



Manual

Zoom Box IP-camera
TV2 (IPC40R2)



THE STRONGEST LINK.

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Disclaimer

Publisher and copyright holder:

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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

Telephone: +49 221 768 06 - 3000

Requesting an RMA ticketed via our website:

Go to 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

The IPC40R2 Zoom Box camera can perform fast, reliable auto focus in 40x 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.

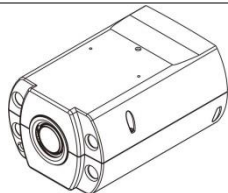
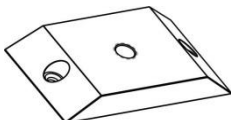
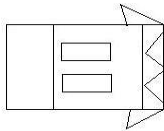
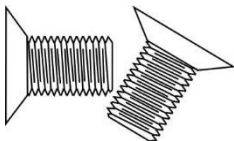
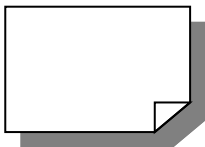
The IPC40R2 utilizes the state-of-the-art image processing technology, providing up to 5 mega pixel, high quality HDR video. Its HDR capability captures more image detail under challenging light conditions. Delivering a more efficient and cost-effective AI solution that significantly enhances the overall performance of the product line.

2 Features



- Multiple progressive scan CMOS sensor support up to 5 MP resolution
- Multi codec support (H.265 / H.264 / MJPEG)
- Low latency streaming
- Quad streams support
- True day / night function (ICR)
- 3D motion compensated noise reduction (MCTF)
- Smart low bitrate control
- Micro SD / SDHC / SDXC card support
- ONVIF profile S/G/T/M support
- Deep neural network accelerated engine
- Detection and recognition – human / vehicle
- Behavior analytics – human / vehicle / object
- Smart event function
- External input / motion detection
- Network failure detection / tampering alarm
- Periodical event / manual trigger / audio detection
- Text overlay and privacy masks

3 Package contents

Please check the package containing the following items listed below.

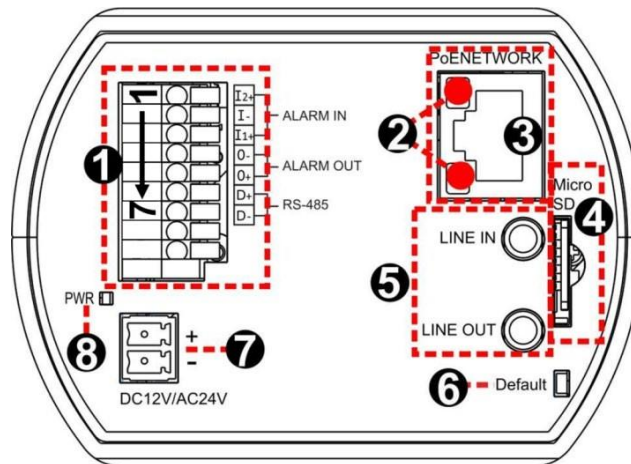
 IPC40R2 Zoom Box camera	
 Bracket adapter	 2-Pin power terminal block
 M3 screw (x2)	 Quick guide

4 Preliminary remarks

	<p>Prior to installation and operation, read carefully all instructions in this manual and heed all warnings.</p>
	<p>Unpack this equipment and handle it carefully. If the package appears to be damaged, notify the shipper immediately.</p>
	<p>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.</p>
	<p>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 housing.</p>
	<p>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.</p>
	<p>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.</p>
	<p>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.</p>
	<p>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.</p>
	<p>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.</p>
	<p>An all-pole mains switch with an opening distance between the contacts at least 3mm 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.</p>
	<p>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.</p>
	<p>Electrical connections (such as plugs and cords) must be protected from potential hazardous environmental factors (e.g. foot traffic, hitting objects).</p>
	<p>Ensure that the unit case is properly earthed, connecting all the earth ground studs. Earth cable should be about 10mm 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.</p>
	<p>When leaving the unit unused for long periods, disconnect supply cables.</p>

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 In
		2	Alarm In -	
		3	Alarm In 1 +	
		4	Alarm Out -	Alarm relay output
		5	Alarm Out +	
		6	D +	RS-485 connection
		7	D -	
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 supply (12 VDC / 24 VAC)	+	12 VDC + 24 VAC 1	Power connection
		-	12 VDC - 24 VAC 2	
8	Power LED	-	Power LED lights up when the camera is powered on.	

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



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:

The 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

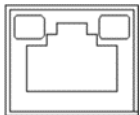
To have best transmission quality, cable length shall not exceed 90 meters. Connect one end of the Ethernet cable to the RJ-45 connector of the camera and plug the other end of the cable to the network switch or PC.



Note:

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

Check the status of both power and network activity indicator LEDs. If either LED is unlit, please check the LAN connection.

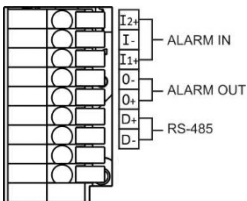


Green power LED lights up when the camera is powered up.

Orange network LED (1) flashes when data is being transmitted over network, (2) lights up for good network connection.

6.3 Alarm I/O connection

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



1. Alarm In 2 +
2. Alarm In -
3. Alarm In 1 +

4. Alarm Out -
5. Alarm Out +

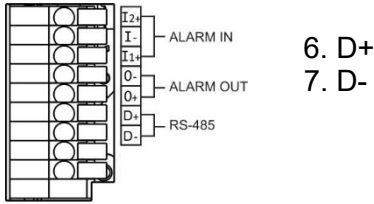


Note:

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 Camera installation

The IPC40R2 Zoom Box camera can be mounted on a wall or ceiling.

8 Camera access

For initial access to the IP camera, users can use a web browser (recommended: Chrome) and go to the default IP address of the camera: 192.168.1.250.

IP address of the PC in use must be in the same LAN as the IP address of the camera.

Default username	Default password
admin	admin

ID and password are case sensitive. It is strongly advised that administrator's password be changed for security reasons.

Once logged in, the below homepage will be shown:

The screenshot shows the TecnoVideo web interface. At the top, there is a navigation menu with the following items: System, Streaming, Storage, Analytics, Event, Camera, and Pan Tilt. The 'Camera' item is highlighted with a red box and labeled 'Top Menu'. Below the menu is a large video feed area labeled 'Live video' showing a building. Below the video feed is a control panel with various buttons and sliders. Red arrows point to specific features: 'Zoom Focus Adjustment' (Zoom slider), 'Video PTZ Settings Button', 'Streams Info Button', 'Listen Button', 'Snapshot Button', 'Stop Start Live Video Button', 'Recording Button', 'Manual Trigger Button', 'Full Screen Button', and 'VA-AI Settings Button'. The control panel also includes a 'Zoom' button, 'Focus' button, 'Continuous' dropdown, 'Wide' and 'Tele' buttons, a zoom level indicator (x1.0), and a stream selection dropdown (H.264 2592x1944 (Stream 1)).

9 Video resolution setup

Users can setup video resolution on video format 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 in the Technovideo interface. The 'Streaming' tab is active, and the 'Video Configuration' section is expanded. The interface shows settings for two streams:

- Stream 1:**
 - Enable Stream Encoding:
 - Encode Type: H.264
 - Resolution: 2592 x 1944
 - Rate Control: VBR
 - Quality: Enhanced
 - Profile: Main Profile
 - Framerate: 25
 - Bitrate: 8192
 - GOV Length: 50
- Stream 2:**
 - Enable Stream Encoding:
 - Encode Type: H.264
 - Resolution: 1920 x 1080
 - Rate Control: VBR
 - Quality: Enhanced
 - Profile: Main Profile
 - Framerate: 25
 - Bitrate: 4096
 - GOV Length: 50

Each stream configuration includes 'Default' and 'Save' buttons.

The default video resolution is:

Stream 1: H.264 – 2592 x 1944 @ 25fps

Stream 2: H.264 – 1920 x 1080 @ 25fps

10 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 > Configuration Files.**

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.

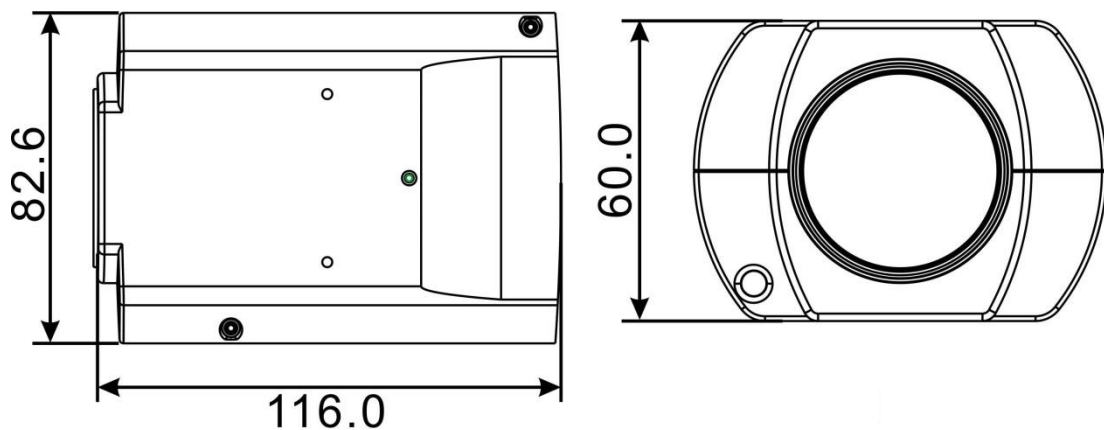
Export configuration files

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 configuration files


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

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. 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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