



PARKLIO™ ANPR

USER MANUAL



Dear Customers,

Thank you for the confidence you have shown us by purchasing Parklio™ ANPR. We hope that all your expectations of this product will be fulfilled. Parklio™ ANPR is manufactured using the latest technologies and has undergone rigorous quality control procedures. The User Manual will help you use your product quickly and safely. Information contained in this manual is subject to change without notice.

Trademarks

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Other brand and product names are registered trademarks or trademarks of their respective holders.

Statement of Conditions

In the interest of improving internal design, operational function, and/or reliability, Parklio™ reserves the right to make changes to the products described in this document without notice. Parklio™ does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein. Thank you for the confidence you have shown us by purchasing our Parklio™ ANPR system.

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1. Safety warnings

This section contains safety instructions that will help to protect you from risk of injury or property damage. Failure to follow these instructions will invalidate all warranties.

- Do not use the ANPR camera, if you have not read and understood the operating instructions before.
- Before first use of the ANPR camera, make sure that all the parts listed in these instructions are inside of the original packaging.
- Only parts supplied by the manufacturer of the ANPR camera should be used. Use of nonmanufacturer provided parts may affect the loss of warranty.
- Ignoring usage instructions, improper installation and use of the device may result in damage to the ANPR camera or injuries to the user. Instructions should always be at hand.
- Never expose the inner workings to water.
- The device and external supply must be disconnected from power supply during installation, maintenance, cleaning, and repairs.
- Leave the repairs to a specialist. Improper repairs may lead to an accident or a malfunction in the unit.
- The warranty does not cover consumable parts of the device, color fading and chipping, increased noise due to aging of the device and other aesthetic effects that do not affect its functionality or safety.
- Strictly follow the instructions for proper installation and connection to the electrical network.
- Installation requires mechanical and electrical skills, therefore it shall be carried out by qualified personnel only, who can issue the Compliance Certificate concerning the whole installation.
- Do not install the product in explosive environments and atmospheres, the presence of inflammable gases or fumes is a serious safety hazard.

PARKLIO (AMPLIFICO D.O.O.) HAS THE RIGHT TO MODIFY THE DEVICE WITHOUT PREVIOUS NOTICE. PARKLIO (AMPLIFICO D.O.O.) DECLINES ANY RESPONSIBILITY FOR DAMAGE OR INJURY TO PEOPLE OR THINGS CAUSED BY IMPROPER USE OR WRONG INSTALLATION.

THE APPLIANCE HAS BEEN ESTABLISHED ACCORDING TO ALL VALUENT SAFETY CRITERIA AND STANDARDS. HOWEVER, WE RECOMMEND THAT WITHOUT THE NEEDED HELP AND SUPERVISION, CHILDREN, A PERSON WITH DISABLED PHYSICAL, MOTOR, OR PERSONAL EQUALITY AND RELATED PEOPLE WITHOUT PREVIOUS EXPERIENCE OR KNOWLEDGE DO NOT USE THE BARRIER. EXCEPTION IS THE DEVICE USAGE UNDER ADEQUATE SUPERVISION IF THEY HAVE RECEIVED SAFETY INSTRUCTIONS AND TRAINING, OR IF THEY ARE INFORMED ABOUT THE DANGER CAUSED BY IMPROPER USAGE. THE SAME RECOMMENDATION IS FOR JUVENILES AND THEIR USAGE OF THE DEVICE.

DO NOT ALLOW CHILDREN TO PLAY WITH THE DEVICE. DO NOT LET CHILDREN CLEAN THE DEVICE, USE IT, NOR MAINTAIN IT, WITHOUT ADEQUATE SUPERVISION.

2. Camera Installation

NOTE: If you are unsure how to properly install the ANPR camera, you can always schedule a video call with us [via email](#). Our team will explain in detail how to install ANPR camera for the optimal license plate reading.

■ 2.1. Before You Start

The camera installation conditions should meet the following requirements:

- Trees or items should not obscure the view of the road/vehicle entrance.
- The license plate tilt angle must be within ± 5 degrees.

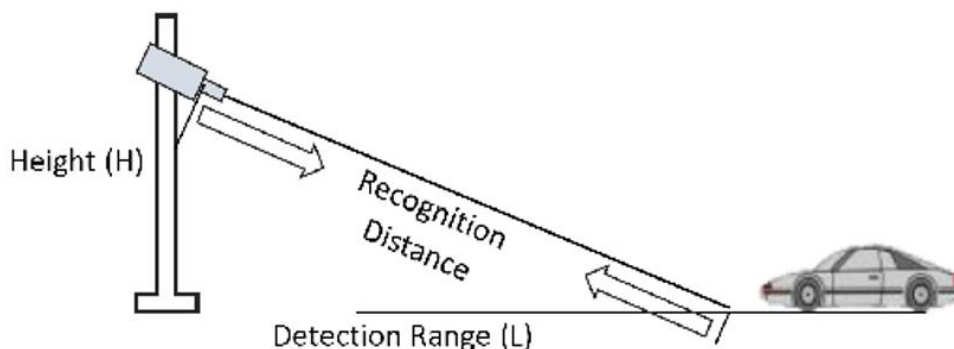


■ 2.2. Lens Selection

To ensure accurate detection and that enough pixels are in the frame, it is required to select a proper lens.

Steps for choosing the lens:

- Define the Identification distance of the scene.
- To get the identification distance, define the camera height (H).
- The detection range (L) can be calculated as $L = \cot 30^\circ \times H \approx 1.73 \times H$
- Note: The recommended camera Height (H) is 1,6m to 2m.



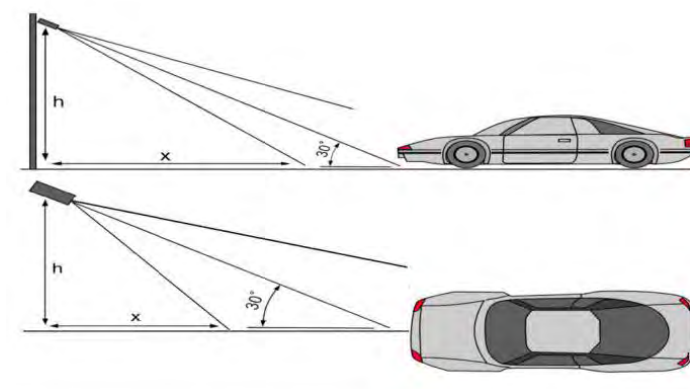
Select a proper lens according to the table below. The identification distance is based on the camera's focal length.

Camera	Lens (mm)	Min. Identification Distance (m)	Max. Identification Distance (m)	Scene
LPR Camera	2.8 - 12	6	11,2	Entrance
	8 - 32	15	30	Road Traffic

■ 2.3. Installation Angle

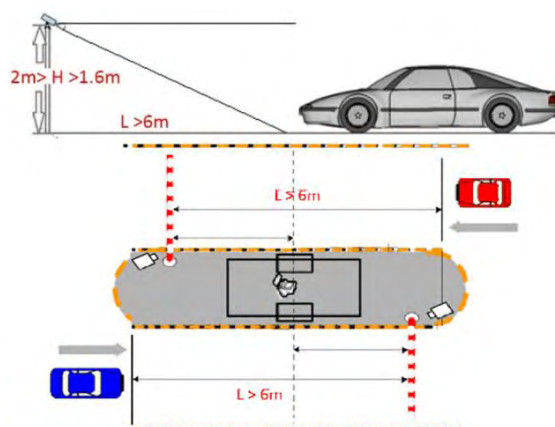
The installation angle must meet the requirements below:

- The Vertical angle should not exceed 30 degrees.
- The Horizontal angle should not exceed 30 degrees



■ 2.4. Installation height and distance:

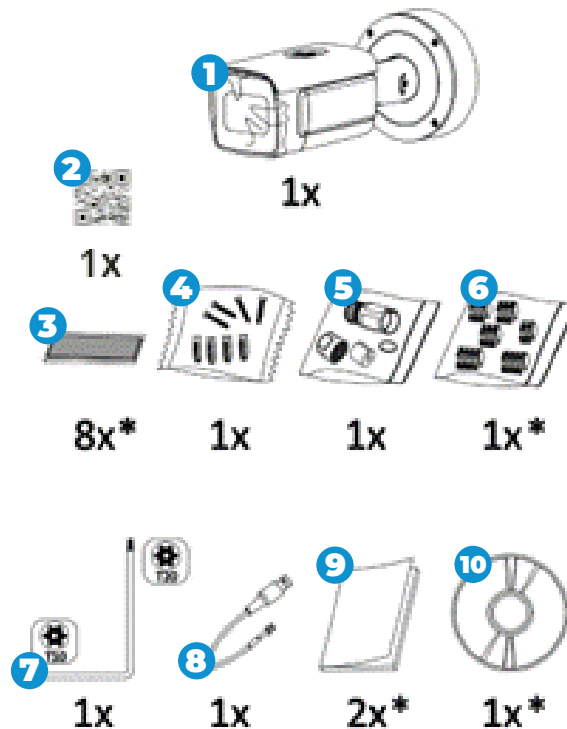
The camera Height (H) should be 1,6m to 2m.



■ 2.5. Installation of the camera:

Before installing the camera read the quick installation guide included in the camera box.

The camera package should contain the following items:



- 1** 1x ANPR Camera
- 2** 1x QR Code
- 3** 8x Waterproof tape
- 4** 4x Mounting screws with dowels
- 5** 1x Cable gland
- 6** 1x Allen wrench
- 7** 1x Screw terminals
- 8** 1x Connection cable
- 9** 2x Quick start guide
- 10** 1x CD

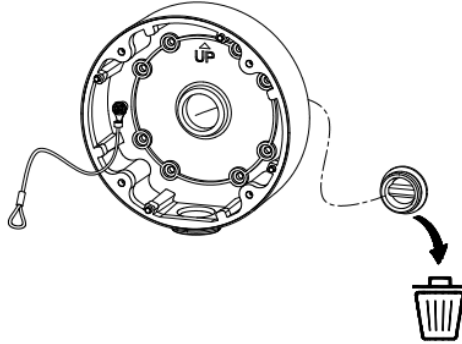
NOTE:

If any of the parts are incorrect, missing, or damaged, contact your Parklio™ dealer. Keep the original packing materials, in case you need to return the product for repair.

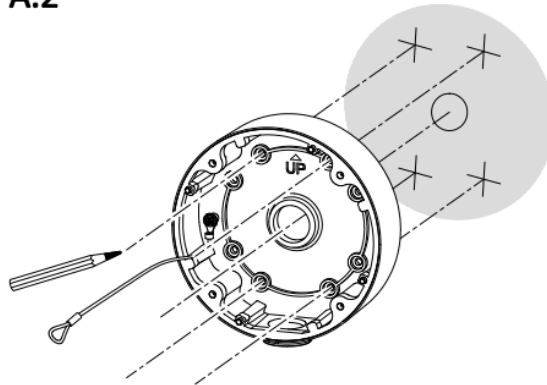
Wall Mount Option

To install the camera on a wall follow the instructions illustrated below:

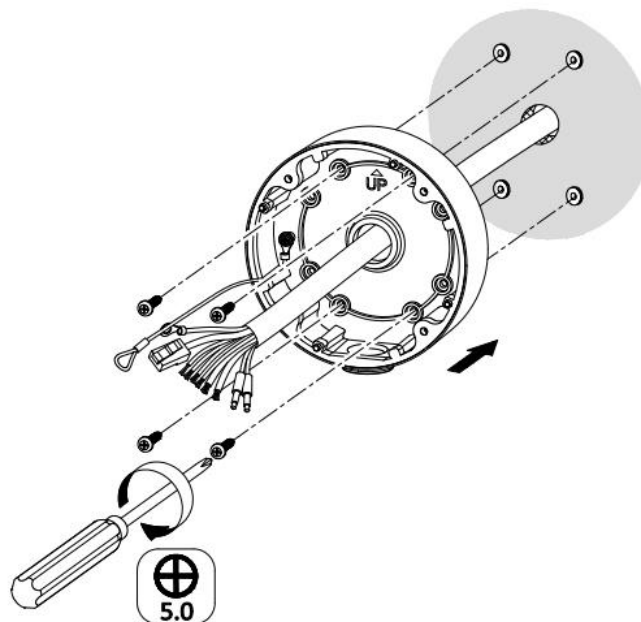
A.1



A.2



A.5



Pole Mount Option

For mounting the camera to a pole a pole mounting kit is needed. The pole mounting kit is not included with the camera.

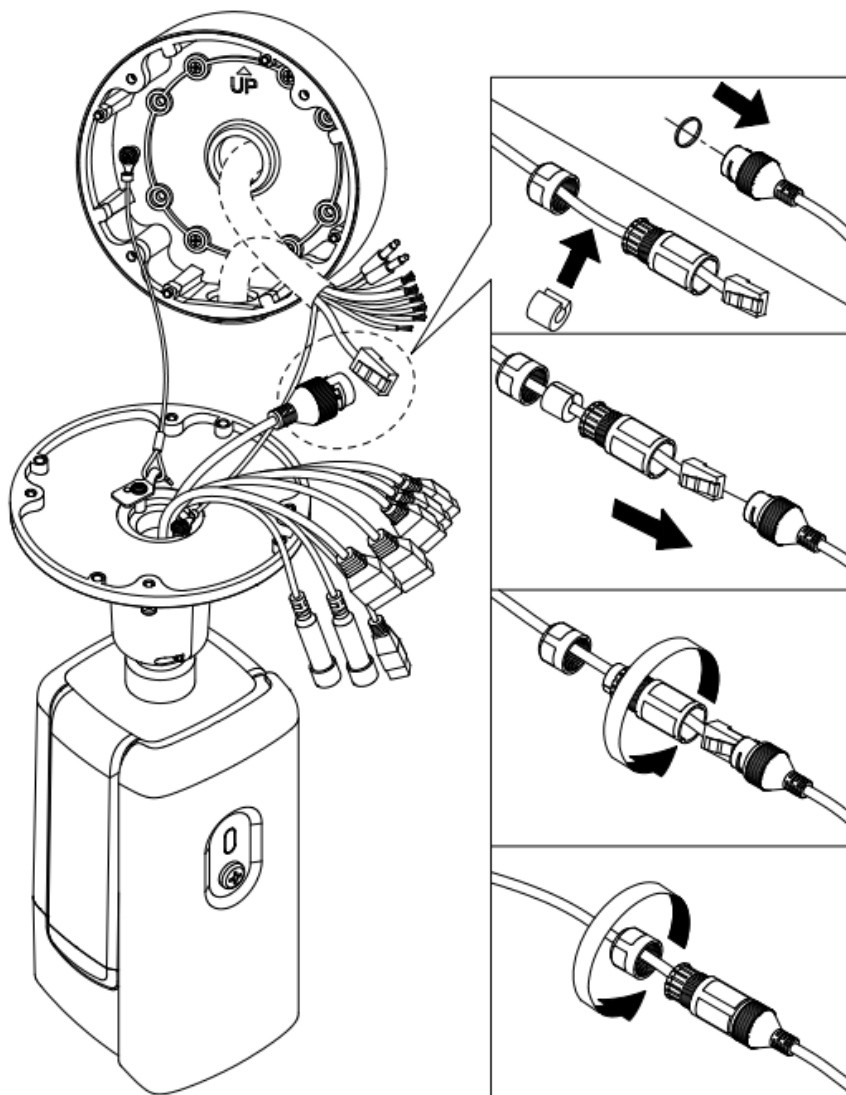
To mount the camera to a pole follow the instructions included with the pole mounting kit.

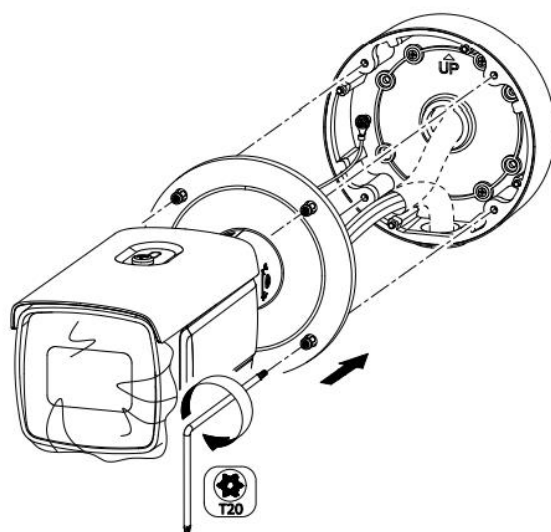
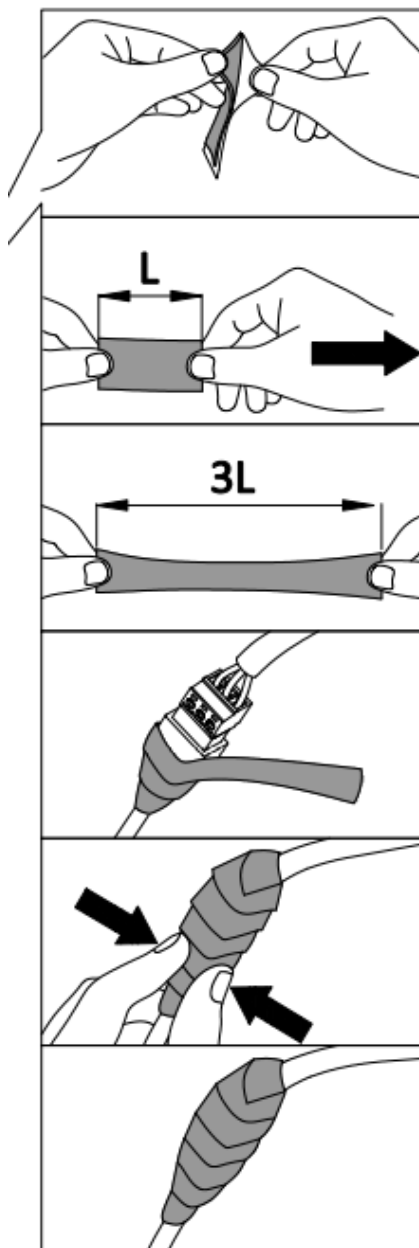
Connections

All wiring connections should be made inside the base plate to protect them from environmental conditions.

If connecting the camera via Ethernet use the provided gasket.

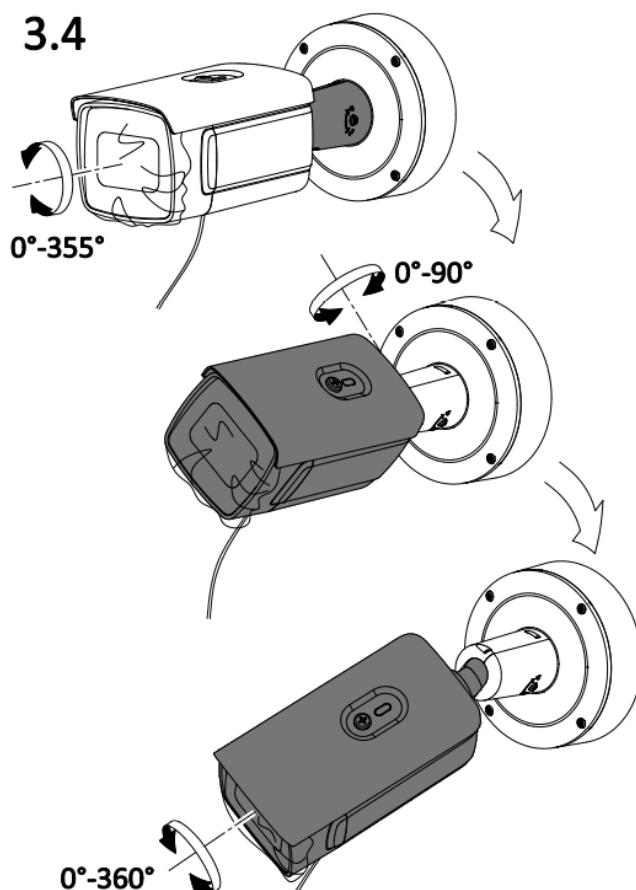
For protection other terminal connections use the provided water proof tape.





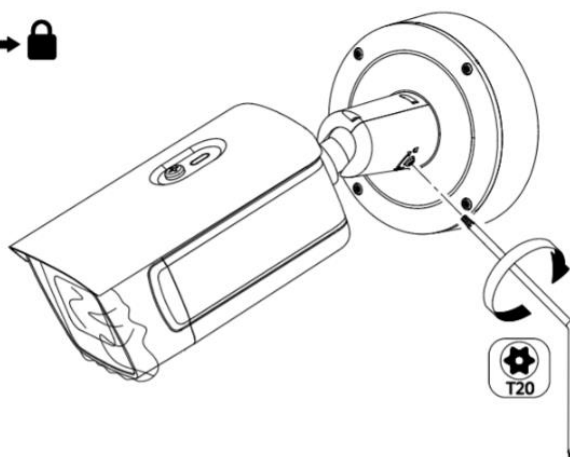
Positioning the camera

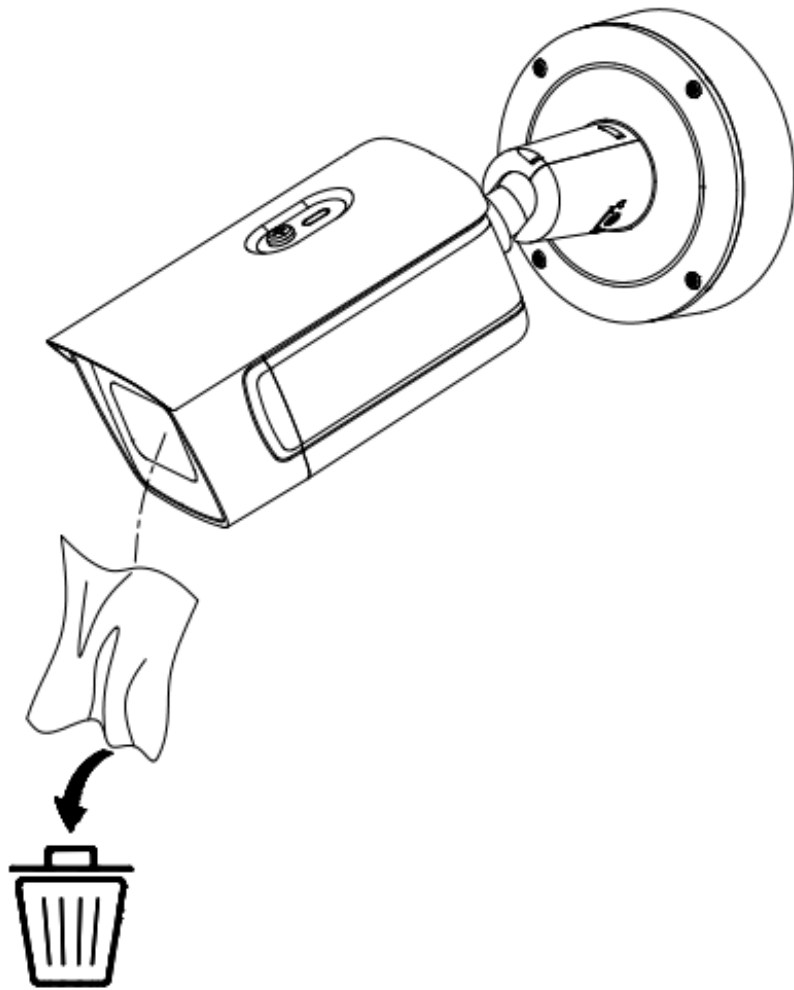
The camera can be rotated by unlocking the mount by using the provided security screw wrench.



3.5

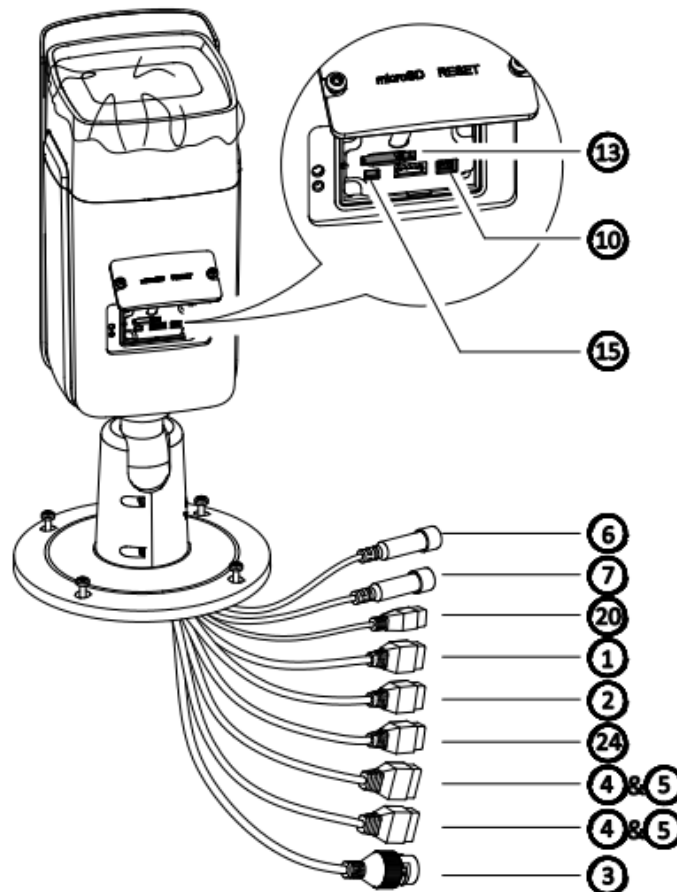
🔓 → 🔒





■ 2.6. Controlling a device

To enable the opening of a parking access control device (gate, chain, bollard, ...) or other devices, connect the camera ALARM1 output (marked as 4&5 in the image below) relay to the device's OPEN command input.



■ 2.7. Generic device

1. Connect a cable to the camera ALARM terminal (connect to terminals 1A and 1B). Connection is not polarity sensitive.
2. Connect the cable to the OPEN command input on the control electronics of the device.

■ 2.8. Parklio Devices

Parklio Gate:

Connect the camera ALARM terminals (terminals 1A and 1B) to START1 (1) and COM (6) terminals on the Gate control electronics.

Note:

When using the camera, it is recommended to enable automatic closing of the gate

Parklio Bollard:

Connect the camera ALARM terminals (terminals 1A and 1B) to LS (15) and COM (18) terminals on the Bollard control electronics.

Note:

When using the camera with the bollard, it is necessary to enable automatic closing (*settings: P4 -AF*) and to put the bollard into Condominium Mode (*settings P7 - 02*).

3. Camera Setup

■ 3.1. Prerequisites

If the network has a firewall enabled you may need to enable the camera to access the remote hosts
it is necessary. The list of services is provided below:

HOST	PROTOCOL / SERVICE	PORTS
lpr.parklio.com	TCP	6011
lpr.parklio.com	TCP	7660
lpr.parklio.com	TCP	7333
lpr.parklio.com	TCP	7334
lpr.parklio.com	UDP	7332

Please keep in mind that the hosts can resolve to multiple IP addresses, which can change at any time.

■ 3.2. Camera activation

A PC or MAC is required to set up the camera. The computer and the camera must be on the same network. The SADP tool is required for initial camera setup. It can be downloaded **from the link below** by typing SADP into the search bar.

<https://www.hikvision.com/europe/support/tools/hitools/>

Fill in the search bar with SADP and click the link to download the file.
The SADP software locates Hikvision devices that are online on the network. It displays device information, can activate a selected device, edit the network parameters of the device, and reset the device password.

NOTE: On Windows machines, the SADP tool can display a .dll missing error on startup. This can be resolved by installing vcredist_x86.exe:

https://aka.ms/vs/17/release/vc_redist.x86.exe

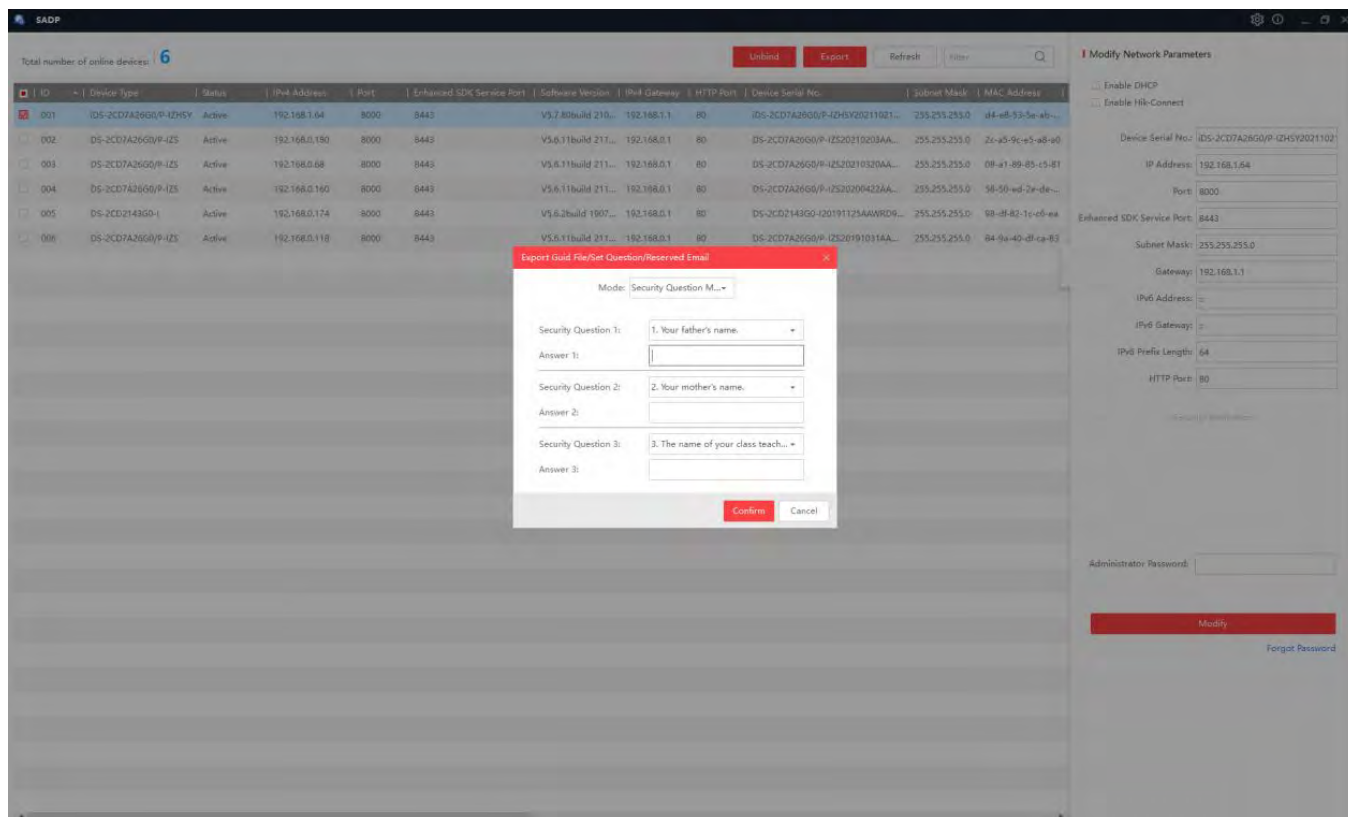
In the SADP tool search the network for available devices:

The screenshot shows the SADP tool interface. At the top, it says 'Total number of online devices: 6'. Below this is a table with columns: ID, Device Type, Status, IPv4 Address, Port, Enhanced SDK Service Port, Software Version, IPv4 Gateway, HTTP Port, Device Serial No., Subnet Mask, and MAC Address. The table lists 6 devices, all with status 'Active'. To the right of the table is a 'Modify Network Parameters' panel with various settings like 'Enable DHCP', 'Enable Hik-Connect', and input fields for Device Serial No., IP Address, Port, Enhanced SDK Service Port, Subnet Mask, Gateway, IPv6 Address, IPv6 Gateway, IPv6 Prefix Length, and HTTP Port.

ID	Device Type	Status	IPv4 Address	Port	Enhanced SDK Service Port	Software Version	IPv4 Gateway	HTTP Port	Device Serial No.	Subnet Mask	MAC Address
001	DS-2CD7A26G0/P-1ZH5Y	Active	192.168.0.1	8000	8443	V5.7.80build 210...	192.168.0.1	80			d4-e8-53-5e-ab-...
002	DS-2CD2143G0-I	Active	192.168.0.1	8000	8443	V5.6.2build 1907...	192.168.0.1	80			98-df-82-1c-c6-ea
003	DS-2CD7A26G0/P-1ZS	Active	192.168.0.1	8000	8443	V5.6.11build 211...	192.168.0.1	80			08-a1-89-85-c5-81
004	DS-2CD7A26G0/P-1ZS	Active	192.168.0.1	8000	8443	V5.6.11build 211...	192.168.0.1	80			58-50-ed-2e-de-...
005	DS-2CD7A26G0/P-1ZS	Active	192.168.0.1	8000	8443	V5.6.11build 211...	192.168.0.1	80			2c-a5-9c-e5-a8-a0
006	DS-2CD7A26G0/P-1ZS	Active	192.168.0.1	8000	8443	V5.6.11build 211...	192.168.0.1	80			84-9a-40-df-ca-83

Once the SADP tool is open any cameras that have not been setup will appear as Inactive.

- To activate the camera, select the inactive camera and the Activate the Device window will appear on the right.
- Create a password for the camera.
- **NOTE: Please keep in mind that this password is only used for the camera set up and Web Interface and not for the Parklio™ PMS.**
- Once the password has been entered, click the Activate button to turn on the camera.
- A window will appear with the option of setting security questions or providing an email address to recover the password if it is lost.



Once the password recovery method has been selected, the necessary fields must be filled out, and the changes must be saved by clicking *Confirm*.

It is necessary to exit this window after clicking the confirm button because it does not close automatically after confirmation.

After that, enable DHCP and enter the password created in the *Administrator Password* tab before clicking *Modify*.

SADP

Total number of online devices: 6

Unbind

Export

Refresh

Filter

ID	Device Type	Status	IPv4 Address	Port	Enhanced SDK Service Port	Software Version	IPv4 Gateway	HTTP Port	Device Serial No.	Subnet Mask	MAC Address
001	DS-2CD7A26G0/P-I2H5V	Active	192.168.1.64	8000	8443	V5.7.80build 210...	192.168.1.1	80	DS-2CD7A26G0/P-I2H5V20211021...	255.255.255.0	64-e8-53-5e-ab-...
002	DS-2CD7A26G0/P-I2S	Active	192.168.0.190	8000	8443	V5.6.11build 211...	192.168.0.1	80	DS-2CD7A26G0/P-I2S20210203AA...	255.255.255.0	2c-a5-9c-e5-a8-a0
003	DS-2CD7A26G0/P-I2S	Active	192.168.0.68	8000	8443	V5.6.11build 211...	192.168.0.1	80	DS-2CD7A26G0/P-I2S20210320AA...	255.255.255.0	08-a1-89-85-c5-81
004	DS-2CD7A26G0/P-I2S	Active	192.168.0.160	8000	8443	V5.6.11build 211...	192.168.0.1	80	DS-2CD7A26G0/P-I2S20200422AA...	255.255.255.0	58-50-ed-2e-de-...
005	DS-2CD2143G0-I	Active	192.168.0.174	8000	8443	V5.6.2build 1907...	192.168.0.1	80	DS-2CD2143G0-I20191125AMWRD9...	255.255.255.0	98-df-82-1c-c6-ea
006	DS-2CD7A26G0/P-I2S	Active	192.168.0.118	8000	8443	V5.6.11build 211...	192.168.0.1	80	DS-2CD7A26G0/P-I2S20191031AA...	255.255.255.0	84-9a-40-df-ca-83

Modify Network Parameters

Enable DHCP

Enable Hik-Connect

Device Serial No.

DS-2CD7A26G0/P-I2H5V20211021...

IP Address

192.168.1.64

Port

8000

Enhanced SDK Service Port

8443

Subnet Mask

255.255.255.0

Gateway

192.168.1.1

IPv6 Address

:

IPv6 Gateway

:

IPv6 Prefix Length

64

HTTP Port

80

Security Verification

Administrator Password

Modify

Forgot Password

NOTE: If a static IP address is required, the SADP tool can be used to configure a static IP address and network parameters by disabling DHCP and entering network parameters.

Click the refresh button to refresh the SADP tool.

NOTE: If the Ipv4 address is set to 0.0.0.0, refresh the SADP tool by clicking on refresh or disconnect and reconnect the camera's Ethernet cable to refresh the SADP tool.

3.3. Camera web interface

Then, double-click on the camera's Ipv4 address to open a new browser window (or type in the address in the browser address bar).

Enter the username and password for the camera's web interface and click *Login*. The default username is **admin**, and the password is the one you previously set. It should be noted that the

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camera's default user name is always admin. From the camera's web interface, you can add new users and change the default name.

Go to VCA ► Road traffic ► Arming Schedule and Linkage Method.

Select *All* and disable the *Trigger Alarm Output* by clicking on the checkmark next to the *Trigger*

Alarm Output. After that, click the *Enable* checkbox in order to enable vehicle detection:

VCA Resource

General VCA Settings

Road Traffic

Road Traffic

Detection Configuration

Picture

Advanced Parameters Configuration

Blocklist & Allowlist

Type

Vehicle Detection

☒ Enable

Area Settings


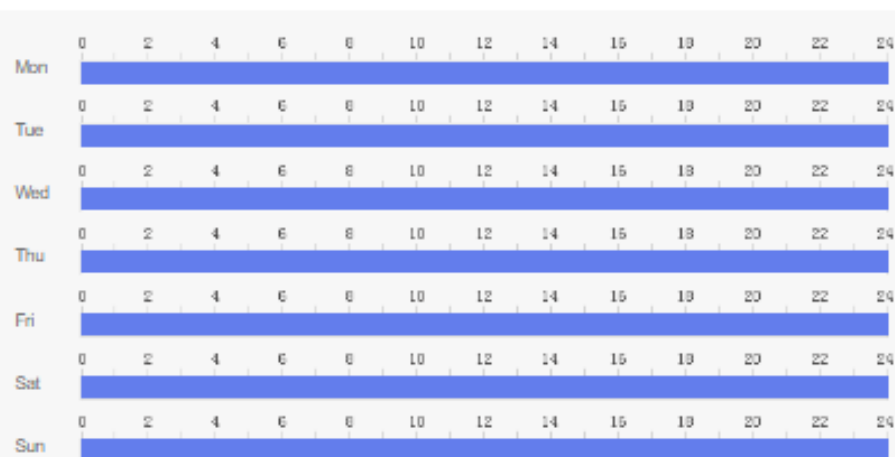
Arming Schedule and Linkage Method

Allowlist

Blocklist

Other List


Arming Schedule

 Delete Delete All

Linkage Method

Direction ☒ All ☐ Forward ☐ Reverse

<input type="checkbox"/> Normal Linkage	<input type="checkbox"/> Trigger Alarm Output
<input type="checkbox"/> Send Email	<input type="checkbox"/> A->1
<input checked="" type="checkbox"/> Notify Surveillance Center	<input type="checkbox"/> A->2
<input checked="" type="checkbox"/> Upload to FTP/Memory Card/...	

 Copy to... Save

■ 3.4. Detection area setup

The next step is to position the camera so that it faces the road where the license plates will be detected. The camera should have a clear view of the entire lane where the detection will take place.¹

This is done by going to *Live View* which will open this window.



On the right side, there is a tab that allows zooming in and out on the camera view.

To set the detection area, go to **VCA ► Road traffic**. The next step is to position the yellow lines so that they completely cover the road, and the blue line so that the license plate passes through it (as shown on the image below).



¹It is optional/recommended to set the camera's zoom so that the image is clear for better accuracy.

The blue line is used to trigger the camera capture, whereas yellow lines mark the road.

NOTE: To move the yellow and blue lines, click and hold the dots at the end of the lines.

Once this is done, change the Detection mode to License Plate or Vehicle detection and set the Time interval to 1 minute. After making these changes, save them by clicking the Save button.

Total Number of Lanes	<input type="text" value="1"/>	▼
Region	<input type="text" value="Europe Region"/>	▼
Country/Region	<input type="text" value="General"/>	▼
Select Mode	<input type="text" value="Entrance/Exit"/>	▼
Detection mode	<input type="text" value="Vehicle Priority"/>	▼ ⓘ
<input checked="" type="checkbox"/> Remove Duplicated License Plates		
Time Interval	<input type="text" value="1"/>	minute(s)

 Save

4. Assigning camera to Parklio™ PMS

■ 4.1. Installing Parklio™ Connect

To add the ANPR camera to your Parklio account, please download and install the Parklio™

Connect application. Skip this step if you already have the application installed. The application can be downloaded by scanning the following QR codes:



Android



iOS



Or on the following links:

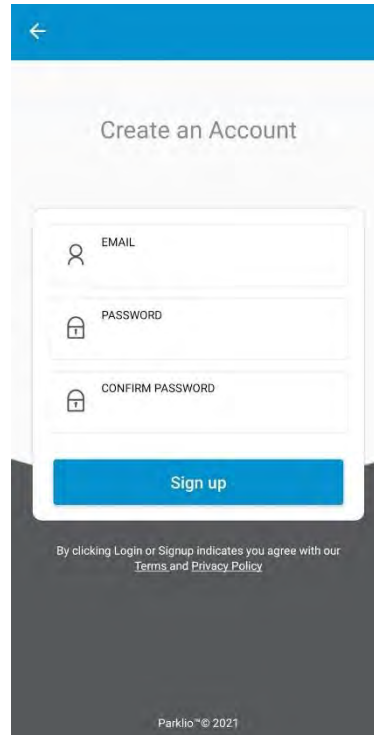
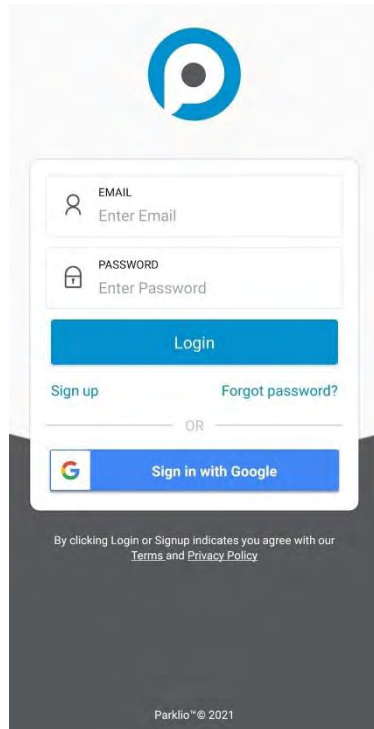
Android - <http://bit.ly/2iMkln5>

iOS - <https://apple.co/2iaV7aA>

■ 4.2. Login

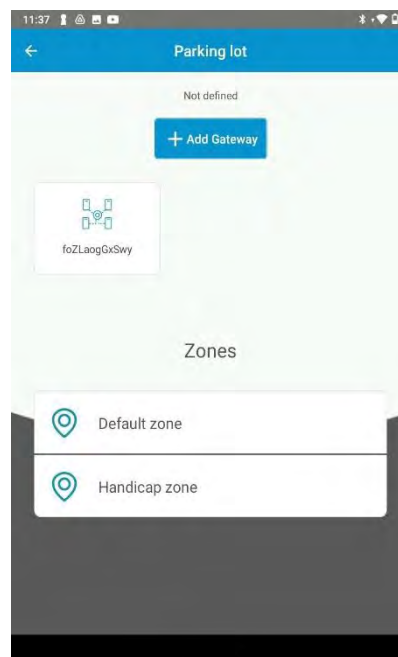
To use Parklio™ Connect for the Parklio™ ANPR camera configuration, you must be logged in.

NOTE: Use your Parklio™ PMS account credentials to login to your Connect account.



3. Navigate to the lots tab and select a parking lot to which the camera will be added.

4. Choose the parking zone to which the camera will be added.

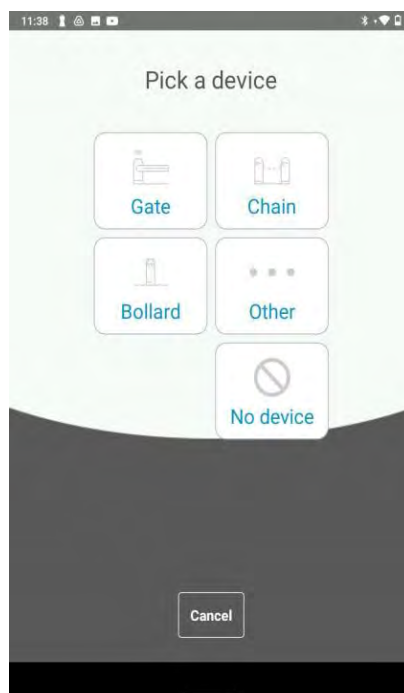


4. Click the **plus icon** in the upper right corner of the screen.

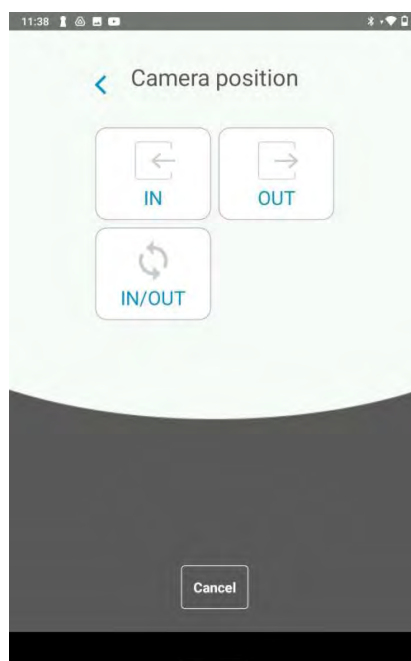


5. Scan the device QR code that was received with the camera.

6. Select the type of parking device to which the camera is connected to.

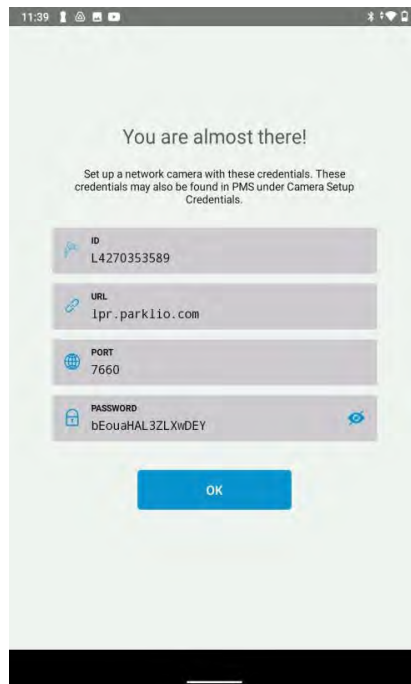


7. Determine the location of the camera (entrance or exit of the parking lot).



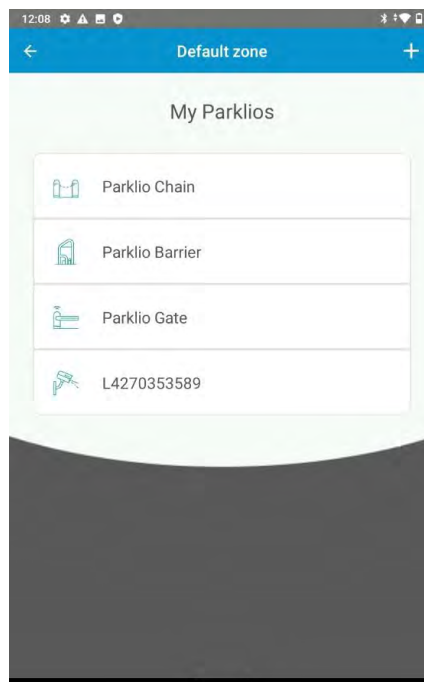
8. The device ID, URL, port, and password for the camera can be found in the *Setup credentials*.

Before closing the window it will be necessary to enter this information into the HIK webpage.

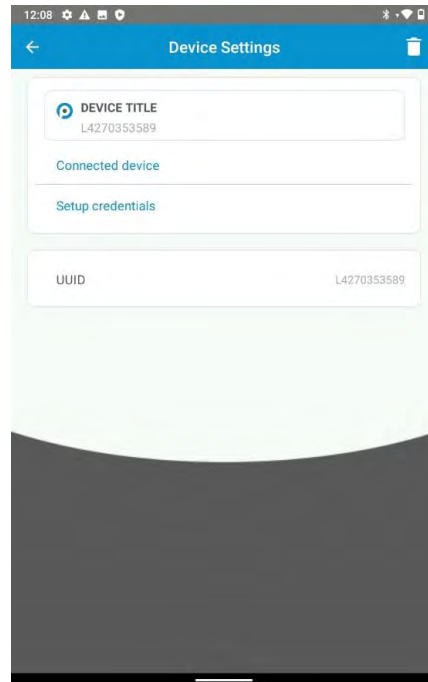


NOTE: To view the password, click the eye icon in the password field.

To remove the camera, go to *My Parklios* and click on the camera name in the zone where the camera was added.



This will open the *Device Settings*. The camera can be removed by clicking the delete icon in the upper right corner.



9. After that, log in to the camera interface.

11. Log in and navigate to *Configuration/Network/Advanced Settings/Platform Access*.

12. Next, click the Enable button and enter the following parameters from the Parklio Connect app (after the camera is set up).

- In the *Server address* field enter the *URL* provided
- Port with the Port
- Device ID with the UUID
- Key with Password

NOTE: All of the information can be found in the Parklio Connect app by selecting the Camera name and then selecting Setup Credentials, or in the PMS by selecting the Camera name and then selecting Camera Setup Credentials.

After entering the information click the Save button to apply changes. To test if the settings were entered correctly click on the Test button. If no error was found a Test successful message will be displayed and the camera Register status should change to Online. After setting up the camera, navigate to the ANPR page on the Parklio PMS, and the camera should be connected and online.

Note: It may take a few minutes for the camera to transition from offline to on-line mode.

■ 4.3. FAQ

1. How to restore the camera to factory settings?

To restore the camera to its factory setting:

- Disconnect the camera power supply cable (or the PoE cable) and wait 10 seconds.
- Press and hold the reset button for 10 second.

- Connect the camera power supply cable (or the PoE cable) while holding the reset button.
- Keep holding the reset button for 20 seconds.
- Release the reset button.

2. My camera cannot get a clear image. What should I do?

There are several problems that might cause a blurry image. Please refer to the following description to solve the problem.

- The lens or transparent cover is dirty. You should clean the lens or the transparent cover on the camera.
- The protective film on the lens or transparent cover is not removed. You should remove the protective film

3. The image is always black and white. Is that normal?

Check if the saturation is set to 0. Set the saturation to a value larger than 0.

In order to do that you should go to Configuration -> Image -> Display settings -> Saturation

And set the Saturation value to 0.

Environment light problem. The environment light is lower than the day/night switch threshold, so the camera switches to night mode automatically.