License Plate Recognition Camera

CIP-24B4LPR

(Code 31600320)



USER MANUAL

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CIP-24B4LPR REV.0126 | ENGLISH

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IMPORTANT NOTICE:

The camera does not include a microSD memory card, which must be purchased separately. Without a microSD card, video recordings, event-related images, and images captured by the automatic number plate recognition (ANPR/LPR) system cannot be stored locally.

Recommended card: MSD-128 (31601000)

1. ELECTRICAL AND USAGE SAFETY

The CIP-24B4LPR camera can operate on 12V DC or via a 48V DC PoE power supply (power supplies not included).

Do not connect the equipment to a different voltage.

Do not handle the device or connections with wet hands.

Avoid damaging the power cable.

Disconnect the power before any maintenance.

Do not open or modify the equipment.

Install the device on a sturdy surface.

2. PACKAGE CONTENTS

Before installing the CIP-24B4LPR camera, check that the package contains the following items:

- CIP-24B4LPR camera
- Instruction manual
- Mounting screws
- Rubber seal for the connection base

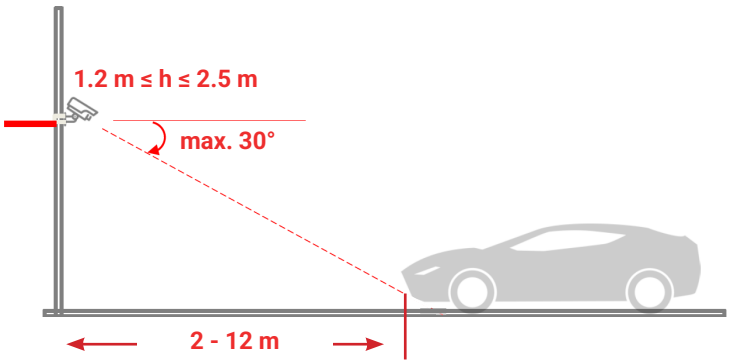
3. GENERAL DESCRIPTION

The CIP-24B4LPR camera is designed to deliver high-quality images and reliable performance in professional surveillance applications. Equipped with a 1/1.8-inch CMOS sensor, dual IR and warm-light illumination, and a wide dynamic range of 130 dB, it delivers sharp, detailed images both day and night.

It also features automatic number plate recognition (ANPR), enabling the identification of cars and motorcycles at access control points and checkpoints. Its robust IP67-rated design, together with support for PoE, ONVIF, and multiple network protocols, makes it a versatile security solution for outdoor and industrial environments.

4. INSTALLATION

To ensure accurate license plate recognition, the camera must be tilted by no more than **30°**, mounted at a height of between **1.2 m and 2.5 m**, and positioned between **2 and 12 meters from the point where plates are read.**



RECOMMENDATIONS

Reading distance	Focal length	Installation height
2 - 4 m	2,8 mm	1,2 - 2,0 m
3 - 5 m	4 mm	1,5 - 2,0 m
4 - 7 m	6 mm	1,8 - 2,2 m
5 - 9 m	8 mm	1,8 - 2,5 m
6 - 10 m	10 mm	2,0 - 2,5 m
6 - 12 m	12 mm	2,0 - 2,5 m

Note: These values are guidelines for license plate recognition at vehicle entrances. Installation with a vertical angle of ≤ 30° and a horizontal angle of ≤ 15° relative to the vehicle's path is recommended.

The field of view of a license plate recognition camera should be configured so that the plate occupies a sufficiently large portion of the image and is adequately illuminated to facilitate OCR recognition. (see Section 6)

Use the available camera accessories as needed for an optimal installation:

- C-BASE06 junction box (31600325). Required if the camera is installed outdoors.
- PM-206 pole mount adapter (31600326).
- MicroSD memory card (31601000). Required to view recordings and past events.

When using the C-BASE06 junction box (31600325), which is required for outdoor installations, replace its white rubber grommet with the one supplied with the camera so that all the camera cables can be routed into the box.



Install the camera on a solid surface that will not vibrate in adverse weather conditions (wind, rain).

Take the artificial lighting at the installation site into account to ensure the camera operates under the best possible conditions. Avoid strong backlighting if possible.

Power the camera using a PoE switch, PoE injector or 12V DC/1A power supply (not included).

The camera has two relay outputs. Typically, at least one is used to send a control signal to the installation's barrier or access gate.

See the wiring diagram in section 15.

5. ACCESSING THE SETTINGS

The CIP-24B4LPR camera has a web interface with a built-in license plate manager, making it very easy for users to manage license plates independently. The camera should have internet access so that the license plate list can be maintained remotely.

5.1 Access via the cloud

If the camera is connected to a router with internet access, you can access its configuration interface from any computer at: https://cctv.golmar.cloud.

Select “By device” and enter the camera identifier (UID) shown on the label on the underside of the camera, along with the username and password (admin/admin by default).

The first time you visit this portal, you must install the video plugin. Download it by clicking “Plugin” and follow the installation instructions.

5.2 Access via Local IP Address

If there is no router at the installation site, the camera will use the default IP address 192.168.1.10.

If the camera is connected to a network with a router, the router will automatically assign it an IP address via DHCP. This allows the camera to connect to the internet automatically and be accessed from any computer on the same network.

Use the **Device Manager** software on a computer to find the assigned IP address. This software is available in the downloads section at https://golmar.es/products/CIP-24B4LPR

Enter the IP address shown in Device Manager into your browser, for example: *http://192.168.1.155*, to access the login screen. Enter the username and password (admin/admin by default).

The first time you connect to the camera, you must install the video plugin. Download it by clicking “Download Plugin” and follow the installation instructions.

6. ORIENTATION AND FOCUS

After logging in to the camera, you can see its field of view on your computer screen. Position the camera to obtain the best possible field of view and viewing angle.

The camera has motorized zoom and autofocus. To access the zoom controls, click the icon highlighted in red below (at the bottom of the screen).

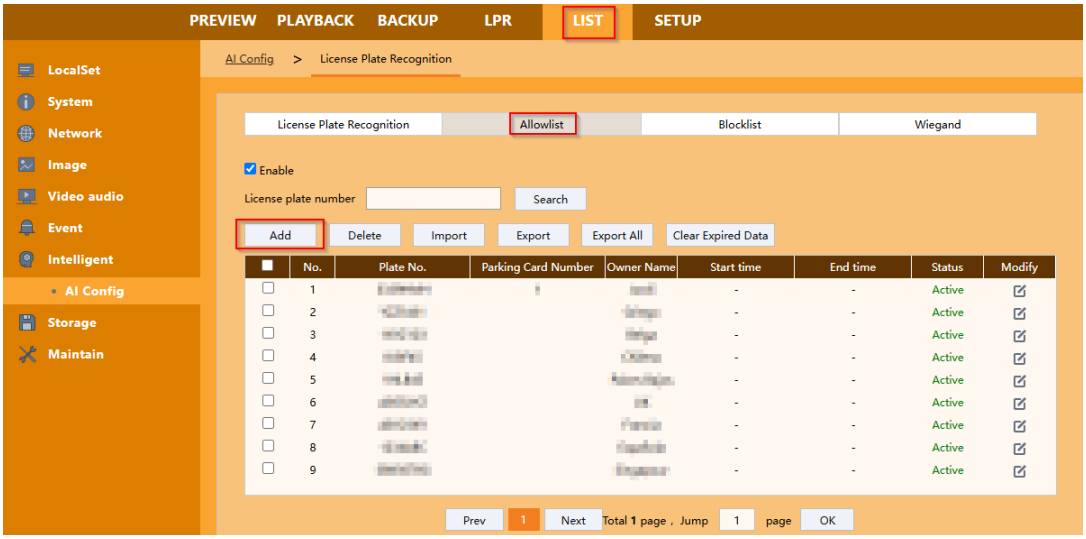


Adjust the camera zoom as needed and wait for autofocus to finish. This may take a few seconds. After finish , please click on the icon again.

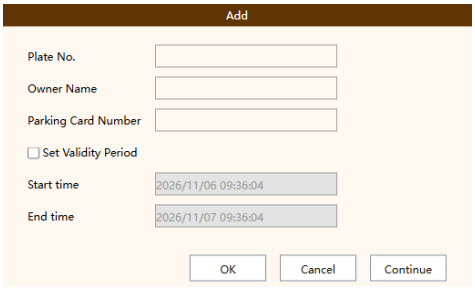


7. ACCESSING AND EDITING THE LIST OF AUTHORIZED LICENSE PLATES

To access and edit the license plate lists, click the “LIST” menu at the top of the image. The list of authorized vehicles (Allowlist) will be displayed. Click “Add” to add a license plate to the allowlist.



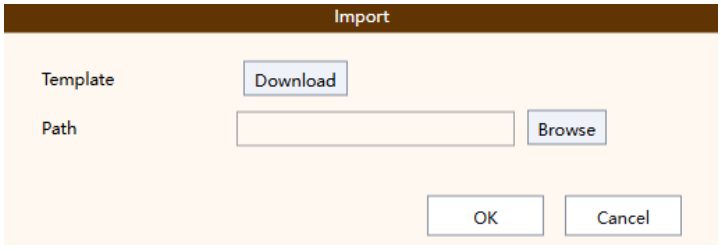
Enter the license plate number (without spaces), associated name (optional), parking card number (optional) and validity period (optional).



The parking card number is used to integrate the camera with other access control systems. This number will be transmitted through the camera’s Wiegand port.

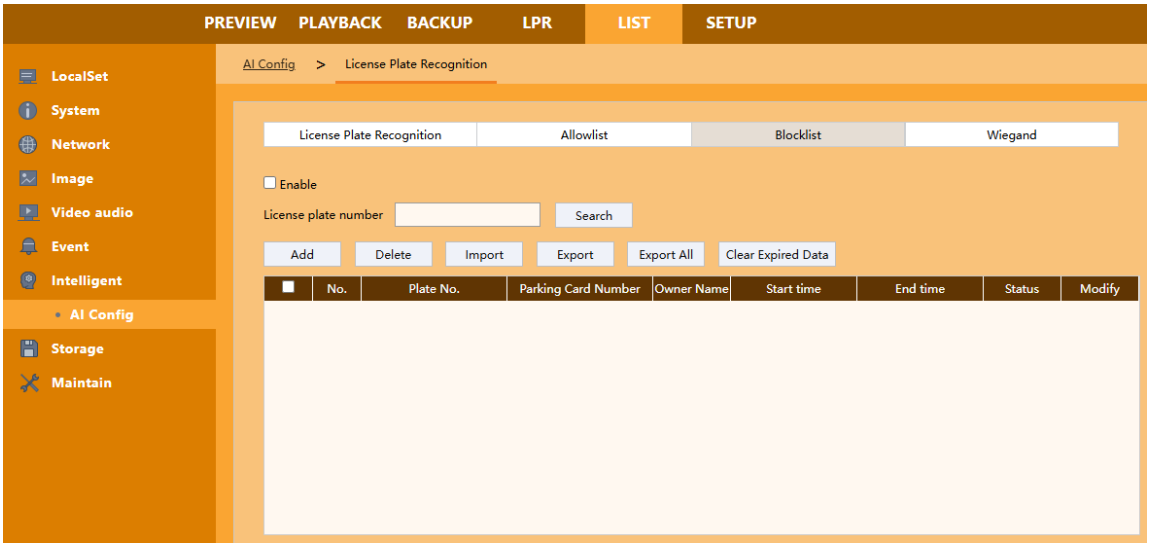
If the license plate should be valid only for a specified period, enable the validity period and set its start and end dates as needed.

Click “Add” again and repeat the steps until the list of permitted license plates is complete. You can also import a *.cvs file containing all the license plates and their corresponding information. To download the template first, click “Import” and then “Download”. Once you have downloaded the template, edit it and import it using the same menu.



8. ACCESSING AND EDITING THE BLOCKED LICENSE PLATE LIST

Just as you can configure a list of permitted license plates, you can create a list of blocked license plates. To do so, select “BlockList” under the “LIST” menu and follow the same steps as for the permitted list. This list is disabled by default; enable it if you want to use it.

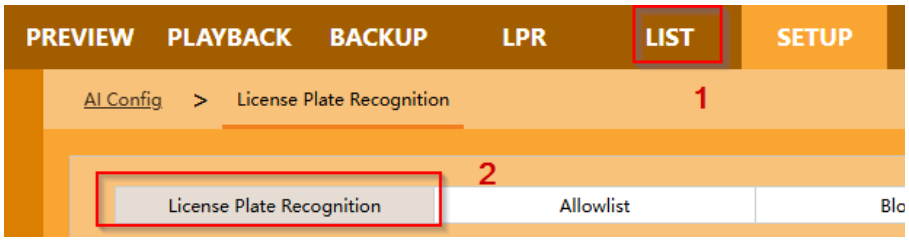


9. CONFIGURING LICENSE PLATE RECOGNITION

Once you have configured the permitted license plate list (and the blocked license plate list, if applicable), you must configure the recognition rules, operating schedule, and actions to be performed.

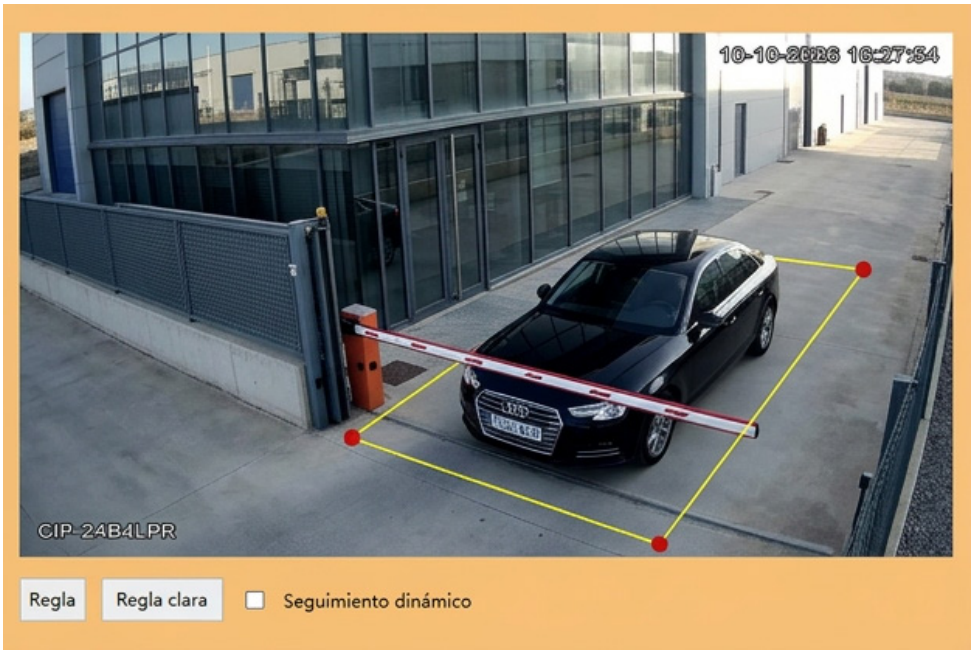
The camera has default settings that provide suitable operation in most cases. However, during commissioning, verify that these settings meet the installation requirements. If necessary, make the appropriate changes to ensure proper operation.

To access the license plate recognition settings, click “LIST” and then “License Plate Recognition”



9.1 Rule Configuration

The recommended first step is to define the license plate reading area. By default, the LPR camera reads the entire lower part of the field of view. It is advisable to limit the reading area to where vehicles are close enough for their license plates to be read easily. If you can reduce the size of this area without compromising readability, OCR will perform better.

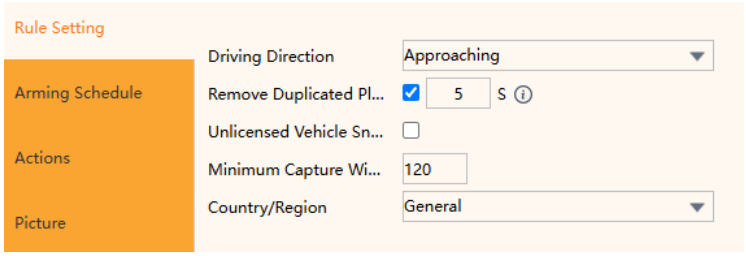


To modify the detection area, click any corner of the area outlined in yellow and drag it as needed.

You can also move the area by clicking it and dragging it across the image without releasing the mouse button.

To make this adjustment easier, double-click the image to view the camera feed in full screen.

Click “Save” when you have finished making changes.



Other settings available in this submenu are:

Driving direction: Set whether license plates should be read when vehicles enter the detection area, leave it, or both.

Remove duplicate plates: Set the minimum time that must elapse before the same license plate number can be read again.

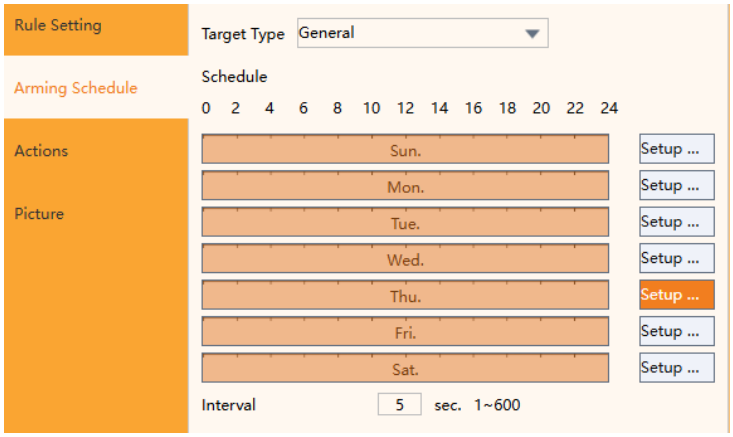
Unlicensed vehicle snapshot: Captures an image of vehicles without license plates.

Minimum capture width: Set the minimum license plate width required for the camera to attempt a reading.

Country / Region: Select the country / region of the license plates.

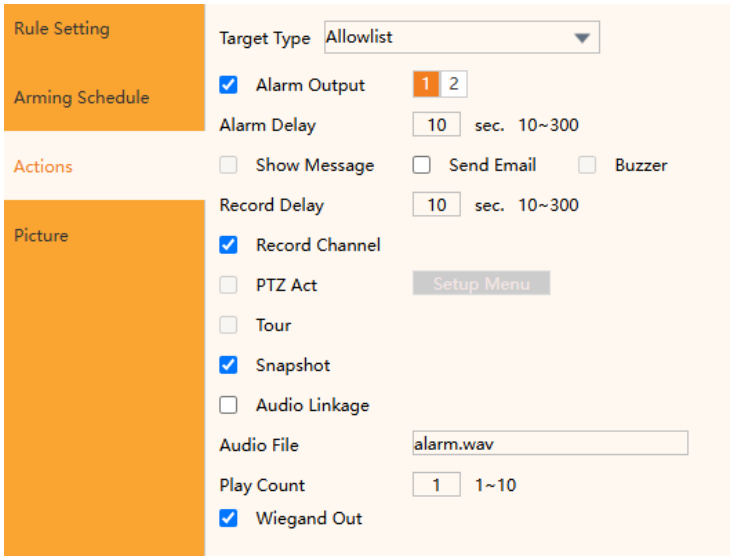
9.2 Arming Schedule

Select when the camera will read license plates. By default, the camera reads license plates 24 hours a day, 7 days a week. You can select a different schedule for license plates on the permitted list, the blocked list, and the general category (license plates not included in the enabled lists).



9.3 Action

Select the action or actions to be performed when a license plate is read. You can select different actions for license plates on the permitted list, the blocked list, and the general category (license plates not included in the enabled lists).



Alarm output: Activates the alarm output. Select which output(s) to activate.

Alarm delay: Select the alarm duration.

Send email: Select this option to receive an email each time a license plate is read.

Recording delay: Length of time recording continues after a license plate is read (requires a microSD card)

Recording channel: Activates channel recording when a license plate is read (requires a microSD card)

PTZ settings: Not used

Photo capture: Enables photo capture when a license plate is read (requires a microSD card)

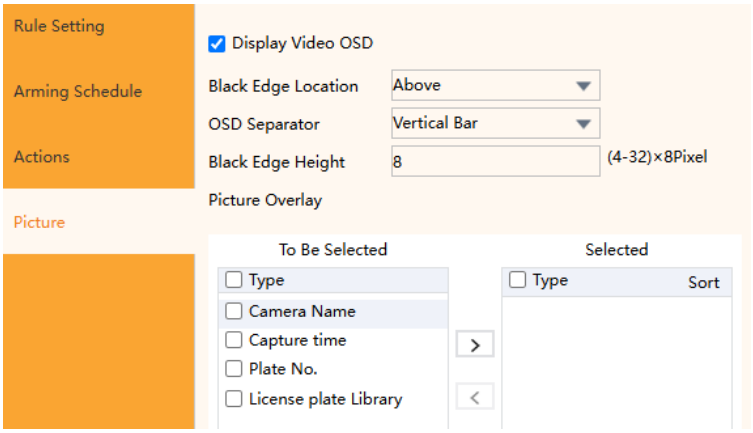
Alarm Linkage: Enables the audible alarm when a license plate is read. Then select an audio file from the available options.

Number of times: Select the number of times the audible alarm repeats.

Wiegand output: Enables the Wiegand output.

9.4 Image

Select the information overlaid on the live-view thumbnails (on the right-hand side of the image) whenever a license plate is read.



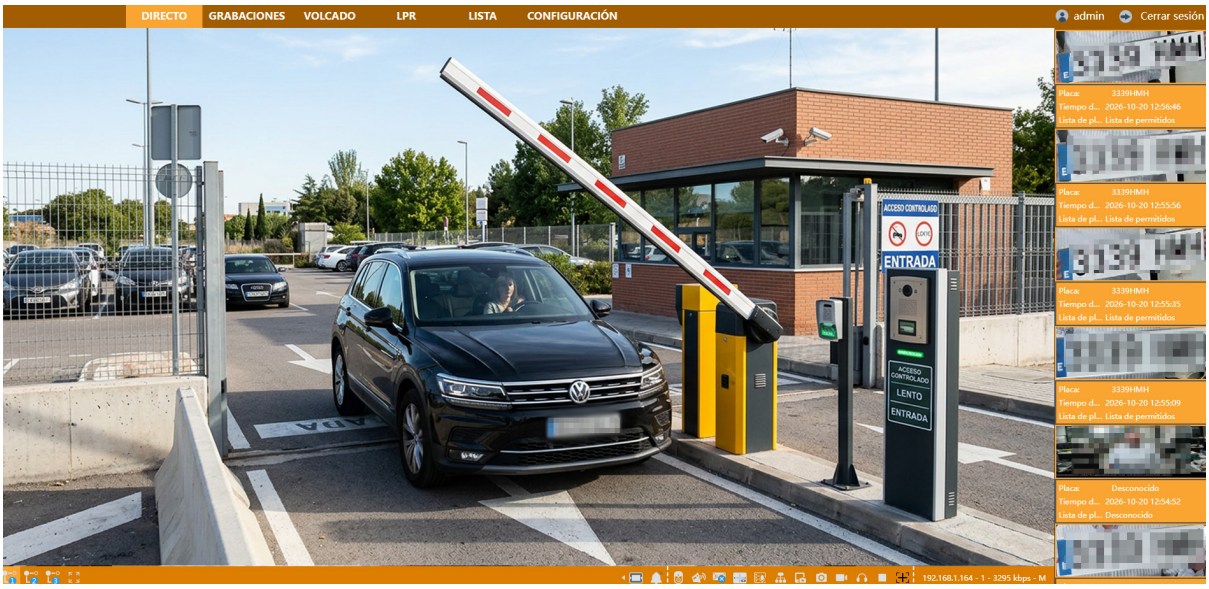
The available information is:

- Camera name
- Capture time
- License plate number
- License plate list

Choose the desired information, position and order.

10. LIVE VIDEO

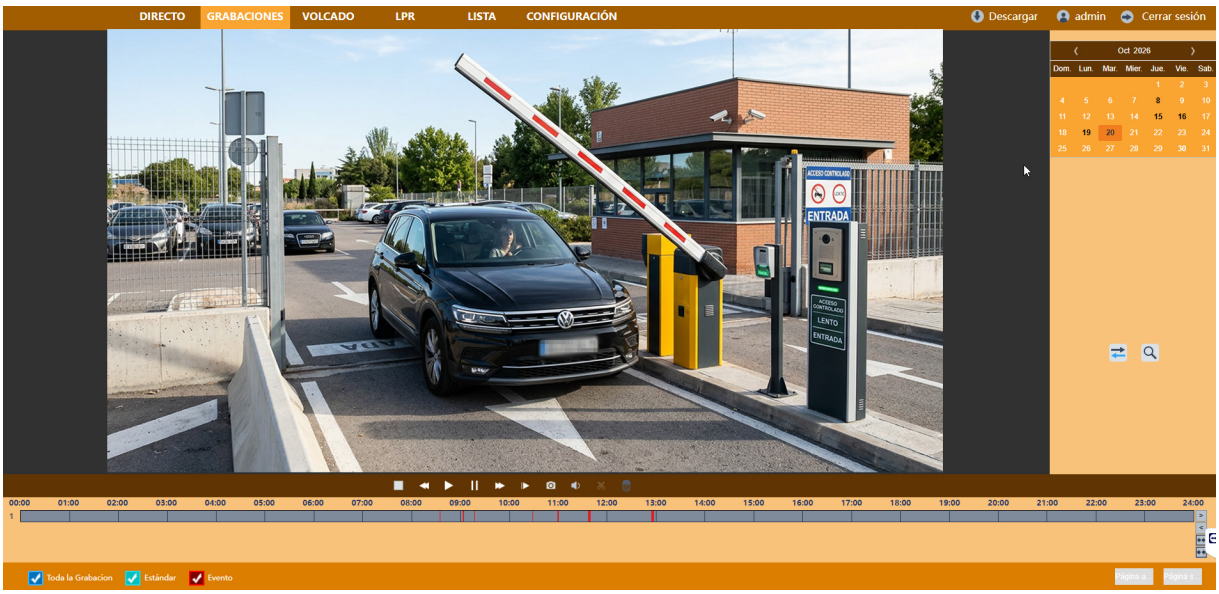
To view live video, click “PREVIEW” in the main menu at the top. The camera's field of view will appear on screen. Thumbnails of the most recently captured license plates will appear on the right. Click a thumbnail to view it at full size.



11. VIDEO RECORDINGS

To view video recordings, the camera must have a microSD card, sold separately.

Click “PLAYBACK” and select a day from the calendar on the right-hand side of the screen. Then click the “PLAY” icon to start playing the recorded videos. By default, the camera records video to the microSD card only when a license plate is read.

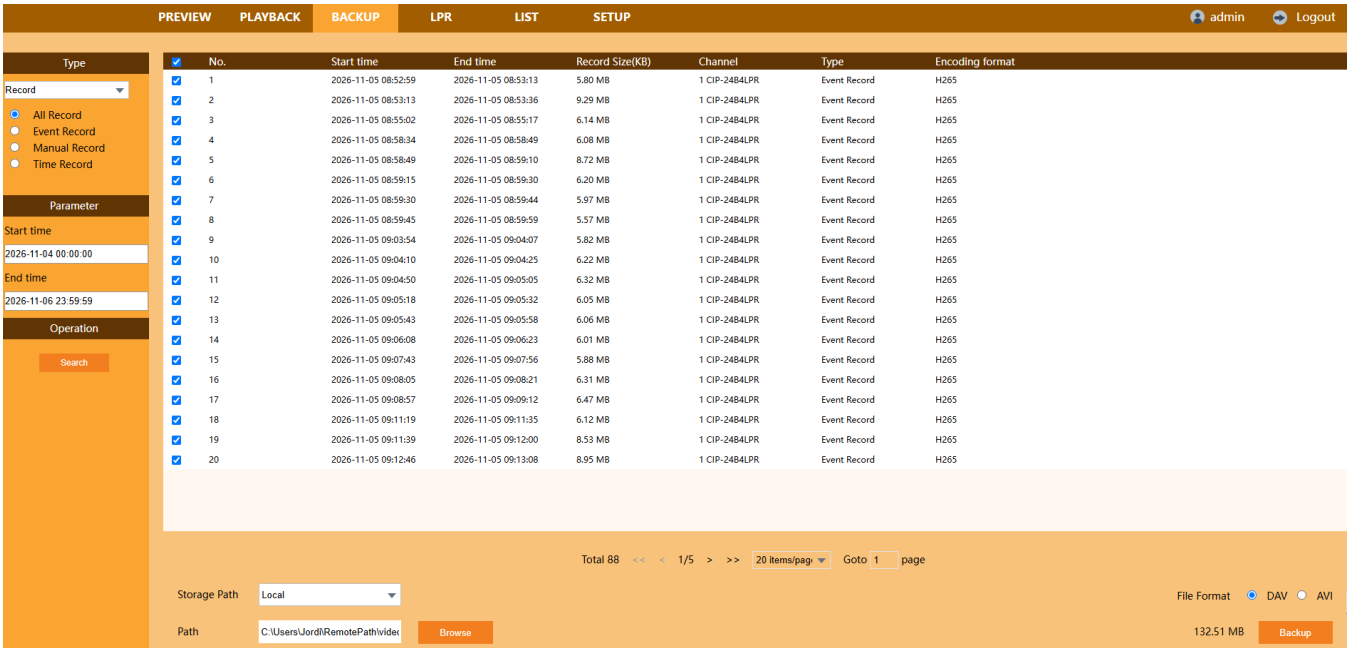


12. EXPORTING IMAGES AND VIDEOS

To export video recordings or images, the camera must have a microSD card, sold separately.

Proceed as follows:

1. Click “BACKUP” in the main menu at the top.
2. Select the type (Images or Recordings)
3. Select the search date range in the calendar
4. Click “Search”
5. Select the file(s) to export.
6. Select the export format (DAV / AVI)
7. Click “BACKUP”

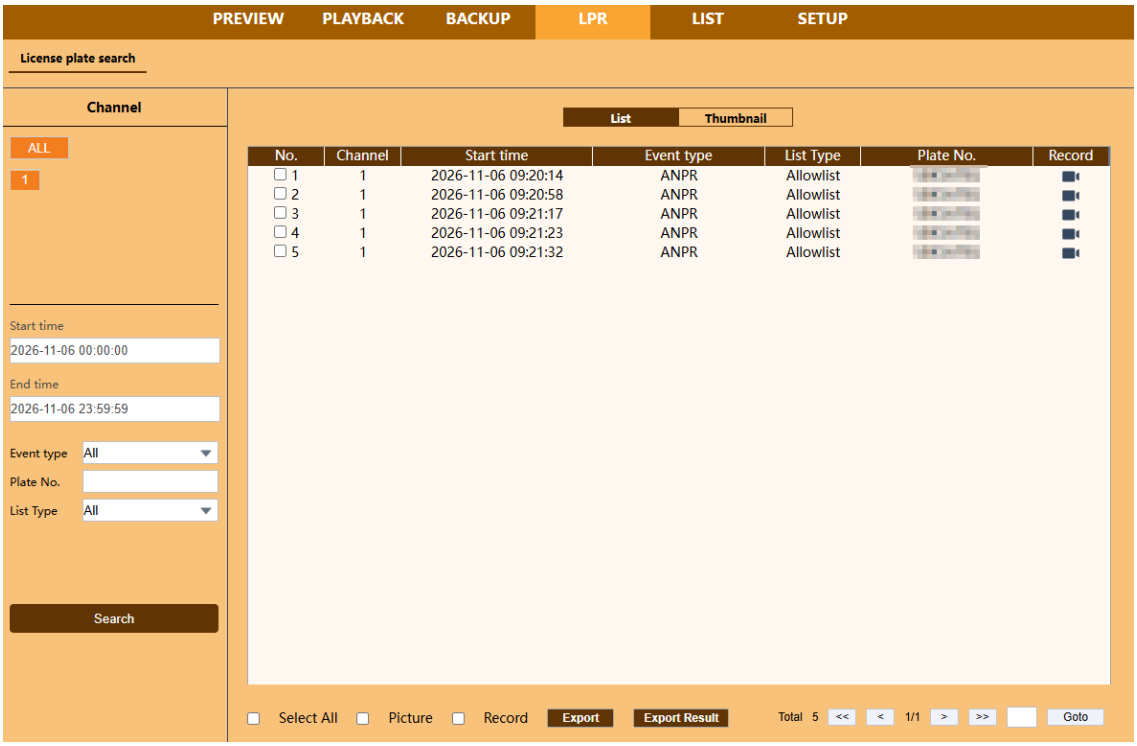


13. LPR SEARCH FUNCTION

To search for license plates using LPR search, the camera must have a microSD card, sold separately.

Proceed as follows:

1. Click “LPR” in the main menu at the top.
2. Select the search date range in the calendar. By default, TODAY is selected.
3. Select the event type.
4. Click “Search”



Click the camera icon in the list to view the captured license plate (image and video).

You can now perform two types of export:

1. Export one or more images and videos.
    1.1 Select the license plate readings you want to export, then select “Image” and/or “Video”.
    1.2 Click “Export” to export the files to another location.

2. Export to an Excel file.
    2.1 Select the license plate readings you want to export, then select “Image” and/or “Video”.
    2.2 Click “Export to Excel” to export to an Excel file.

14. INSTALLING A MICROSD MEMORY CARD

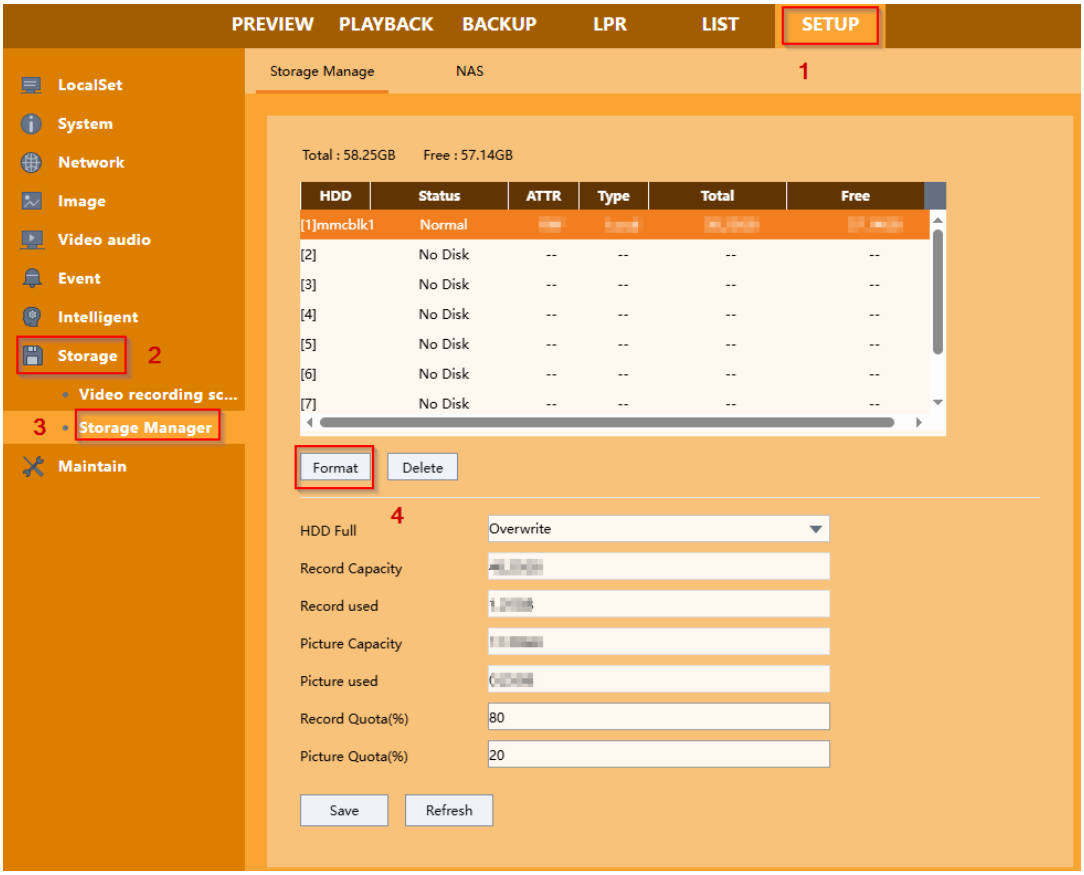
A memory card of at least 128 GB, Class 10 is recommended. Golmar has approved the MSD-128 model (31692082).

To install the memory card, proceed as follows:

1. Disconnect the camera from the power supply.
2. Locate the cover on the bottom of the camera. You will see the word RESET and a memory card symbol.
3. Loosen the two screws to open the cover.
4. Insert the memory card into its slot.
5. Close the cover and retighten the screws. Do not leave the cover open for extended periods to prevent condensation.
6. Connect the camera to the power supply.

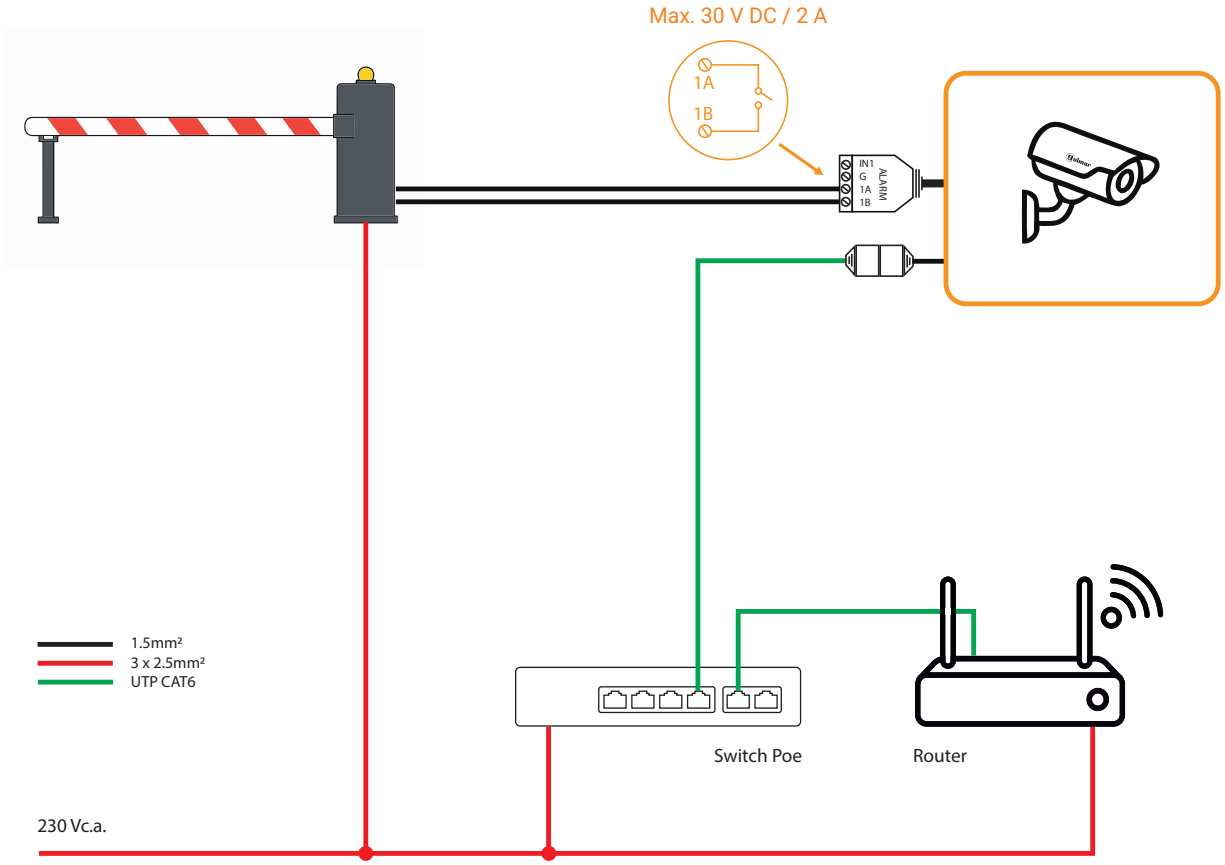
Once the memory card is installed, make sure the camera detects it correctly. To do so, proceed as follows:

1. Click “SETUP” in the main menu at the top.
2. Select “Storage” - “Storage Manager”.
3. Check that the status is “Normal”. After installing the card for the first time, format it by clicking “Format”.



15. WIRING DIAGRAM

The diagram below shows the wiring when the camera operates in standalone mode. The relay contact provides a potential-free output intended exclusively for control functions. If power switching is required, it must be performed using a suitable external device.



16. USER MANAGEMENT

Once the camera's initial configuration is complete, it is recommended that you create the necessary user profiles and assign each one the appropriate permissions. You must also change the default password for the administrator account.

Important: This measure is essential to ensure system security and prevent unauthorized access. Do not skip this step.

16.1 Changing the administrator password

Proceed as follows:

1. Click “SETTINGS” in the main menu at the top, then select “System Settings” in the left-hand menu.
2. Select “User Management”.
3. Select the “admin” user group, then click the padlock to change the password.
4. Once you have saved the new password, log in to the camera again using it.

Store the new password in a secure place after changing it.

16.2 Creating groups and users

To create a new group, proceed as follows:

1. Click “SETTINGS” in the main menu at the top, then select “System Settings” in the left-hand menu.
2. Select “User Management” in the left-hand menu, then “Add Group”.
3. Enter a group name, then set the permissions for the group.

Users in a group can have no more than the permissions assigned to that group.

To add a user, proceed as follows:

1. Click “SETTINGS” in the main menu at the top, then select “System Settings” in the left-hand menu.
2. Select “User Management” in the left-hand menu, then “Add User”
3. Enter the username and password (credentials), then select the group to which the new user belongs and the permissions they have. All group permissions are enabled by default.

16.3 Changing permissions

The “admin” and “user” groups have default permissions that cannot be changed. Only the permissions of groups created later can be changed.

To change a **group’s permissions**, proceed as follows:

1. Click “SETTINGS” in the main menu at the top, then select “System Settings” in the left-hand menu.
2. Select “User Management” in the left-hand menu, then “Modify Group”

To change a **user's permissions**, proceed as follows:

1. Click "SETTINGS" in the main menu at the top, then select "System Settings" in the left-hand menu.
2. Select "User Management" from the left-hand menu, then click the "pencil" icon for the user in the user list.

Users in the "admin" and "user" groups have a set of default permissions that cannot be changed. Permissions can only be changed for users in groups created later.

17. RESET

If the camera is not operating normally, it is advisable to reset it.

There are two types of reset:

1. Soft reset, which requires you to be logged in to the camera and allows you to restore factory settings or select the settings to reset.
2. Hard reset, which performs a complete reset (factory reset).

To perform a soft reset, follow these steps:

1. Click "SETTINGS" in the main menu at the top.
2. Select "Maintenance" and then "Reset" from the left-hand menu, then select "Factory Reset". Please note that lists will be lost, and passwords, groups, and users will be reset to their defaults. The recordings will not be lost.

If you do not remember the administrator password, you will need to perform a hard reset. To do so, follow these steps:

1. Do not disconnect power to the camera.
2. Locate the cover on the bottom of the camera. You will see the word RESET and a memory card symbol.
3. Loosen the two screws to open the cover.
4. Press and hold the RESET button for 10 seconds.
5. Close the cover and retighten the screws. Do not leave the cover open for extended periods to prevent condensation.

18. TECHNICAL SPECIFICATIONS

Sensor + DSP	SC450AI + SSC379G
Image sensor	4 MP 1/1.8” progressive-scan CMOS sensor
Minimum illumination	Color: 0.002 lux (F1.3, AGC enabled); 0 lux with illumination
Illumination range	60 m (IR); 50 m (warm white light)
Smart IR	Yes

Optics

Focal length	2.8 to 12 mm
Aperture	F1.2 to F2.5
Field of view (FOV)	Horizontal: 105°–47.5°, Vertical: 55°–26.6°, Diagonal: 127°–54.6°
Lens mount	Ø16,7 mm

Compression

Video compression	H.264 / H.264+ / H.265 / H.265+ / MJPEG (substream)
H.264 profile	Baseline / Main / High Profile
H.265 profile	Main Profile
Video bit rate	11 Kbps to 10 Mbps
Triple stream	Yes
Audio compression	G.711A / G.711U
Audio bit rate	64 Kbps

Image

Maximum resolution	4 MP (2688 × 1520)
Main stream	50 Hz: 25 fps (2688 × 1520, 2560 × 1440, 2048 × 1536, 1920 × 1080, 1280 × 720); 60 Hz: 30 fps (2688 × 1520, 2560 × 1440, 2048 × 1536, 1920 × 1080, 1280 × 720)
Substream	50 Hz: 25 fps 720P (1280 × 720), 25 fps D1 (704 × 576), 25 fps CIF (352 × 288); 60 Hz: 30 fps 720P (1280 × 720), 30 fps D1 (704 × 480), 30 fps CIF (352 × 240)
Third stream	50 Hz: 25 fps CIF (352 × 288); 60 Hz: 30 fps CIF (352 × 240)
Image settings	Brightness, Contrast, Saturation, Hue, Sharpness
Shutter speed	Automatic / Manual, 1/3 to 1/100000 s
Day/night mode	IR-cut filter
WDR	130 dB
Digital noise reduction	2D / 3D DNR
BLC	Yes
HLC	Yes
ROI (Region of interest)	Yes

License plate recognition (ANPR/LPR)	Vehicle and motorcycle license plate recognition (only in access control mode); whitelist and blacklist of up to 10,000 entries;

Network

Network storage	NAS (NFS, SMB/CIFS)
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, NTP, IGMP, UPnP, SMTP, UPnP-TM, P2P
Compatibility	ONVIF Profile S, Profile G, Profile T, SDK
Security	User authentication, IP address filtering, region masking
Users	Up to 40 users
Web browsers	Internet Explorer 10/11 (requires plug-in); Chrome 57.0 or later; Firefox 52.0 or later

Interfaces

Network interface	1 self-adaptive 10/100/1000 Mbps RJ45 Ethernet port
Internal storage	Supports MicroSD cards up to 512 GB
Microphone	Yes
Speaker	Yes
Audio In/Out Audio	1 / 1
Audio In/Out Alarm	2 / 2
Reset button	Yes
RS-485	Yes
Power output	Yes
Wiegand interface	Yes
Video output	Yes

General

Operating conditions	-40 °C to +60 °C (-40 °F to +140 °F); ≤95% humidity, non-condensing
Nutrition	12V DC ±25%
PoE	PoE (IEEE 802.3at)
Max power consumption	11 W
Degree of protection	IP67
Material	Metal
Dimensions	Ø 88 × 278 mm
Net weight	1213 g

we take care of your home

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