FD360IR-E

High-Definition 6 MP Outdoor Fisheye Camera with D/N and IR

Installation Manual

001B0DZXZ2A2 1.2

Note: To ensure proper operation, please read this manual thoroughly before using the product and retain the information for future reference.

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FD360IR-E

Installation Manual v1.2 (162902-1.2)

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Brand names

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Although considerable care has been taken to ensure a correct and suitably comprehensive description of all relevant product components, this manual may nonetheless contain errors and inaccuracies. We invite you to offer your suggestions and comments by email via t.writing@tkhsecurity.com. Your feedback will help us to further improve our documentation.

How to contact us

If you have any comments or queries concerning any aspect related to the product, do not hesitate to contact:

Siqura B.V.

Zuidelijk Halfrond 4

2801 DD Gouda

The Netherlands

General : +31 182 592 333

Fax : +31 182 592 123

E-mail : sales.nl@tkhsecurity.com

WWW : www.siqura.com

Table of Contents

1. Overview

The Ultra High Definition Multiple Streams Fisheye IP Camera is a high-resolution surveillance solution featuring 180° panoramic view (wall mount) or 360° panoramic view (ceiling mount) without blind spots. The camera supports 1080p streaming at 60 fps which allows the videos to be viewed smoothly. Moreover, the Edge Dewarping function of the camera can dewarp the fisheye source images. With this feature, the dewarped images in panoramic view or other different viewing modes can be recorded. Furthermore, with the IR LED module, the camera can deliver clear images in low-light conditions. For more features of this camera, see below.

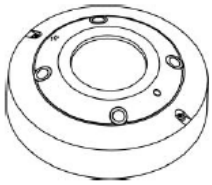
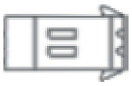
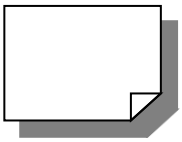
For compliancy information, see the EU Declaration of Conformity, which is available for download at www.tkhsecurity/support-files.

1.1 Features

- Progressive Scan CMOS Sensor
- Software Dewarping-
  Single Stream, 6M Real-time
  Dual Streams, Full HD 1080p 60 fps
- Edge Dewarping, Up to 4M Resolution Real-time
- Quad Streams Compression-
  H.264 Baseline / Main / High Profile + MJPEG
- 360° Panorama View
- ePTZ
- Quad View
- Tampering Alarm
- Wide Dynamic Range
- Motion Detection
- Privacy Masks
- Day/Night (ICR)
- IR LED Module
- Built-in MIC & Speaker
- Weatherproof (IP66 International)*
- microSD Support
- ONVIF Support

(*) Optional

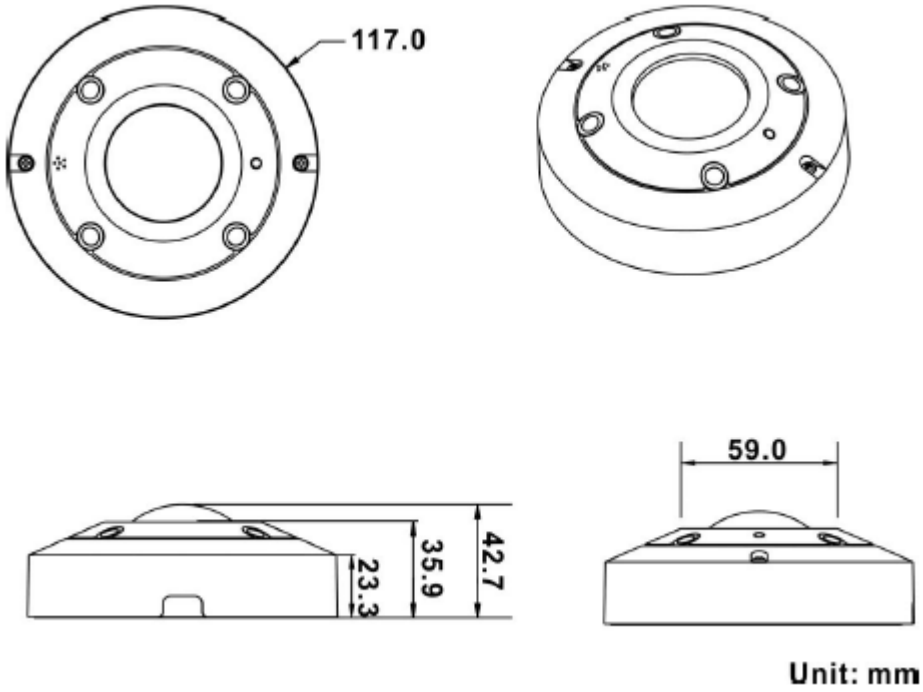
1.2 Package Contents

 Ultra High Definition Multiple Streams Fisheye IP Camera	 Self-tapping screw (x3)	 Plastic anchor (x3)	 Security torx
 Alarm I/O terminal block	 Power terminal block	 Installation template sticker	 Quick Start Guide

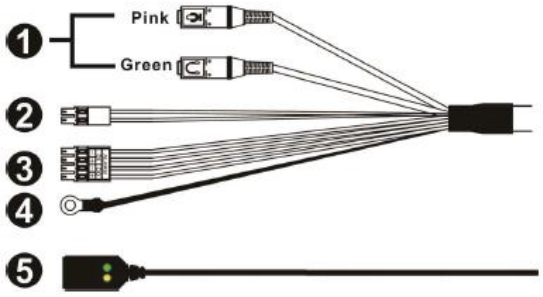
NOTE: The supplied self-tapping screws are for soft substance/material installation such as wood. For other installation environments, such as a cement wall, it is required to pre-drill and use plastic anchors before fastening the supplied self-tapping screws on the wall.

1.3 Dimensions

The dimensions of the camera are shown below.

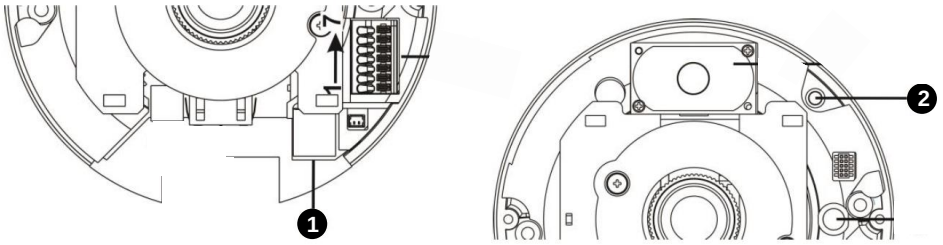


1.4 All-in-One Cable



No.	Connector	Pin	Definition	Remarks
1	**Audio I/O**	Pink	Audio In	Two-way audio transmission
		Green	Audio Out	
2	**Power (DC 12 V) (2-Pin Terminal Block**	Black	DC 12 V -	Power connection
		Red	DC 12 V +	
3	**Alarm I/O (4-Pin Terminal Block)**	1	Alarm In –	Alarm connection
		2	Alarm In +	
		3	Alarm Out –	
		4	Alarm Out +	
4	**GND**	-	GND	Ground connection
5	**RJ-45**	-	For network and PoE connections	

1.5 microSD card slot / Reset button



No.	Connector	Pin	Definition	Remarks
1	**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.	
2	**Reset button**	-	Press the button with a proper tool for at least 20 seconds to restore the system to the factory-default settings.	

***Important:** TKH Security advises to use high-grade, highly-durable SD cards. Note that SD cards are limited to the number of write cycles ranging from 1000 (off-the-shelf high-grade card MLC or TLC NAND) to 100.000 (4 GB industrial SLC NAND). Intensive usage will eventually wear out the card. The number of write cycles times the capacity of the SD card gives you the total amount of data that can be written to the card in its life time. A 32 GB microSDHC with 2000 write cycles, for example, can write 64 TB before it should be replaced.

2. Camera Cabling

Follow the instructions below to complete the cable connections.

2.1 Power Connection

For power connection, see section All in One Cable. Alternatively, users can power the camera by PoE if a PoE switch is available. Refer to the section below for Ethernet cable connection.

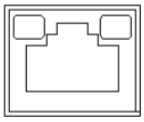
NOTE: If PoE is used, make sure to connect the camera to a PoE switch.

2.2 Ethernet Cable Connection

To have the best transmission quality, cable length shall not exceed 100 meters. Connect one end of the Ethernet cable to the RJ-45 connector of the camera, and plug the other end of the cable into the network switch or PC.

NOTE: In some cases, Ethernet crossover cable might be needed when connecting the camera directly to the PC.

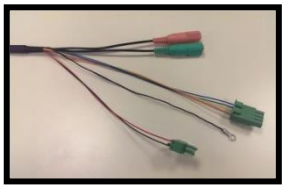
Check the status of the link indicator and the activity indicator LEDs. If the LEDs are unlit, check the LAN connection.



A green Link Light indicates a good network connection.
An orange Activity Light flashes for network activity indication.

2.3 Waterproof Cable Connector

Follow the instructions below to waterproof the connectors of different types of cables. The supported cables are as shown below.



All-in-One Cable

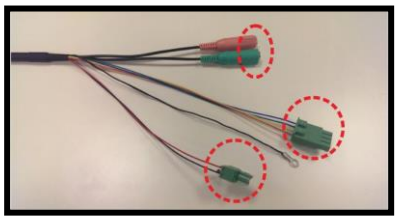
IP66 RJ-45 Cable

All-in-One Cable

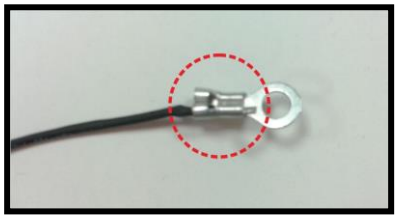
Follow the steps below to waterproof the connectors of the All-in-One cable.

Step 1:

Connect the required devices to the All-in-One cable and coat the joints with silicone gel. There should be no gap between the connectors and the cables. For the alarm I/O connector and the power connector, make sure the side with wires attached is also sealed with silicone gel.

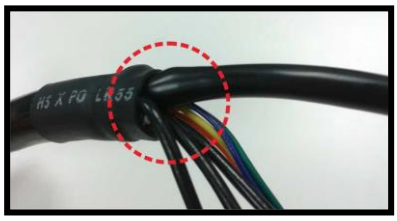


Attach the ground cable to the ground and wrap the wires with silicone gel. Make sure the wires are not exposed to the air.



Step 2:

Seal the end of the rubber coating of the All-in-One cable as indicated in the figure on the right. Use enough silicone gel to fill in the hose and wrap around each wire; otherwise, the waterproof function cannot be guaranteed.



IP66 RJ-45 Cable

In a similar fashion, coat the IP66 RJ-45 cable with silicone gel to prevent water damage.

3. System Requirements

To operate the IP camera via a web browser, make sure the PC is properly connected to the network and meets the system requirements as described below.

Items	System Requirement
Personal Computer	**Minimum :** 1. Intel® Core™ i5-2430M @ 2.4 GHz 2. 4 GB RAM
	Recommended: 1. Intel® Core™ i7-870 @ 2.93 GHz 2. 8 GB RAM
Operating System	Windows 7
Web Browser	Microsoft Internet Explorer
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) or 1000Base-T (1000 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

4. Access Camera

For initial access to the IP camera, users can search the camera with the Device Manager software, which can be downloaded at www.tkhsecurity/support-files.

Accessing the Camera by the Device Manager Software

Step 1: Double-click the Device Manager setup file and follow the instructions to install the software.

Step 2: Start Device Manager. The network is scanned and detected devices appear in the List View pane.
If multiple network adapters exist, select the appropriate adapter to scan the network you wish to connect to.
If necessary, use the tabs in the Tree View pane to further define the scope of your search.

Step 3: To connect to the camera, double-click its entry in the device list.
The logon box of the camera is opened in your web browser.

Step 4: Enter the default username and password shown below to log on to the camera.

Login ID	Password
Admin	1234

NOTE: ID and password are case sensitive.

NOTE: To prevent unauthorised access from people using the default account, we recommend that the administrator changes the default password after the first login and creates separate user accounts as needed.

Using TKH Security Device Manager, it is possible to directly change the network settings of the camera.

Assign a static IP address with Device Manager

Step 1: In Device Manager, go to the list of detected devices, right-click the entry for the camera, click <Change Network Settings>, and then click <Static IP >.

Step 2: Provide the camera with an appropriate IP address, netmask, and gateway address for the desired network configuration, and then click <OK> (2x).

Step 3: Wait until the network has been rescanned. In the list of found devices, double-click the entry of the camera.

Assign a DHCP server

Step 1: Record the camera's MAC address (see the *Serial no.* column in Device Manager) for future identification.

Step 2: In Device Manager, go to the list of detected devices, right-click the entry for the camera, click <Change Network Settings>, click <Enable DHCP >, and then click <OK> (2x).
The network is rescanned.

Step 3: In the list of found devices, identify the camera by its MAC address and double-click its entry.

Installing TKH Security Viewer

For initial access to the camera, a client program, TKH Security Viewer, will be automatically installed to the PC when connecting to the camera.

If the web browser doesn't allow TKH Security Viewer installation, check the Internet security settings or ActiveX controls and plug-ins settings to continue the process.

An Information Bar may be displayed, asking for permission to install the ActiveX Control for displaying video in browser. Right-click the Information Bar and select <Install ActiveX Control…> to allow the installation.

The download procedure of the TKH Security Viewer software is as follows.

Step 1: In the initial screen of the installation wizard, click <Next> to start installation.

Step 2: When the installation is complete, click <Finish>.

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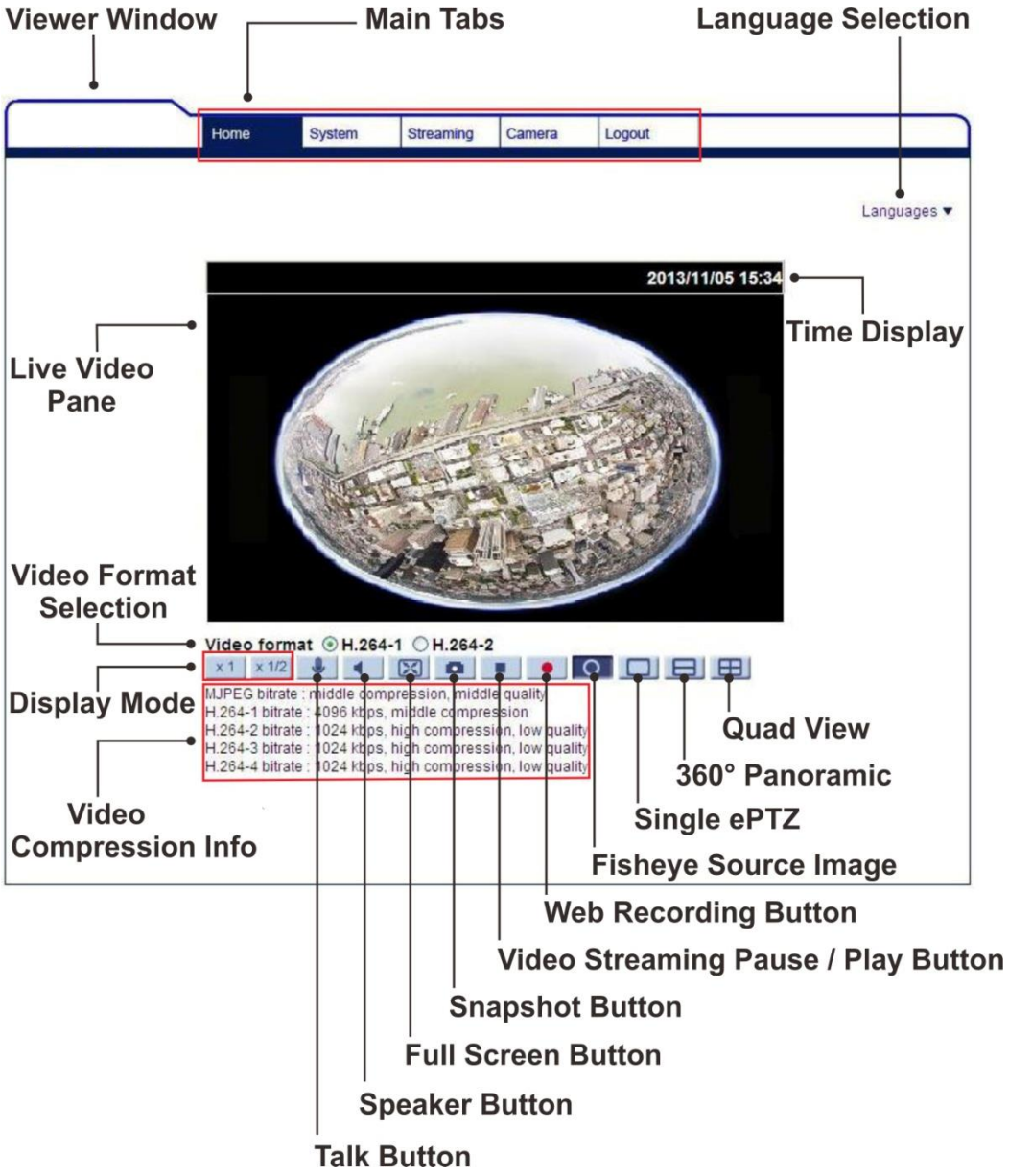
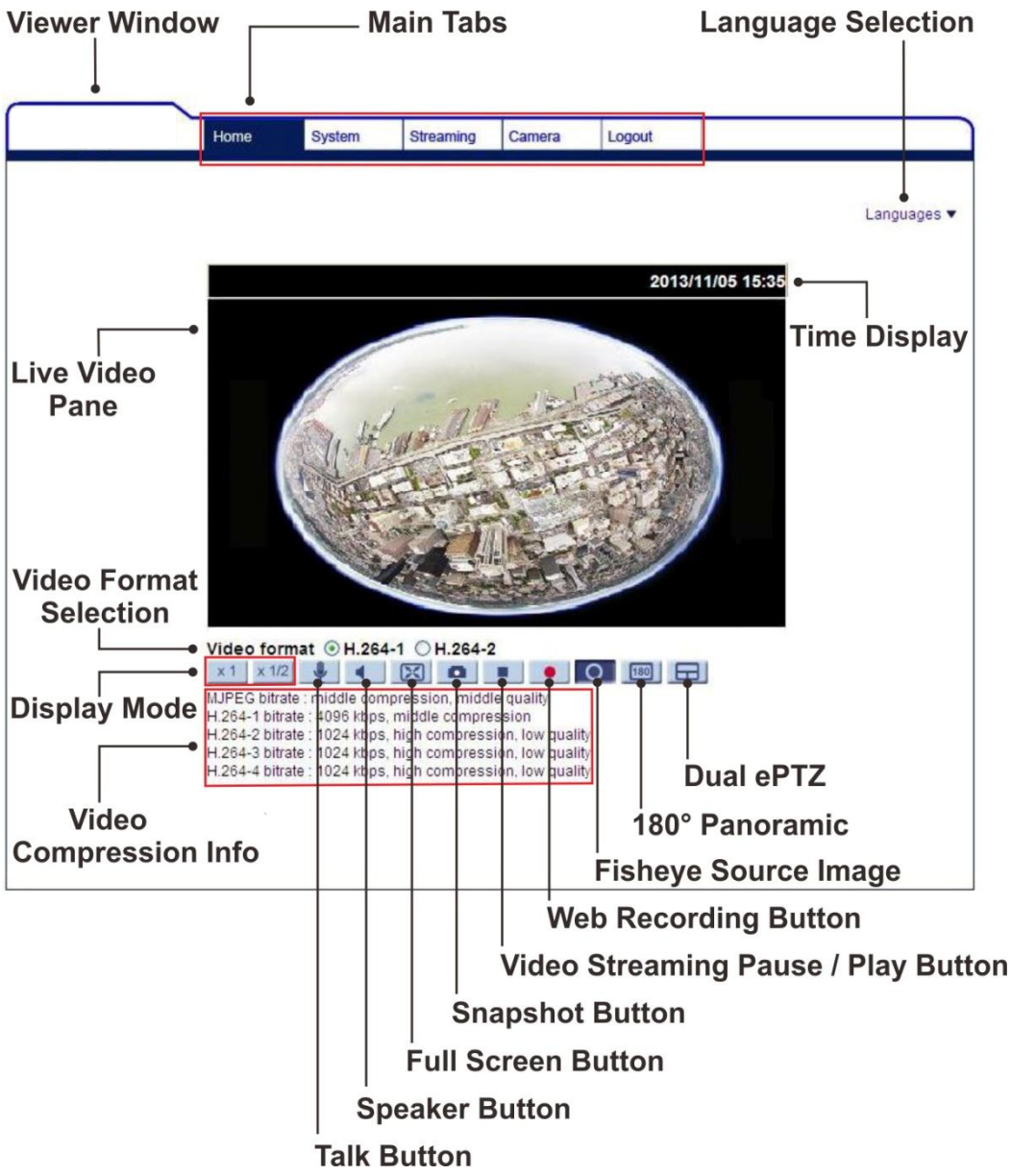
Once TKH Security Viewer is successfully installed, the Home page of the IP camera is shown as in the example below.

Ceiling Mount Installed Camera



Wall Mount Installed Camera

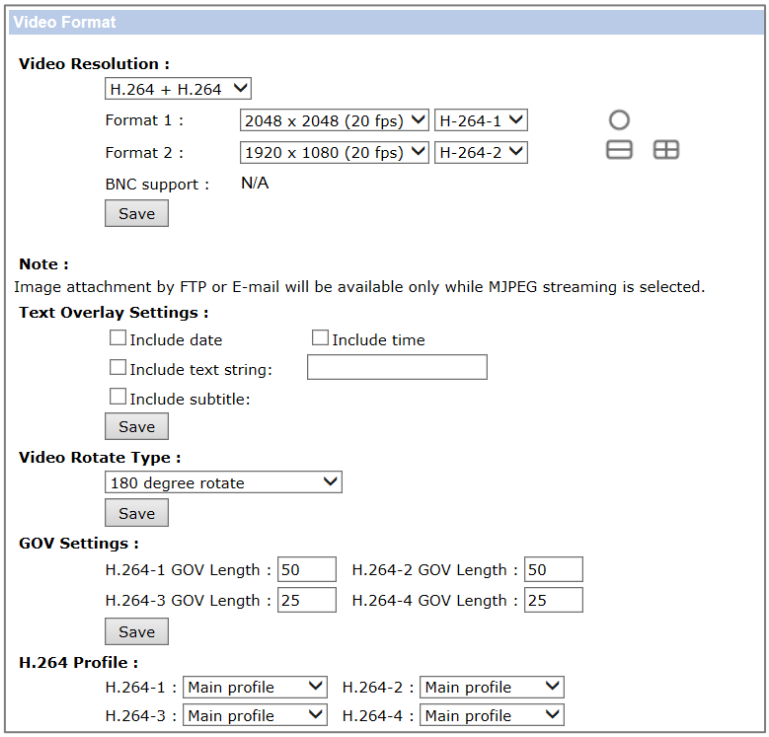


NOTE: For more details about the function buttons on the Home page, refer to the User Manual of the FD360IR-E, which can be downloaded at www.tkhsecurity/support-files.

5. Setup Video Resolution

Users can set up the video resolution on the Video Format page of the browser-based configuration interface.

Video Format can be found under this path: **Streaming> Video Format**.



NOTE: For more details about the video resolution, refer to the User Manual of the FD360IR-E, which can be downloaded at www.tkhsecurity/support-files.

6. Configuration Files Export/Import

To export/import configuration files, users can access the Maintenance page on the user-friendly browser-based configuration interface.

The Maintenance setting can be found under this path: **System> Maintenance**.

Users can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the camera.

Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Click the <Export> button, and the File Download window is displayed. Click <Save> and specify a desired location to save the configuration file to.

Upload

To upload a configuration file to the camera, click <Browse> to select the configuration file, and then click the <Upload> button to start uploading.

7. Tech Support Information

This chapter explains how to uninstall a previously-installed TKH Security Viewer on the PC and how to set up Internet security.

7.1 Delete the Existing TKH Security Viewer

For users who have previously installed TKH Security Viewer on the PC, remove the existing TKH Security Viewer from the PC before accessing the IP camera.

Deleting TKH Security Viewer

On the Windows <Start Menu>, click <Control Panel>, and then click <Programs and Features>. On the <Uninstall or change a program> page, select <TKH Security Viewer> and click <Uninstall>.

Deleting Temporary Internet Files

To improve browser performance, it is advised to delete all the files in <Temporary Internet Files>. The procedure is as follows.

Step 1: In the web browser, clicks the <Tools> menu, and then click <Internet Options>.

Step 2: In the <Browsing History> section, click <Delete>.

Step 3: Click <Temporary Internet files>, and then click <Delete> to start deleting the files.

7.2 Setup Internet Security

If ActiveX control installation is blocked, set the Internet security level to default or change the ActiveX controls and plug-ins settings.

Internet Security Level: Default

Step 1: Start Internet Explorer (IE).

Step 2: On the <Tools> menu, click <Internet Options>.

Step 3: Click the <Security> tab, and then click the logo of the <Internet> zone.

Step 4: Under *Security level for this zone*, click the <Default Level> button, and then click <OK> to confirm the setting. Close the browser window, and then start a new session to access the camera.

ActiveX Controls and Plug-ins Settings

Step 1: Repeat **Step 1 to Step 3** of the previous section above.

Step 2: Under *Security level for this zone*, click the <Custom Level> button to change the ActiveX controls and plug-ins settings. The Security Settings window is displayed.

Step 3: Under <ActiveX controls and plug-ins>, set **ALL** items (as listed below) to <Enable> or <Prompt>. Note that the items vary per IE version.

ActiveX controls and plug-ins settings:

1. Binary and script behaviors.
2. Download signed ActiveX controls.
3. Download unsigned ActiveX controls.
4. Allow previously unused ActiveX controls to run without prompt.
5. Allow Scriptlets.
6. Automatic prompting for ActiveX controls.
7. Initialize and script ActiveX controls not marked as safe for scripting.
8. Run ActiveX controls and plug-ins.
9. Only allow approved domains to use ActiveX without prompt.
10. Script ActiveX controls marked safe for scripting*.
11. Display video and animation on a webpage that does not use external media player.

Step 4: Click <OK> to accept the settings. Click <Yes> to confirm the changes.

Step 5: Click <OK> to close the Internet Options dialogue box.

Step 6: Close the browser window, and then start a new session to access the camera.