# Pond camera
# AP-W20316
# installation Guide

**E-mail:** service@blick-store.de
**Tel .:** +49 2433-9642580
**Fax:** +49 2433-9642589
Technical support Monday to Friday from 9:00 a.m. to 4:00 p.m.

If more information is needed, please check first onwww.blick-store.de/
Additional documents are available in the instructions section for the respective product.

# 1 introduction

## 1.1 Accessories

Please check the supplied accessories for completeness before starting the assembly. If components are missing or damaged, please contact us immediately.

| Component name | number |
|---|---|
| Stainless steel IP network camera | 1 |
| Camera mount | 1 |
| installation Guide | 1 |
| Waterproof connection cable | 15 meter |

## 1.2 Additional information

Further information about the setting options of the camera, IE browser menus or the "Device Manager" search tool can be found on our Blick Store homepage in the "Instructions" area of the respective product.
www.blick-store.de/

# 2 connection

## 2.1 Device details

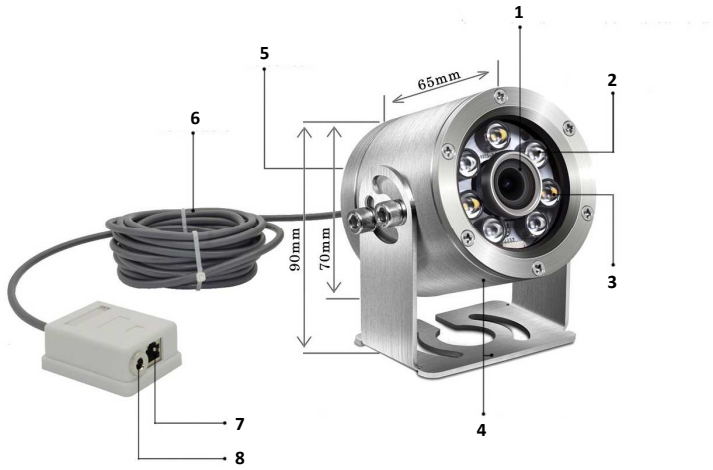



Figure 2-1 Connectivity

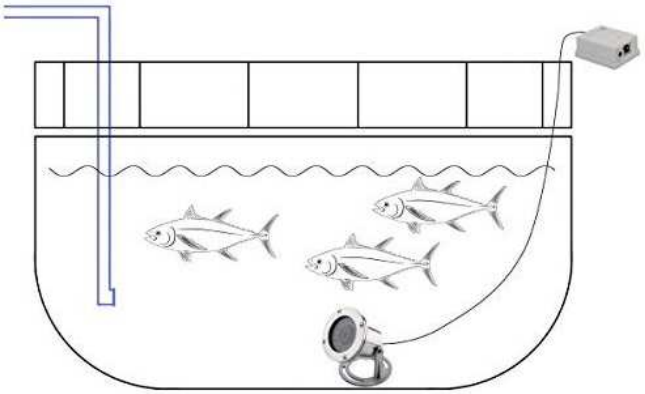
| | Port name | description |
|---|---|---|
| 1 | | 5 megapixel camera unit |
| 2 | | LED for white light |
| 3 | | LED infrared light |
| 4th | | 316L stainless steel |
| 5 | | Light sensor |
| 6th | | 15 meter connection cable |
| 7th | RJ45 LAN | Ethernet network connection with PoE function (power supply) |
| | Power supply | DC 12V socket for external power supply |

### Camera factory setting:

IP address: Standard preset 192.168.1.88
TCP port: 5000
http port: 80
ONVIF port: 2000
RTSP URL: rtsp: // IP address: 554 / av0_0

User: admin
Password: admin123456

**Assembly note:** When installing the camera, please ensure that the junction box is located outside of the water surface and is installed in an environment protected from rainwater, e.g. by using a junction box.



## 3 Connection to the network

Figure 2-2 assembly principle

### 3.1 Configuration steps

**In order to be able to access the camera using the Microsoft Internet Explorer (IE) web browser or the Mkvsion app for Android / Apple mobile devices, the camera must first be given an IP address that matches the local network. If the router does not have a DHCP function, the correct address must be set using the tool.**

1. Connect the camera RJ45 Ethernet socket to the router or switch using a network cable.
2. If the router / switch used does not have a PoE function to supply power to the camera, connect the 12V power supply and wait a minute until the camera has started.
3. Install the "Device Manager" tool on your Windows computer and then start the program. The Windows software "Device Manager" can also be found on the Blick Store website in the instructions section for the corresponding camera model.
**Note:** When using an Apple MAC computer, please use the SADP tool to change the IP address.
4th Find a free IP address in your network. This can be done, for example, by the Windows ping command or by displaying the router website with the assigned IP addresses.

5. Perform the steps shown in Figure 3-1 to adjust the IP address change and network settings.

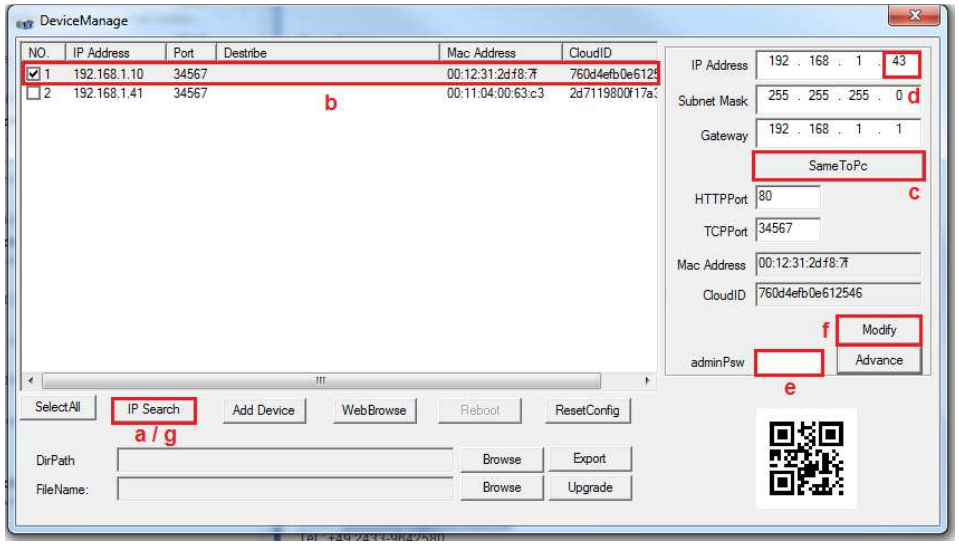



Figure 3-1 Display of search results

a. After starting the Device Manager, press the "IP Search" button.
b. Check the search result for the camera whose IP address setting is to be changed.
c. Press the SameToPC button.
d. Change the last three digits of the IP address to those of the previously determined unused (free) IP number.
e. The default password is “admin123456”. If the password for the admin account has already been changed, enter this in the "adminPsW" field.
f. To apply the IP address settings, please press the "Modify" button.
G. To check the address change, carry out a new search after a few seconds using the "IP Search" button.

## 4th Camera connection with web browser

### 4.1 Registration and web start interface

**Note:**Only the Microsoft Internet Explorer version IE10 ~ IE11 is suitable for setting all camera parameters and displaying the camera image, as the activeX plug-in must be supported. If another browser is used, such as Google Chrome or Mozilla Firefox, the live video image is not displayed and no camera settings can be changed.

If the Microsoft Internet Explorer browser is your standard browser, then click on the "WebBrowse" button to start Internet Explorer for the selected camera. If not then enter the corresponding camera IP address manually in the IE browser input field. Example: http://192.168.1.88
**Note**: If you are using Windows 10, you will find IE11 in the “Start” menu and then in the “Windows Accessories” folder.

When the start page is called up with the IE browser for the first time, the request below to install "WebMS.exe" is displayed. If this is not the case, click the link "Download the ActiveX Plug-In". If another web browser is used, this is not necessary as this plug-in is not supported for the live image display.
umet9r0jb7iu



Figure 41 Web browser start page

Press the "Execute" button. After the security query, a warning is displayed. Click the Actions button.

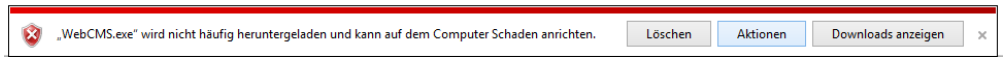



Figure 4-2 Warning Notice

Activate the setting “Execute anyway” in the SmartSreen filter window.


Figure 4-3 SmartSreen Filters

The start screen of the software installation routine appears. To start the installation, press the "Install" button. After the AciveX software has been installed, exit the display of the installation routine with the “Finish” button.

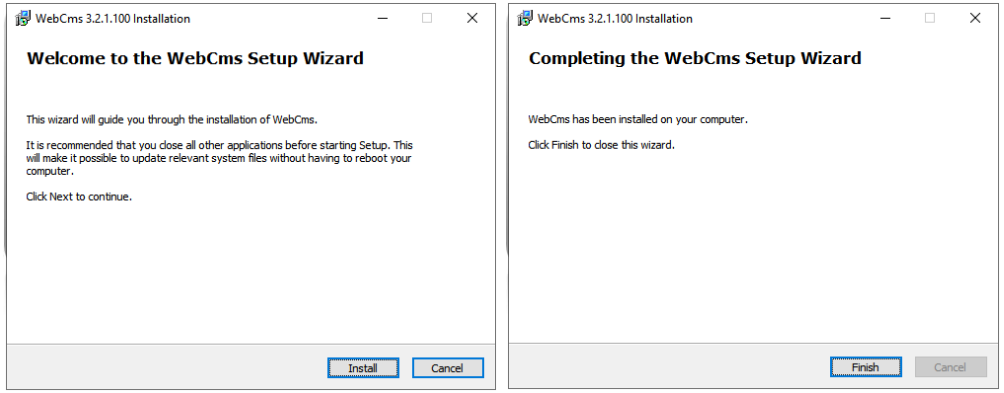
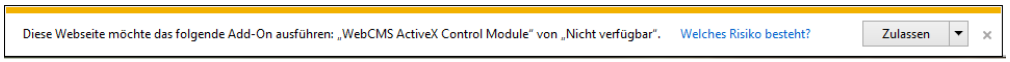



Figure 4-4 Installation routine

Restart the microsoft IE browser and enter the IP address of the camera. Example: http://192.168.1.88
Depending on the IE browser security settings, a warning message appears. Please press the "Allow" button.



Enter the standard user “admin”. The factory-set password is “admin123456”. Please change the password after completing the installation in the menu: Config> System> User Manage

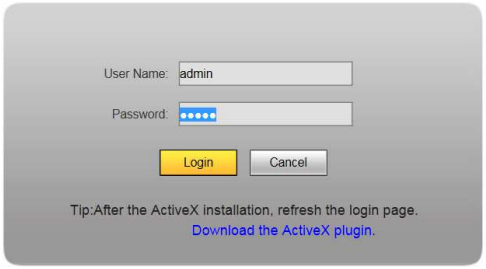



Figure 4-5 User login

The web browser main page opens with the display of the camera live image and access to the main functions and setting options.


Figure 4-6 main menu

## Functions live image view


**Liveview** - Menu for the live image view of the camera with operating options such as selection of the video stream (1-3) or local recording of the live image.

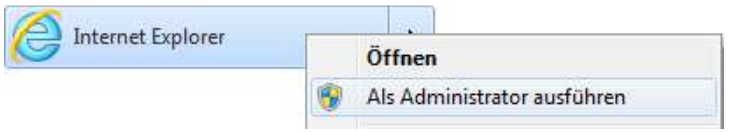
**Replay** - The playback function is only supported for video clips stored locally on the PC, as the camera does not have an SD card or hard disk for recording.
**Config** - Web menus for parameterizing the camera functions
**alarm** - Text display of alarms that have occurred, e.g. through motion detection.
**Log out** - Log off the current operator.


Selection of the displayed video stream:
Main Stream - Displays the first high definition (HD) video stream
Sub Stream - Displays the second low definition (SD) video stream
Three Stream - Displays the third low definition (SD) video stream
For each video stream, the settings can be made independently in the menu: Config> Video Settings> Video Coding.


1.. Recording of a single JPEG image in the set local directory of the local computer (PC).
2. Starts / ends the recording of the displayed live image in the set local directory of the local computer (PC).

The directory for the local recordings can be set in the menu: Config> Local Config> Local Config.

**Note:** The local recording function of the live image on the PC can only be started if the IE browser is executed (started) as administrator.




3 + 4 The audio functions are not supported by the camera!

1. Full screen display - the mode is ended with the "Esc" key or by double-clicking the right mouse button.
2. Switching the displayed live image aspect ratio between 4: 3 and 16: 9
3. Use the mouse to select an image region for image enhancement


1. Show / hide the controls for pan / tilt cameras.
2. Show / hide the controls for the picture setting

**Control of the two light sources**

The two available light sources can be controlled using the arrow keys. There is an infrared light source (IRLED) whose use requires the camera to switch to black / white image mode. The white light can also be used in color operation of the camera.

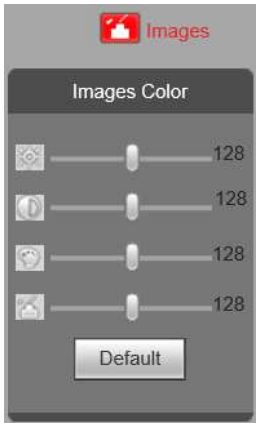
PTZ controls:


The two arrow keys UP / DOWN serve to switch the white light or the IR light on / off and to control the light intensity in several stages. The LEFT arrow key switches the camera to infrared (IR) mode and between the three operating modes: 1. IR-LED manual / 2. IR-LED time-controlled / 3. IR-LED automatic *. The RIGHT arrow key switches the camera to white light mode and between the three operating modes: 1. White light manual / 2. White light time-controlled / 3. White light automatic *

All other buttons have no control function!

* In the automatic operating mode, the built-in light sensor is used to switch the front lighting on / off.

Picture settings:




Adjustment of image brightness

Adjustment of picture contrast

Adjustment hue

Setting color saturation

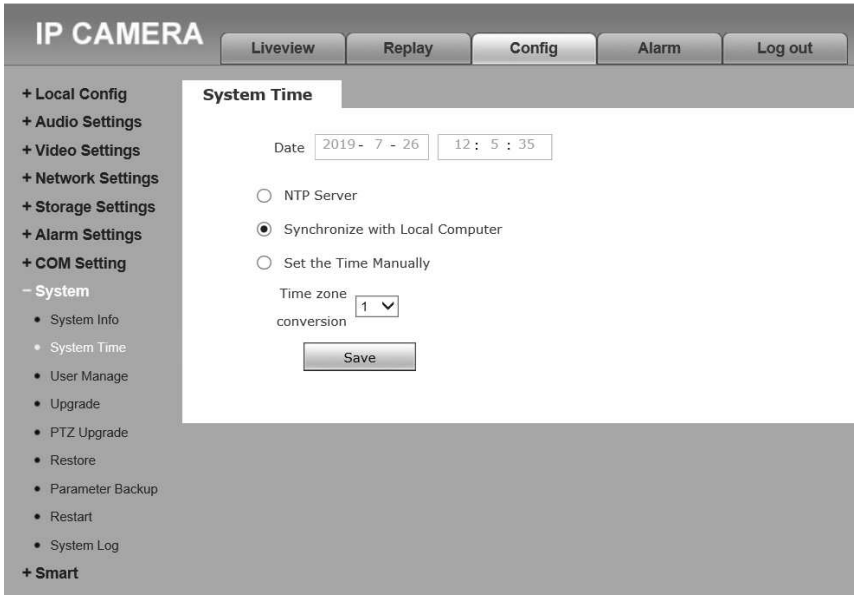
Reset values to factory settings

## 5 Quick guide to camera settings

The brief instructions only cover a few of the main setting options for the camera functions.

**Setting date time**

To set the correct time / date, follow the menu structure: Config> System> System-Time. The simplest transfer of the time / date setting is by setting the point next to the setting "Synchronize with local computer" and pressing the "Save" button. The settings from the computer are sent to the camera. The camera will restart to apply the time / date change.



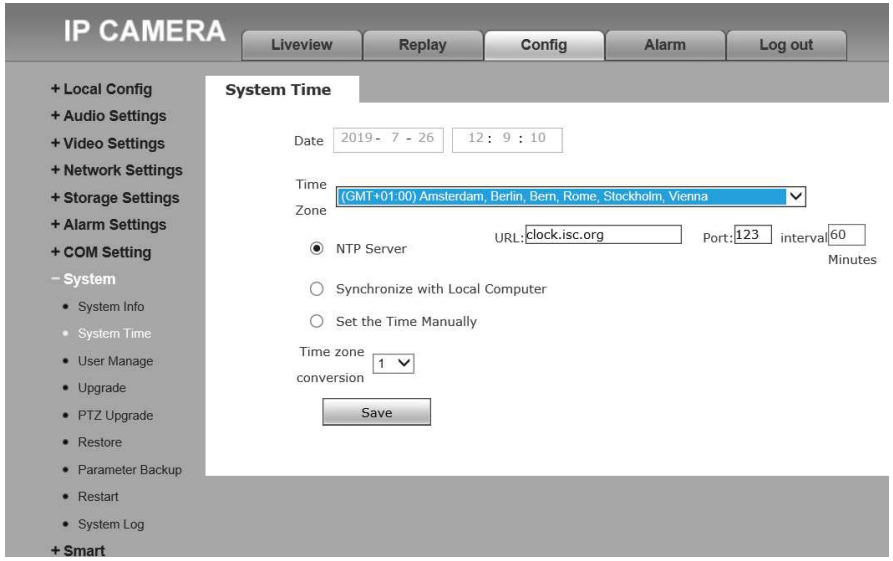

**Time / date setting by an NTP server**

Internet access via the router must be available for this. Menu structure: Config> System> System-Time

Put the point next to the setting "NTP Server"

Make the setting for the correct time zone (GMT + 1). A valid NTP server must be set for time synchronization so that the correct time is always displayed. German NTP servers on the Internet are e.g. ntp0.freenet.de / ntp1.freenet.de / ntp1.t-online.de / ntp.web.de.

If the selected NTP server uses a different port than the standard port 123, adjust this accordingly. The frequency of the synchronization can be set using the interval time setting. The camera will restart to apply the time / date change.

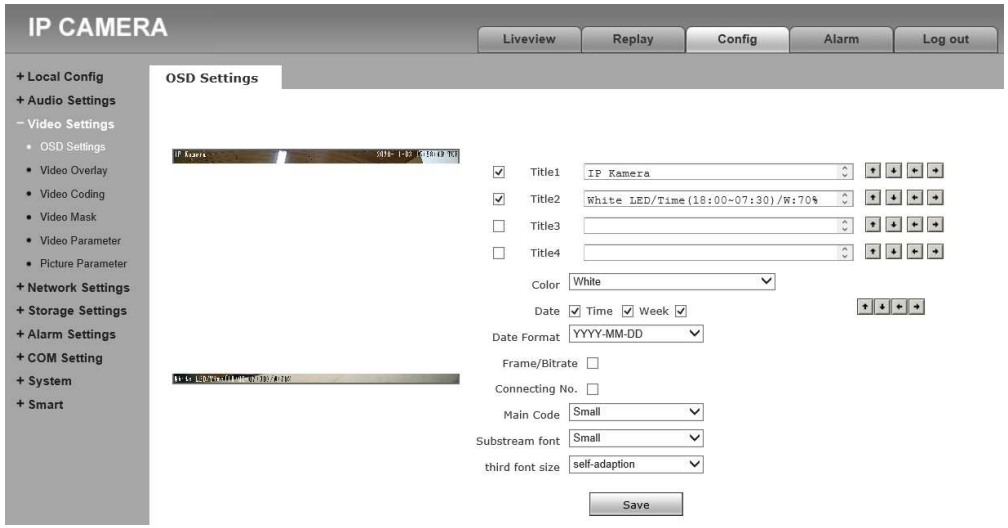



**Display of camera name and time / date**

Follow the menu structure: Config> Video Settings> OSD Settings to display the camera name and the time / date.

1. By setting / removing the tick, the display of the camera name is activated / deactivated. Enter the desired camera name in the line. The position of the overlay in the picture can be changed using the four arrow keys. Up to three texts can be entered. Line two (Title2) is defined for the display of the selected light control operating mode.
2. Selection of the basic color black / white for the text overlays.
3. The date / time and day of the week can be activated / deactivated by setting / removing the corresponding check mark. The position of the overlay in the picture can be changed using the four arrow keys
4. Select the format you want for the date display from the list.
5. The font size of the overlay can be adjusted independently for each of the three video streams in three selectable sizes.

Save the changes made with the "Save" button.

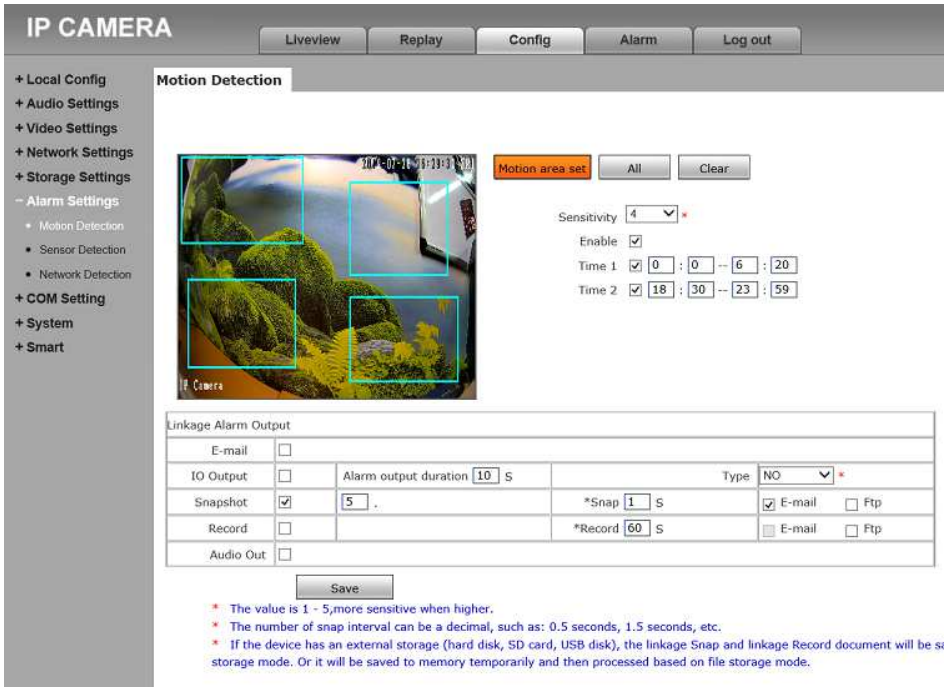



**Motion detection settings**

To call up the menu for motion detection, follow the menu structure: Config> Alarm Settings> Motion Detection.

1. With standard, the entire image content is used for motion detection. If only a part of the area is to be used, press the “Motion area set” button followed by the “Clear” button. Now up to four fields can be set for motion detection using the mouse.
2. The detection sensitivity (Sensitivity) can be set in 5 levels (1 = lowest - 5 = highest).
3. By setting / removing the check mark next to the "Enable" setting, motion detection is activated / deactivated.
4. By ticking the box next to the Time 1 and Time 2 settings, two operating periods can be set for motion detection. If no timer is activated, the motion detection works continuously for 24 hours.
5. By ticking the box next to a setting in the area of the alarm reaction to motion detection, this is activated.

Please note that the following functions are not supported by the camera: Contact output I / O output, local recording record, play audio - audio out.
The use of the email and FTP functions requires further settings in the corresponding configuration menus.




**Camera video stream**

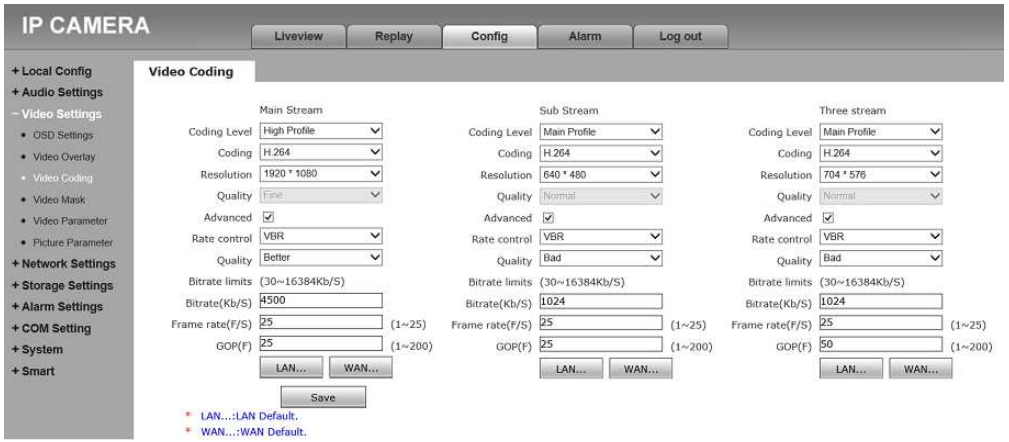
The settings of the camera video stream determine the displayed image quality. The camera has a triple streaming function. The main stream (HD) for a high-resolution image display and a two low-resolution SD video stream.
Menu structure: Config> Video Settings> Video Coding.
With H.264 / H265 compression, only the changes between two images are transferred. The bandwidth required for the transmission essentially depends on the size of the changes between the images, the set image resolution, the set frame rate and the image details. The H.265 compression is approx. 10% more effective than H.264 and requires a slightly smaller bandwidth. However, it must be ensured that the receiving side (NVR, mobile app ...) also supports the H.265 standard.

**Coding level:** When using the H264 image compression, it can be set to three levels: Baseline, Main Profile and High Profile.

## 6th | Connection to the MKvsion

**Coding**: can be set between H264 / H265 and MJPEG.
**Resolution:**There are several resolutions available. Make your selection in the drop-down list.

**Quality:** If the "Advanced" setting is deactivated, the image quality can be set here in three levels.
**Advanced:** By setting / removing the checkmark, further setting options for limiting the data rate (bandwidth) and frame rate are activated / deactivated.
**Control over bit rate:** Select between CBR and VBR modes.
**Note:** The CBR mode is a fixed bit rate setting (bandwidth limit) that is always transmitted.
The VBR mode is a dynamic bit rate setting (bandwidth limitation) that only transmits the reference / maximum value if this is necessary.
**Quality:**When selecting the VBR mode, the image quality to be transmitted can be set here in 6 quality levels. (Worst = worst / best = best).
**Bit rate fluctuate:** When selecting the CBR mode, the deviation in percent from the value of the bit rate setting (bit rate kb / s) can be selected here.
**Bit rate (kb / S):** is the entry of a value for the bit rate to be transmitted (required bandwidth).
**Note:**The smaller the value is set, the greater the compression. This will reduce the image quality to ensure the value.
**Frame rate (F / S):** Depending on the set image resolution and camera model, a frame rate between 1-15fps or 1-25fps is available.
**GOP (F)**: Here you set the value for the transmission of a P-frame (full image) between the I-frames (differential images).
The value can be set in the range 1 to 200.
**Note**: The higher the value is set, the lower the bit rate required. But it also reduces the image quality. The recommended value is 2.

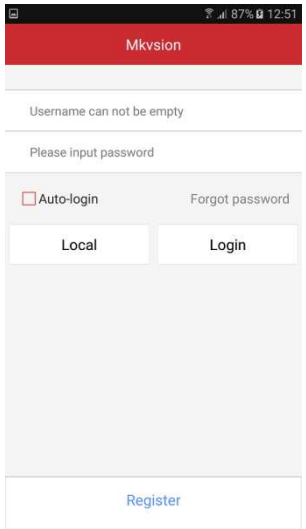


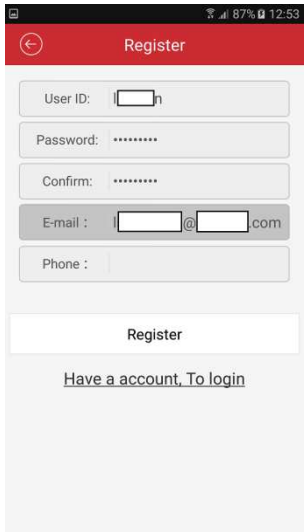
## 6.1 Configuration steps

Mkvsion

Depending on your operating system (Google Android / Apple iOS), visit the corresponding APP store and install the Mkvsion APP on your mobile phone.

1. The prerequisite is that the camera has an IP address suitable for the local network (see chapter 3.1) and has access to the Internet via the router in order to use the P2P function.
2. Connect your mobile phone to the WLAN and start the Mkvsion APP.
3. If you do not have a Mkvsion user account, press the "Register" button, otherwise enter your login data and follow point 5. Figure-1.
4. Enter a user name (at least four characters) and a password (at least 8 characters - consisting of letters and numbers). Repeat the entry of the password. Please enter a valid email address in case the password has been forgotten. To accept the entries, press the "Register" button Figure-2.



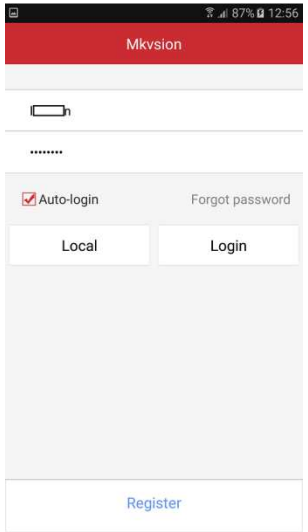
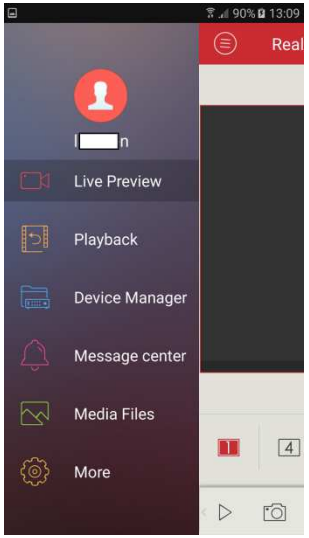




Illustration 1 Figure-2 Figure-3

5. Enter the previously defined login data in the two fields. Check the "Auto login" checkbox so that the login takes place automatically the next time the Mkvsion app is started. Press the "Login" button. Figure-3

6. Click the symbol in the top right corner in the start menu "Real time monitoring" to get to the main selection. Select the "Device Manager" setting there. Figure-4

7. Click the symbol in the top right corner to add a new camera to the app. Enter a name for the camera in the first line. Scan the QR code on the camera nameplate by clicking the QR symbol or enter the number manually using the keyboard. You can also find this information in the camera's web interface under the menu: Config> Network Settings> Mobile. User is admin and the default password is admin123456. If the password has already been changed, please enter it. Please set the number of video streams to 1. The video stream image resolution can be set between Main = HD high resolution (needs high bandwidth) or Sub = SD lower resolution (needs less bandwidth). Accept the entries with the "Add Device" button. Figure-6





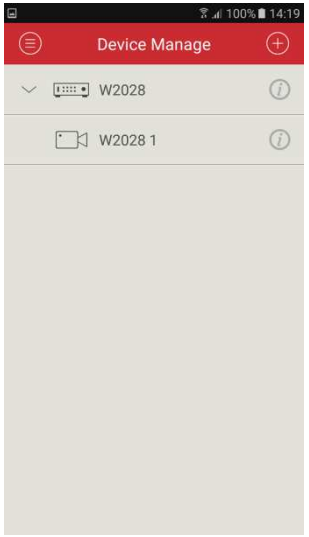



Figure-4 Figure-6 Figure-7

8. Press that Icon next to the displayed recorder to show the camera. Click on the displayed camera symbol to start the live image display. Figure-7.



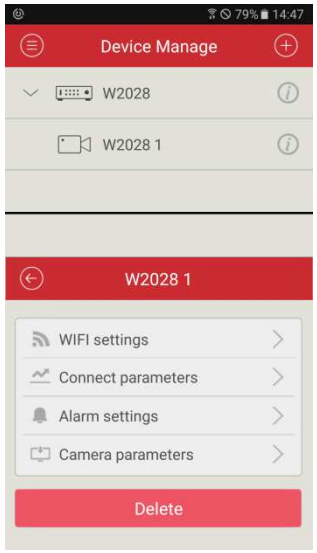



Figure-8 Figure-9 Figure-10

**Note**: If there is no connection to the live image transmission, check the following points:
a. Does the camera have a suitable IP address for the local network (see chapter 3)
b. Is the camera connected to the internet?
c. Are the necessary data such as camera serial number and camera login data entered correctly?

## Overview of the main operating symbols

Instructions are for reference only, as symbols and functions may change depending on the software version.

Live video control symbols Figure -8 + 9

Interruption of the camera image playback (pause) continue the picture playback

Single image Recording of the received video image on the Mobile device.

Record a video clip of the received video image

the mobile device.

1 4 1/16 9 16 Selection for multi-image display

/ - Clear High Switching between high-definition HD video stream (High) and low definition SD video stream (Clear).

Ends the image playback in the case of multiple image display of all displayed camera images

Calling up the menu with additional app functions and Configuration settings Figure-10

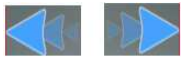
## Control of the two light sources using PTZ control elements

The two available light sources can be controlled using the PTZ pan / tilt control. There is an infrared light source (IR-LED) whose use requires the camera to be switched to black / white image mode. The white light can also be used in color operation of the camera.

With the Joystick symbol, further operating symbols for the PTZ control are displayed.

With the symbol the pan / tilt control is activated. The corresponding operating functions are carried out by swiping left / right and up / down on the edge of the live image.

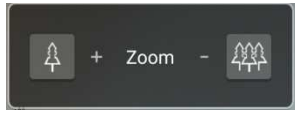
The control directions UP / DOWN serve to switch the white light or the IR light on / off and to control the light intensity in several stages.



The LEFT control direction switches the camera to infrared (IR) or neutral * mode. The control direction RIGHT switches the camera to white light or neutral * mode.

* If the camera is in neutral mode, pressing the UP / DOWN buttons has no effect

The lens zoom control is activated with the symbol.




The camera viewing angle (zoom setting) on the W2028 camera can be changed with the zoom +/- buttons. The image is automatically focused by the camera.