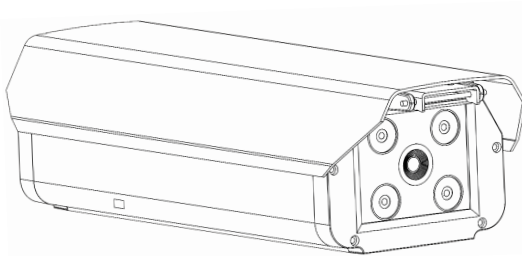


Vehicle and License Plate Recognition Smart Camera—E-LPRC500

Quick Start Guide

v2.01



1. Product Introduction

1.1 Brief

The Vehicle and License Plate Recognition Smart Camera—E-LPRC500 is an intelligent imaging device with integrated front-end capture and recognition capabilities, specifically designed for mid-to-high-end parking entrance and exit scenarios. To deal with "unattended" and "contactless payment" in the scenario, this series not only provides features such as 5MP HD camera, diverse license plate and vehicle information recognition, surveillance video recording, intelligent light compensation, and front-end storage, but also supports features such as trigger for unlicensed vehicles, license plate anti-counterfeiting, and offline ad hoc networking. It can recognize events such as vehicle detention, vehicle return, and vehicle following, and greatly reducing after-sales maintenance costs.

1.2 Packing List



1.3 Optional Accessories

The AC conversion power supply is not included in the camera package. Users can buy it as an accessory when placing an order.

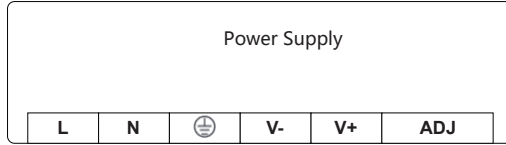


2. Device Installation

2.1 Interface

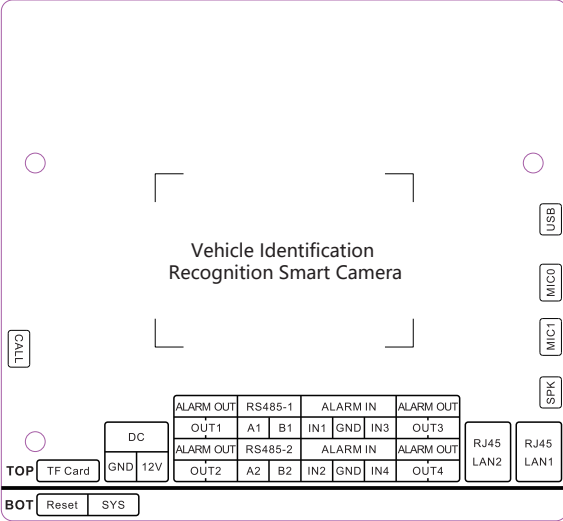
1. Diagram of power supply

The power supply is connected to an AC power supply and outputs a 12V DC voltage, which can power the camera module.



Function	Mark	Note
Fire Wire	L	AC input positive
Neutral Wire	N	AC input negative
Ground Wire	⊕	Connect to Ground
Output positive	V-	12V/2A output positive, which can power the camera
Output negative	V+	12V/2A output negative

2. Diagram of the interface



Function	Mark	Note
Power(DC)	GND/12V	Support 9-15V DC, recommended 12V/2A. If connect an external speaker, Please use 12V 3A Power.
Network	LAN1/LAN2	1 x 10/100/1000Mbps adaptive RJ45 port(LAN1) 1 x 10/100Mbps adaptive RJ45port(LAN2)
IO Output (ALARM OUT)	OUT1/OUT2/OUT3 /OUT4/GND	Can be used for raising the barrier gate lever
IO Input (ALARM IN)	IN1/IN2/IN3 /IN4/GND	Groundable inductive coil for external signal triggering capture
Serial(RS485-1)	A1/B1	Connect to the host computer and output the recognition result
Serial(RS485-2)	A2/B2	Connect to the host computer and output the recognition result
TF card	TF card	TF card, support max to 256G
System light	SYS	It will long light when the power on begaining, and will flash when the device runtime normally
Reset button	Reset	Long press the button 5~10sec when the power on, then the device will recovery to the factory
CALL	CALL	Trigger the voice call
Speaker	SPK	Speaker output, output power max to 4Ω12W
Mic 0	MIC0	Input for microphone
Mic 1	MIC1	Input for microphone
USB	USB	Connect external module

2.2 Power

The power in put connector is the one labeled DC in the rearsection or tail line of the device. Detailed description is as follows:

Mark	Detailed
12V	12V DC±20% Power + input
GND	Ground

Power connector description

The internal power input of the device has reverse polarity protection, over voltage protection, and surge protection.

2.3 Network

The RJ45/ LAN labeled as RJ45/ LAN in the rear side of the device is the camera's Ethernet interface, which is used for transmitting camera control commands, captured image results, and video streams. The camera's default factory IP address is 192.168.1.100. Users can browse images and configure camera parameters via a web browser.

2.4 Reset

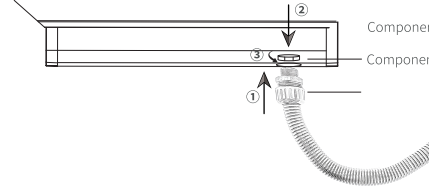
Press and hold this reset button for 5~10s after powering up the device and then release the button, the device can be restored to the default IP address, username and password after reboot.

2.5 Indicators Light

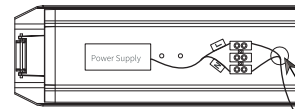
The indicator or the device is always on when the system is booting up, blinking means that the system is working normally.

2.6 Instructions for Power Supply and Network Cable

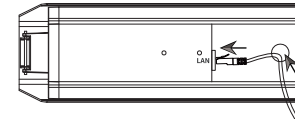
1.Insert component 1 (bellows) into the bottom opening of the camera case as shown in the diagram below, and then insert component 2 from the top of the camera and align it with component 1 to tighten it.



2.The AC power wire is threaded through a corrugated tube and connected to the terminal sockets L and N as shown in the figure below, without distinguishing between positive and negative.

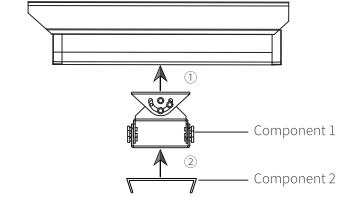


3.The external network cable is inserted through a corrugated tube and connected to the camera's Ethernet port.



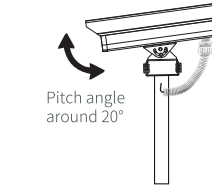
2.7 Camera Installation

- 1.Secure component 1 (universal joint) to the camera using screws.
- 2.Fix component 2 (platform bracket) onto the universal joint.



3.Adjust and installation on the horizontal bar.

Ensure waterproofing of corrugated pipes
Apply glue at the joint of the protective cover



Notice:

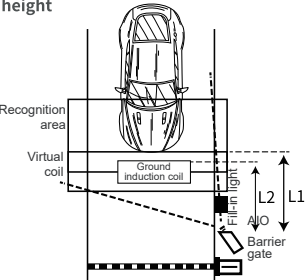
1. Network cable testing: Before use, use a network cable tester or other testing equipment to confirm if the network is connected.
2. On site power supply: Please use DC9-15V power supply, recommended 12V/2A. Do not directly use high-voltage (220V) power supply to avoid burning the equipment.
3. Install corrugated pipes to ensure waterproofing.
4. During the camera installation process, please apply glue to the joint of the cover to prevent fogging of the glass inside the cover.

2.8 Installation plan

1.Select installation location and height

According to the legend, locate the position of the reference license plate on site and use the license plate imaging in real-time video footage, with pixels between 160px-220px. Then determine the installation position of the integrated machine column based on the position of the reference license plate.

During the installation of the camera, the lens should be aimed at the license plate as much as possible.



Requirement for Installation	Device height to the ground
Camera before barrier gate	Mainly small cars, about 1.4-1.5 meters above the ground
About 3-6 meters away from virtual coil L1	Mainly large trucks, about 1.6-1.7 meters above the ground
About 3-4 meters away from triggering ground sensing L1	Pitch angle recommend to about 15-40°

No.	Identifiable distance D(meters)	Install height H(meters)	Pitch angle C(°)
1	3	1.4	About 20
2	4	1.5	About 20
3	5	1.6	About 20
4	6	1.7	About 20

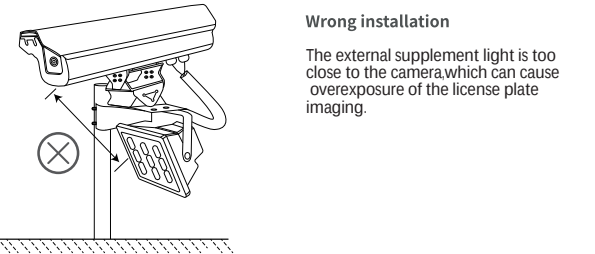
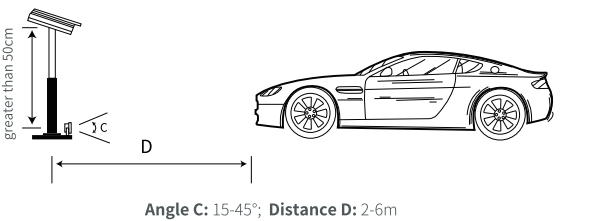
2. Install external supplement light

Recommended that all LPR sites install external supplement lights.

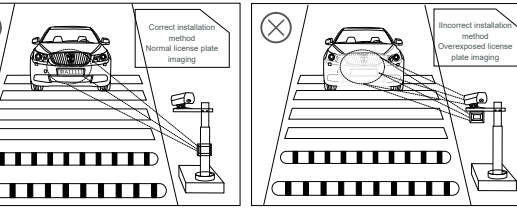
Hardware requirements: Parking lot specific LED supplement light, power: 20W-30W, spotlight angle:15°-45°.

Installation requirements: Fixed on the column of the all-in-one machine, maintaining a vertical distance of 0.5-0.7 meters from the same machine.

Angle requirement: Within the recognition area, external supplement lights should illuminate the license plate, and the license plate should not be exposed.



The imaging effect of correct and incorrect installation of supplement light :



2.9 Checklist After Installation

After the equipment installation is completed, according to the inspection items, ensure that the equipment is installed correctly

No.	Item	
1	Confirm that all screws are fully tightened, with no deviation at the joint	☐ Yes ☐ No
2	Confirm whether the device is correctly connected to the power supply and runs normally when powered on	☐ Yes ☐ No
3	Confirm that the interface has been properly insulated and waterproofed	☐ Yes ☐ No
4	Confirm that the camera IO and peripherals (gate, coil) are correctly connected	☐ Yes ☐ No
5	Confirm that the camera installation is stable and reliable, and the network connection is normal	☐ Yes ☐ No

3.Configuration

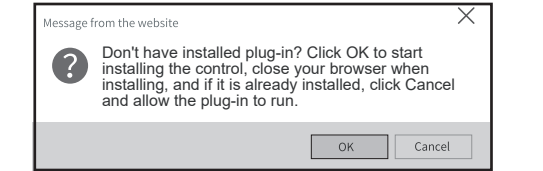
3.1 Login

1.Login:

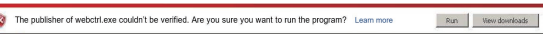
When the camera running, connect to the device through the network using PC. And then using the Browser which having IE kernel to open the default IP address 192.168.1.100(Please confirm the PC using same IP segment). The default username is "admin" and the password is "admin" .

2.Install the plug-in:

For the first time, the browser will prompt to install the control (not installing it will cause the screen to be unclear). As shown in the following figure:



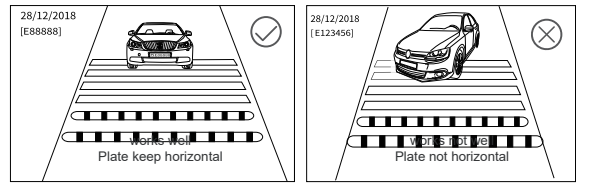
Click OK to download webctrl.exe and run, if the following prompt pops up, click Run.



3.2 Imaging Adjusting

1.license plate horizontal adjusting:

During the real-time imaging horizontal adjusting of the camera, ensure that the reference license plate in the real-time video picture is maintained horizontal (it is recommended to install a universal joint to adjust the level of the camera). The reference effect is as follows.



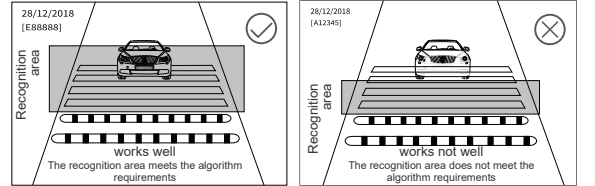
In order to ensure the best recognition effect of the license plate, please ensure that the horizontal side angle of the camera is <30° and keep it parallel to the lane.

2. Identification area and virtual coil configuration:

Log in to the camera configuration webpage and check the system's default identification area and virtual coil settings in the 'Real time Video' page. The range of the identification area and the position of the virtual coil can be adjusted according to the scene.

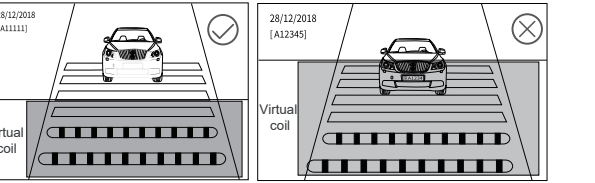
1) Identification area:

The license plate will only be recognized when it enters this area. You can drag the four corners of the identification area to change the shape. To ensure the recognition effect, please ensure that the identification area covers the entire vehicle driving area.



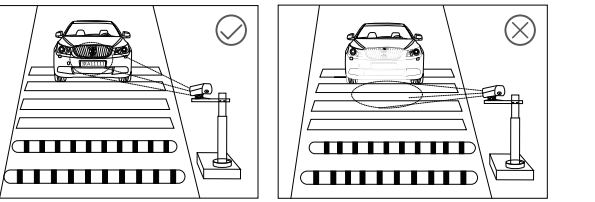
2) Virtual coil:

After the license plate enters the virtual coil, it will trigger the output recognition result. To ensure recognition efficiency, the area of the virtual coil should be controlled within 1/3 to 1/2 of the entire image to reduce false triggering.



3. Adjust the built-in supplement light (if optional):

On the real-time video page, the brightness level of the built-in LED lights can be adjusted. The adjustable built-in LED is designed for recording distances of 4 meters, 5 meters, 6 meters, 7 meters, and 8 meters. The brightness level of the built-in supplement light can be adjusted according to the actual scene.



When installing the external supplement lights, the brightness of the built-in supplement lights can be appropriately reduced to avoid over-exposure of the license plate.

3.3 Checklist After Configuration

After the configuration is completed, ensure that the configuration is correct according to the inspection items

No.	Item	result
1	Confirm that the device can be accessed based on the configured IP address	☐ Yes ☐ No
2	Confirm the ability to view videos/configurations through the device's web page	☐ Yes ☐ No
3	Confirm that the camera video image can clearly see the lane without obstruction, blur, etc	☐ Yes ☐ No
4	Confirm that the identification area/virtual coil drawing in the screen meets the requirements of this document	☐ Yes ☐ No
5	Confirm whether you have received the data pushed by the camera	☐ Yes ☐ Np

4.Q&A

4.1 Why the device video cannot be displayed normally?

There are several reasons for abnormal display, including:

1. The device is not powered on properly;
 2. The network cable is not properly connected or has poor contact;
 3. The IP address of the device and the IP address of the PC are not in the same address segment.
 4. The network between the device and the client is not connected;
 5. The lens cocoon was not removed, or the camera image was obstructed.
- When the device cannot display normally, please investigate the above situations one by one.

4.2 Remote device setup, but mistakenly set up another device.

The possible reason is that the IP addresses of multiple devices within the same local area network conflict. When multiple devices are used simultaneously, please ensure that there are no IP address conflicts.

4.3 What to do if I forget to the IP address or username/ password?

For a forgotten IP address: Use the IP search tool provided with the device to locate it.

For a forgotten username/password: Contact our technical support team for assistance with remote resolution.

4.4 Manual capture/recording failed to save locally?

Check if the browser is running with administrator privileges. If not, exit and right-click on the browser to run as administrator.

4.5 What are the common problems with web login?

1. After logging into the device, the login interface does not display properly. Please ensure that the browser is Microsoft Internet Explorer 11.0 or later, Microsoft Edge, Google Chrome, or Firefox.
2. When logging in through IE browser, there is no video playback in the real-time video interface. **Solution:** Refresh the webpage again, and a prompt will pop up to install the control. Once the installation is complete, you can see the real-time video.
3. Control installation failed. Go to "Control Panel"->"Programs and Features", uninstall the WebCtrl control, and reinstall it.

For more questions, please contact technical support for consultation

5 Document and Tool

- "E-LPRC500Series Vehicle Identification Smart Camera - Quick Installation Guide"
- "E-LPRC500 Series Vehicle Identification Smart Camera - Product Specification"
- "E-LPRC500 Series Vehicle Identification Smart Camera - User Manual"
- "License Plate Camera HTTP Communication Protocol Description Document"
- SDK
- Batch Configuration Tool

For more information,please visit the official website or contact technical support personnel for relevant documentation and tools.

Product Warranty Certificate

This certificate is a proof of your free warranty and is only valid for products that comply with our warranty regulations.

- Warranty regulations:**
- 1. The free warranty period of this product is two years.
 - 2. During the warranty period, if the product itself caused by the failure, please contact our after-sales service.
 - 3. The following cases belong to the scope of paid warranty:
 - (1) After purchase, faults or damage caused by transportation, moving or dropping of the product.
 - (2)Damage caused by water or other solutions caused by improper use.
 - (3) Failure caused by the use of the environment does not meet the requirements of the product.
 - (4)Failure or damage caused by improper repair by itself.
 - (5)The product has passed the free

Product model	_____	Conformity certificate	_____
Date of sale	_____	Product number	_____
Selling company	_____	Production date	_____
After-sales phone	_____	Inspector	_____