows UAC does not allow internet programs to write directly to C:\ for security reasons.

Note It is not recommended to record with the microSD card for 24/7 continuously, as it maybe not be able to support long term continuous data read/write.

NETWORK SHARE

Network Share is a network protocol that runs a variety of different system platforms, allowing for file sharing between computers operating on Windows and computers operating on Unix. This serves as an additional storage type.

Configuration requires the host IP address, share name, and credentials. Once configured, cameras can record events to the network share.

Note Network Share can be hosted on a Windows, Mac, or Linux system.

RECORDING SCHEDULE

The recording schedule allows you to set up scheduled recording to the microSD™ card or to Network Sharing.

Recording

This section allows you to define recording schedules for the camera.

To set up continuous recording:

1. Select type of **Recording Storage**.
   - **microSD card™**: save recorded data to the microSD™ card located in the camera.
   - **Network Share**: save recorded data to the designated Network Share location.
2. Select **Always** as the type of **Recording Schedule**.
3. Click **Save**.

To set up scheduled recording:

1. Select type of **Recording Storage**.
2. Select **Only during time frame** as the type of **Recording Schedule**.
3. Use the appropriate check box to designate a day of the week.
4. Type a **Start Time** and **Duration**.
5. Click **Save**.
6. Repeat steps 3-5 for each desired day of the week until the desired schedule is completed.

Note	Start Time and Duration are measured in 24-hour format (HH:MM).

To delete a recording schedule:

1. Select Disable for the type of Recording Schedule.

—OR—

Click on the desired weekday schedule and then click **Delete**.

Schedule

This section allows you to establish schedules to use in other section.

1. Select a Schedule set **(1-10).**
2. Check the desired **week day** check boxes.
3. Select **Day** or **Night**.
4. Designate a **Start Time** and **Duration**.
5. Click **Save**.

Interval Recording

Interval recording allows you to record in consistent intervals and save the files for later viewing.

1. Turn Interval Recording **On** or **Off**.
2. Designate the **Time Interval** (seconds).
3. Designate the **Trigger Action** using the appropriate checkbox, and then use the dropdown menus to further manage the Trigger Action.
4. Type a **file name**, and then choose how the file name is multiplied for multiple files.

Add date/time suffix – add the date/time to the end of the file name for each interval file saved.

Add sequence number suffix – add a sequence number suffix to the end of the file name for each interval file saved.

Add sequence number suffix up to *x* and start over – add a sequence number suffix to the end of the file name for each file saved up to *x,* and then start over.

Overwrite – overwrite each previous interval file with the new interval file.

MAINTENANCE

On the Maintenance page you can export the cameras current configuration, or import the configuration for a camera. Use the factory default page to reset the IP Camera to factory default settings if necessary.

Note	Do not import configuration files from different models of cameras.

Configuration

Export Configuration

1. Check the appropriate boxes for information that you want exported.
2. Click **Export Configurations.**
3. The .bin file will be saved.

Note	The default location for exported configurations is C:\

Upload (Import) Configuration

1. Click **Browse** in the Configuration Import box.
2. Select a .bin file that you want to import.
3. Click **Import.**
4. Click **Yes** when prompted that the import will cause a system reboot.

Factory Default

There are two factory default settings available: Full Restore that restores default settings including network settings, and a Partial Restore that restores default settings excluding network settings. A system reboot is also available; this preserves all settings.

Note	If a Full Factory Default is used, you will need to use the Network Camera Manger to find the desired camera(s) again.

SOFTWARE

Note	Make sure the software upgrade file is available before starting the software upgrade.

1. Click **Browse** and find the upgrade file.

Note	Do not change the file name, or the system will fail to find the file.

2. Select the file name from the list under **Step 2**.
3. Click **Upgrade**. The system will check to find the upgrade file, and then start to upload the upgrade file. The upgrade status bar will display on the page. When it reaches 100%, the viewer will return to Home page.
4. Close the internet browser.
5. Go to the **Windows Control Panel** and double-click **Add or Remove Programs**. Locate the **Camera Viewer** software on the **Currently installed programs** list and click **Remove** to uninstall the previous software version.
6. Open the internet browser again and log in to the camera. The system will automatically download the new version of the Camera Viewer software.

PICTURE SETTING

VIDEO MASK

You can use the video mask page to define a privacy mask to keep users from viewing parts of the image. You can enable up to five privacy masks and choose a color to obscure the live view form users.

HOT SPOT

The Spot feature allows you to transmit different parts of the camera image on separate streams. Each stream is displaying a portion of the image at the full size of a regular image. This is useful for focusing on details in different areas of a single camera view.

TEXT OVERLAY

Text Overlay allows you to select text to be displayed over the video. Three options are available: Date, Time, and a Custom String (up to 20 alphanumeric characters).

AUDIO

Audio Input Grain – sets the amplification that the camera applies to the incoming audio before transmitting.

Audio Output Delay – Sets a delay in the audio transmission. This is used when there is significant lag in video transmission to help sync the audio and video.

Volume – Sets the audio output volume level (for listening to live audio).

Network Transfer – Sets the camera to continue transmitting audio even if the video stops.

LOGOUT

The Logout tab allows you to switch between users.

1. Click **Logout**.
2. If prompted to close the browser window, click **Yes**.
3. Using the Network Camera Manager Software, select the camera you wish to view in the Viewer Software.
4. Click **Browse**.
5. Login as the appropriate user.

CAMERA SPECIFICATIONS

Camera Model	IKS-WP8103	IKS-WP8203R
Maximum Resolution	3MP (2048x1536)	
Image Sensor	Sony IMX-104	
Video Compression	MJPEG / H.264 (MPEG-4 Part 10/AVC) Baseline / Main Profile / High Profile / SVC	
Frame Rate	H.264 3M @ 25 and 30 IPS	
ONVIF	Profile S	
Streaming	Up to 4 simultaneous streams	
Browser Support	Internet Explorer (6.0) / Chrome / Firefox / Safari	
Day / Night	True Day / Night	
Wide Dynamic Range	Digital WDR On / Off	
Lens	4.7 ~ 94 mm 20X Zoom Lens	
Horizontal Field of View	55.2˚ (Wide); 2.93˚ (Tele)	
Minimum Illumination @ 50IRE	0.1 lux (Color) 0.03 lux (B/W) @ F1.6	
Minimum Illumination @ 30IRE	0.05 lux (Color) 0.01 lux (B/W) @ F1.6	
White Balance	Auto / Manual / ATW / One Push	
Auto White Balance Range	2700K~7800K	
Backlight Compensation	2500K ~10000K	
Auto Gain Control	Yes	
IP Rating	N/A	IP66
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	-40°C ~ 50°C (-40°F ~ 122°F)
Heater (Cold Start)	N/A	w/Heater: -40°C ~ 50°C (-40°F ~ 122°F)
Heater Operational Threshold	N/A	-7°C On, +3°C Off
Power Consumption	24W	59.5 W (w/Heater)
Input Voltage	802.3at PoE+ (30W)/ 24vAC ± 10%	
PoE Class	4	
Analog Output	1.0 Vp-p / 75 Ω, BNC	
Audio In / Out	Stereo phone jack, Φ 3.5 mm	
Alarm In / Out	Input: 4 Sets / 5V 10kΩ pull up Output: 2 Set / Relay output, max. 2A DC 30V / 0.5A AC 125V	
microSD Card Slot	SDXC 64GB support	
Camera Weight	3.57 lb (1.6 kg)	5.11 lb (2.3 kg) w/Sunshield
Dimensions	ø 171.7 x 228.7 mm (ø 6.7 x 9 in.)	ø 191.9 x 282.1 mm (ø 7.5 x 11.1 in.) w/ Sunshield
Housing / Dome Cover	Metal Housing	
Tilt / Rotation	Tilt: -10~-190 ˚ / Pan: 360 ˚ Endless	

PTZ SPECIFICATIONS

Camera Model	IKS-WP8103	IKS-WP8203R
Control Type	PTZ control via network only	
Zoom Factor	18x	
Presets	256	
Preset Accuracy	±.0225º	
Preset Speed	5º ~ 400º / second	
Pattern	8	
Tour (Group)	8	
Auto Scan	4	
Privacy Mask	16	
Home Function	Preset, Pattern, Tour, Auto-scan	
Auto Flip	Image / Mechanical	
Focus Mode	Auto / Manual	

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