



# Manual

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Zoom Box IP-camera  
IPC22R4K



THE STRONGEST LINK.

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## Disclaimer

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We reserve the right to amend our products and their specifications at any time, provided it is in the interest of technical progress. The information in the current manual (online) or the included in the delivery applies.

## Target group

This manual is intended for the following groups of people:

- Project engineers
- Electricians and installers
- Operators
- Operating staff
- Maintenance staff

## How to use this manual

- Read this manual, especially the safety notes, carefully before use.
- Take note of all other applicable documents.
- Keep this manual for the entire length of the service life of the device.
- Make this manual accessible to operating and maintenance staff at all times.
- Pass this manual on to each subsequent owner or user of the device.
- Update this manual every time R. STAHL issues an amendment.

**Trademark**

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**Returning the device**

Only return or package the devices after consulting R. STAHL. Contact the responsible representative from R. STAHL.

R. STAHL's customer service is available to handle returns if repair or service is required.

Contact customer service via E-mail or telephone:

E-mail: [service.dehm@r-stahl.com](mailto:service.dehm@r-stahl.com)

Telephone: +49 221 768 06 - 3000

Requesting an RMA ticked via our website:

Go to [r-stahl.com](https://www.r-stahl.com).

Under "Support" > "RMA" > select "RMA-REQUEST".

Fill out the form and send it in.

You will automatically receive an E-mail with an RMA ticket.

Print out the RMA ticket.

Clearly copy the RMA number onto the outside of the package.

Send the device with the RMA ticket included in the package to R. STAHL HMI Systems GmbH.

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# 1 Description

IPC22R4K Zoom Box camera is capable of performing fast, reliable auto focus in 22x zoom ratio and can adapt to different scenes through its unique algorithm. As auto focus can be done by camera itself, no on-site focus adjustment is required.

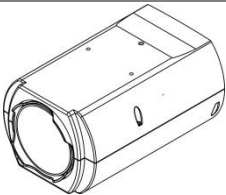
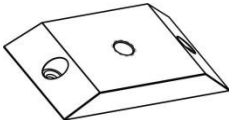
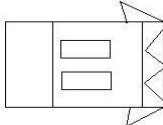
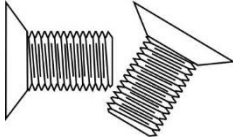
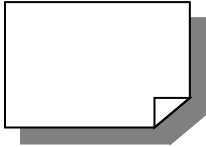
IPC22R4K utilizes the state of the art image processing technology, providing up to 4K @ 30fps under H.265 and H.264 in High Dynamic Range (HDR). Its HDR capability captures more image detail under challenging light conditions, such as entrance area, warehouse loading bay, and parking lot.

## 2 Features

- Multiple progressive scan CMOS sensor support up to 8MP resolution
- Multi exposure HDR
- Multi codec support (H.265 / H.264 / MJPEG)
- Low latency streaming
- Quad streams support
- True day / night function (ICR)
- BNC analog output for installation support
- RS-485 support
- 3D motion compensated noise reduction (MCTF)
- Smart event function - external input / Motion detection / Network failure detection / Tampering alarm / Periodical event / Manual trigger / Audio detection
- Text overlay and privacy masks
- MicroSD / SDHC / SDXC card support
- ONVIF profile S/G/Q/T support
- Smart low bitrate control



## 3 Package contents

Please check the package containing the following items listed below.

 IPC22R4K Zoom Box camera	
 Bracket adapter	 2-Pin power terminal block
 M3 mechanical screw (x2)	 Quick guide

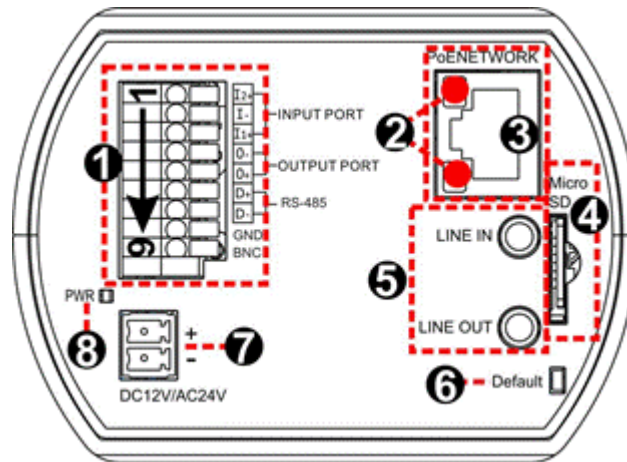
**NOTE:** To use an external power supply, please contact the camera manufacturer to confirm that the power supply uses the same power specifications as the camera. The power supply must comply with the LPS requirements.

## 4 Preliminary remark

	Prior to installation and operation, read carefully all instructions in this manual and heed all warnings.
	Unpack this equipment and handle it carefully. If the package appears to be damaged, notify the shipper immediately.
	Use the original packaging to transport the unit. Disconnect power supply before moving it. In case of returning the equipment, the original packaging must be used.
	For security reasons, do not install the unit in the proximity of water containers and never push objects or pour liquids into the unit. The unit must be installed into an adequate camera enclosure.
	Video and data cables should not share the same conduit with supply voltage cables. Whenever EMC is an issue, adequately shielded cables must be used.
	This equipment has been designed to require little or no maintenance. Suggested inspection interval is 6 months, but extremely harsh environments may require more frequent inspection and maintenance checks. On each inspection check cables, electrical connections and mounting hardware for integrity and tightness. Replace or tighten any damaged / loose part.
	It is not recommended to record with the microSD card for 24/7 continuously, as it may not be able to support long term continuous data read / write. Please contact the manufacturer of the microSD card for information regarding the reliability and the life expectancy.
	Before performing any operation, turn off the power. The installation of the unit can be performed only by qualified personnel in accordance with the regulations in force. Do not connect the unit to a supply circuit unless the installation is completed.
	Incorrect power supply voltage may damage the unit. Do not overload the terminal connection, as it may cause a fire or electrical shock hazard. Power supply connection to wrong connectors will result in damaging the device.
	An all-pole mains switch with an opening distance between the contacts at least 3 mm in each pole must be incorporated in the electrical installation between the equipment and the main supply. Isolating switches, circuit breakers or any equivalent device can be used as a disconnection switch. Such switch must be very quickly recognizable and readily accessible.
	Fasten all the cables inside the housing with cables ties or other fixing means to avoid the electrical contact with surrounding parts in case that terminal blocks screw off.
	Electrical connections (such as plugs and cords) must be protected from potential hazardous environmental factors (e.g. foot traffic, hitting objects).
	Ensure that the unit case is properly earthed, connecting all the earth ground studs. Earth cable should be about 10 mm longer than the other cables on the connector, in such way that it won't be accidentally disconnected if the cable is stretched or pulled.
	When leaving the unit unused for long periods, disconnect supply cables.

## 5 Connectors

The diagram below shows the various connectors of the camera. Definition for each connector is given as follows.



MY	Connector	Pin	Definition	Remarks	
1	Alarm I/O & RS-485*	1	Alarm In 2 +	Alarm connection	
		2	Alarm In –	#Do NOT connect external power supply to the alarm I/O connector of the IP-camera.	
		3	Alarm In 1 +		
		4	Alarm Out –		
		5	Alarm Out +		
		6	D +	RS-485 connection	
		7	D –		
		8	GND	Ground connection	
		9	BNC	For analog video output	
2	Network LEDs	-	For network connection and activity indication		
3	PoE network (RJ-45)	-	For network and PoE connections		
4	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.		
5	Audio I/O (line in/out)	-	Two-way audio transmission		
6	Default button	-	Press the button with a proper tool for at least 20 seconds to factory reset the camera.		
7	Power (DC12V / AC24V)	-	DC12V +	AC24V 1	Power connection
			DC12V –	AC24V 2	
8	Power LED	-	Power LED lights up when the camera is powered on.		

**NOTE:** It is not recommended to record with the microSD card for 24/7 continuously, as it may not be able to support long term continuous data read / write. Please contact the manufacturer of the microSD card for information regarding the reliability and the life expectancy.

## 6 Camera cabling

Please follow the instructions below to complete the cable connections.

*NOTE: This camera must be installed by qualified personnel and the installation should conform to all local codes*

### 6.1 Power connection

For power connection, please refer to section connectors. Alternatively, users can power the camera by PoE if a power sourcing equipment (PSE) switch is available. Refer to the section below for Ethernet cable connection.

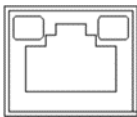
*NOTE: If PoE is used, make sure PSE is in use in the network.*

### 6.2 Ethernet cable connection

To have 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 to the network switch or PC.

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

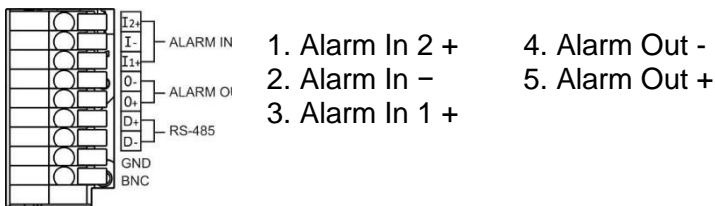
Check the status of the link indicator and the activity indicator LEDs. If the LEDs are unlit, please check the LAN connection.



Green link light indicates good network connection.  
Orange activity light flashes for network activity indication.

### 6.3 Alarm I/O connection

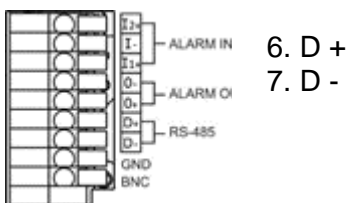
The camera supports one alarm input and one relay output for alarm application. Refer to alarm pin definition below to connect alarm devices to the IP camera.



*NOTE: Do NOT connect external power supply to the alarm I/O connector of the IP camera.*

### 6.4 RS-485 connection

The RS-485 connector is the interface for connecting with the pan & tilt positioning system.





## 7 System requirements

To perform the IP-camera via web browser, please ensure the PC is in good network connection, and meet system requirements as described below.

Items	System Requirement
Personal computer	<b>Minimum:</b> 1. Intel® Core™ i5-2430M @ 2.4 GHz 2. 4 GB RAM
	<b>Recommended:</b> 1. Intel® Core™ i7-3770 CPU@3.4GHz 2. 8 GB RAM
Operating system	Windows 7 or later operating system
Web browser	Microsoft Internet Explorer 11.0 (recommended) Chrome Firefox Safari
Network card	10Base-T (10 Mbps), 100Base-TX (100 Mbps) or 1000Base-T operation
Viewer	ActiveX control plug-in for Microsoft IE

*NOTE: The ITE is to be connected only to PoE networks without routing to the outside plant or equivalent description.*

## 8 Camera access

For initial access to the IP-camera, users can search the camera through the installer program: DeviceSearch.exe.

### 8.1 Accessing the camera by Device Search software

- Step 1:** Double click on the program Device Search.exe.
- Step 2:** After its window appears, click on the <Device Search> button on the top. All the finding IP devices will be listed in the page.
- Step 3:** Find the camera in the list by its IP address and click on it. The default IP address of the camera is: 192.168.1.250.
- Step 4:** The default IP address of the camera may not be in the same LAN as the IP address of the PC. If so, the IP address of the camera needs to be changed. Right click on the camera and click <Network Setup>. Meanwhile, record the MAC address of the camera, for future identification.
- Step 5:** The <Network Setup> page will come out. Select <DHCP> and click <Apply> down the page. The camera will be assigned with a new IP address.
- Step 6:** Click <OK> on the note of setting change. Wait for one minute to re-search the camera.
- Step 7:** Click on the <Device Search> button to re-search all the devices. Find the camera in the list by its MAC address. Then double click or right click and select <Browse> to access the camera directly via a web browser.

**Step 8:** A prompt window requesting for default username and password will appear. Enter the default username and password shown below to login to the camera.

Login ID	Password
admin	admin

*NOTE: ID and password are case sensitive.*

*NOTE: It is strongly advised that administrator's password be altered for the security concerns.*

## 8.2 Installing DCViewer software online

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

If the web browser doesn't allow DCViewer installation, please check the internet security settings or ActiveX controls and plug-ins settings (refer to section setup internet security) to continue the process.

The information bar (just below the URL bar) may come out and ask for permission to install the ActiveX Control for displaying video in browser.

Right click on the information bar and select <Install ActiveX Control...> to allow the installation.

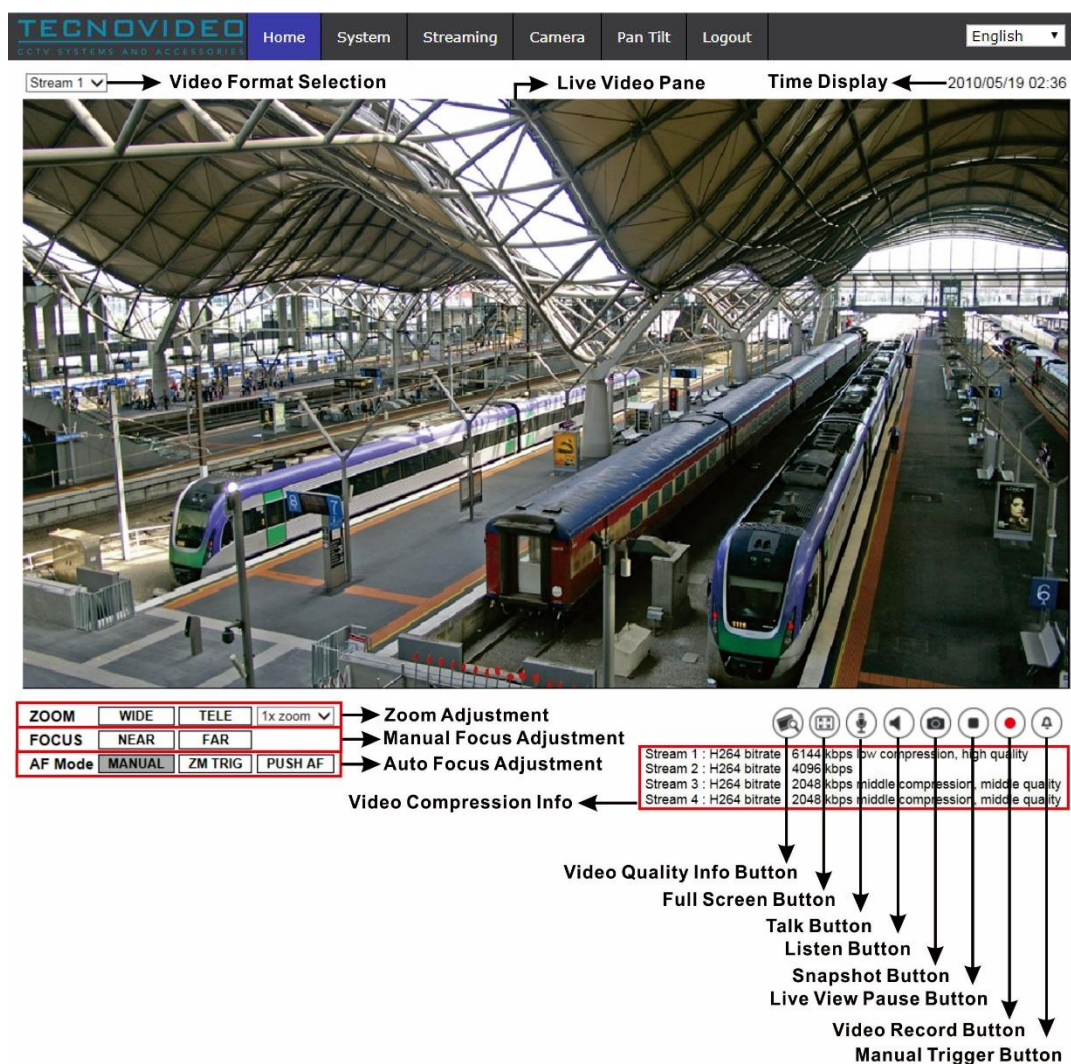
The download procedure of DCViewer software is specified as follows.

**Step 1:** In the DCViewer installation window, click on <Next> to start installation.

**Step 2:** The status bar will show the installation progress. After the installation is completed, click on <Finish> to exit the installation process.

**Step 3:** Click on <Finish> to close the DCViewer installation page.

Once the viewer is successfully installed, the home page of the IP-camera will be shown as the figure below.



## 8.3 Video resolution setup

Users can setup video resolution on video configuration page of the user-friendly browser-based configuration interface.

Video format can be found under: **Streaming> Video Configuration**

The screenshot displays the 'Video Configuration' page of the TECNOVIDEO interface. The page is divided into a sidebar on the left and a main configuration area. The sidebar contains links for 'Video Configuration', 'Video Rotation', 'Video Text Overlay', 'Video ROI', 'Video ROI Encoding', 'Video OCX Protocol', 'Video Mask', and 'Audio'. The main area is titled 'Video Configuration' and shows settings for four video streams. Stream 1 is active and configured with H.264 encoding, 3840 x 2160 resolution, Main profile, 30 FPS, 12288 Kbps bitrate, and VBR rate control. Stream 2 is also active and configured with H.264 encoding, 720 x 480 resolution, Main profile, 30 FPS, 4096 Kbps bitrate, and VBR rate control. Streams 3 and 4 are disabled (Encoding: No). The interface includes a top navigation bar with links for Home, System, Streaming, Camera, Pan Tilt, Logout, and a language dropdown set to English. At the bottom right, there are 'Save' and 'Reset' buttons.

The default value of video resolution is as below.

### 22x zoom models

8M	H.265/H.264- 3840 x 2160 (30/25 fps) + H.265/H.264- 720 x 480 (30/25 fps)
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## 8.4 Configuration file import / export

To import / export 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. It is especially convenient to make multiple cameras having the same configuration.

### Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Click on the <Export> button, and the popup file download window will come out. Click on <Save> and specify a desired location for saving the configuration file.

### Upload

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

## 9 Tech support information

This chapter will introduce how to delete previously-installed DCViewer in the PC and how to setup the internet security.

### 9.1 Delete the existing DCViewer

For users who have installed DCViewer in the PC previously, please remove the existing DCViewer from the PC before accessing to the camera.

#### Deleting the DCViewer

In the Windows <Start Menu>, activate <Control Panel>, and then double click on <Add or Remove Programs>. In the <Currently installed programs> list, select <DCViewer> and click on the button <Remove> to uninstall the existing DCViewer.

#### Deleting Temporary Internet Files

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

- Step 1:** Click on the <Tools> tab on the menu bar and select <Internet Options>.
- Step 2:** Click on the <Delete> button under <Browsing History> section.
- Step 3:** In the appeared window, tick the box beside the <Temporary Internet files> and click on <Delete> to start deleting the files.

## 10 Internet security setup

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

### **Internet security level: default**

- Step 1:** Start Internet Explorer (IE).
- Step 2:** Click on the <Tools> tab on the menu bar and select <Internet Options>.
- Step 3:** Click on the <Security> tab and select <Internet> zone.
- Step 4:** Down the page, click on the <Default Level> button and click on <OK> to confirm the setting. Close the browser window and restart a new one later to access the camera.

### **ActiveX controls and plug-ins settings**

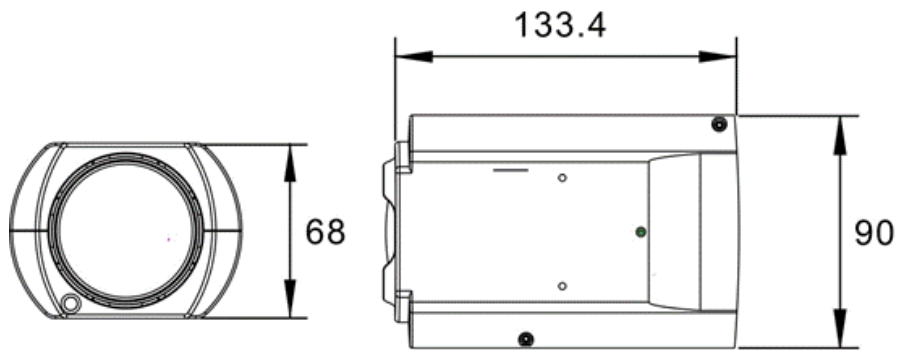
- Step 1:** Repeat step 1 to step 3 of the previous section above.
- Step 2:** Down the page, click on the <Custom Level> button to change ActiveX controls and plug-ins settings. The security settings window will pop up.
- Step 3:** Under <ActiveX controls and plug-ins>, set ALL items (as listed below) to <Enable> or <Prompt>. Please note that the items vary by 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 on <OK> to accept the settings. A prompt window will appear for confirming the setting changes, click <Yes(Y)> to close the security setting window.
- Step 5:** Click on <OK> to close the internet options screen.
- Step 6:** Close the browser window and restart a new one later to access the camera.

## 11 Dimensions



Dimensions in millimetres – Tolerances according QMS – Design and product specifications subject to change without notice

Preserve this manual as a reference for future needs.

	<p>Used electrical, electronic and stainless steel products should not be mixed with general waste. For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/95/EC and 2002/96/EC.</p> <p>By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.</p> <p>For more information about collection and recycling of old products, please contact your local municipality or your waste disposal service.</p> <p>Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.</p>
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The manufacturer declines all liability for any consequence resulting from improper installation practices, tampering or improper uses of the product.

The descriptions and illustrations contained in this manual are not binding. The manufacturer reserves the right to make any alterations deemed appropriate for the technical manufacturing and commercial improvement of the product, while leaving the essential product features unchanged, at any time and without undertaking to update the present publication.

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