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LPR - License Plate Recognition App

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The LPR app is designed to recognize a license plate and perform various actions.
With LPR, you can either pass the recognized license plate or search for it in a list of pre-registered license plates to trigger the required action.
We currently support LPR apps in four regions: US, Europe, Japan, and Korea.

Activate a license to use an app

To use the LPR app, you need a license to use the app.
Active a trial license to issue a trial license for testing.
To activate a trial license, click the Activate trial button at the top of the target app card in the Explore AI Apps menu.
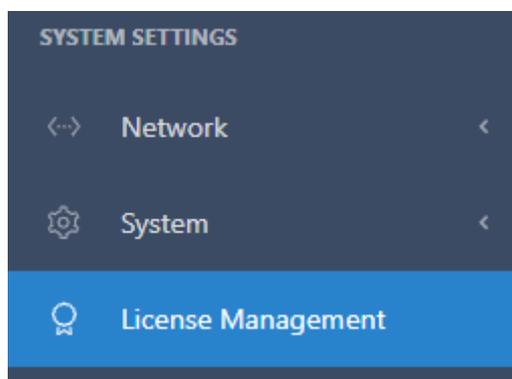Your device must be connected to the internet to activate a trial license.
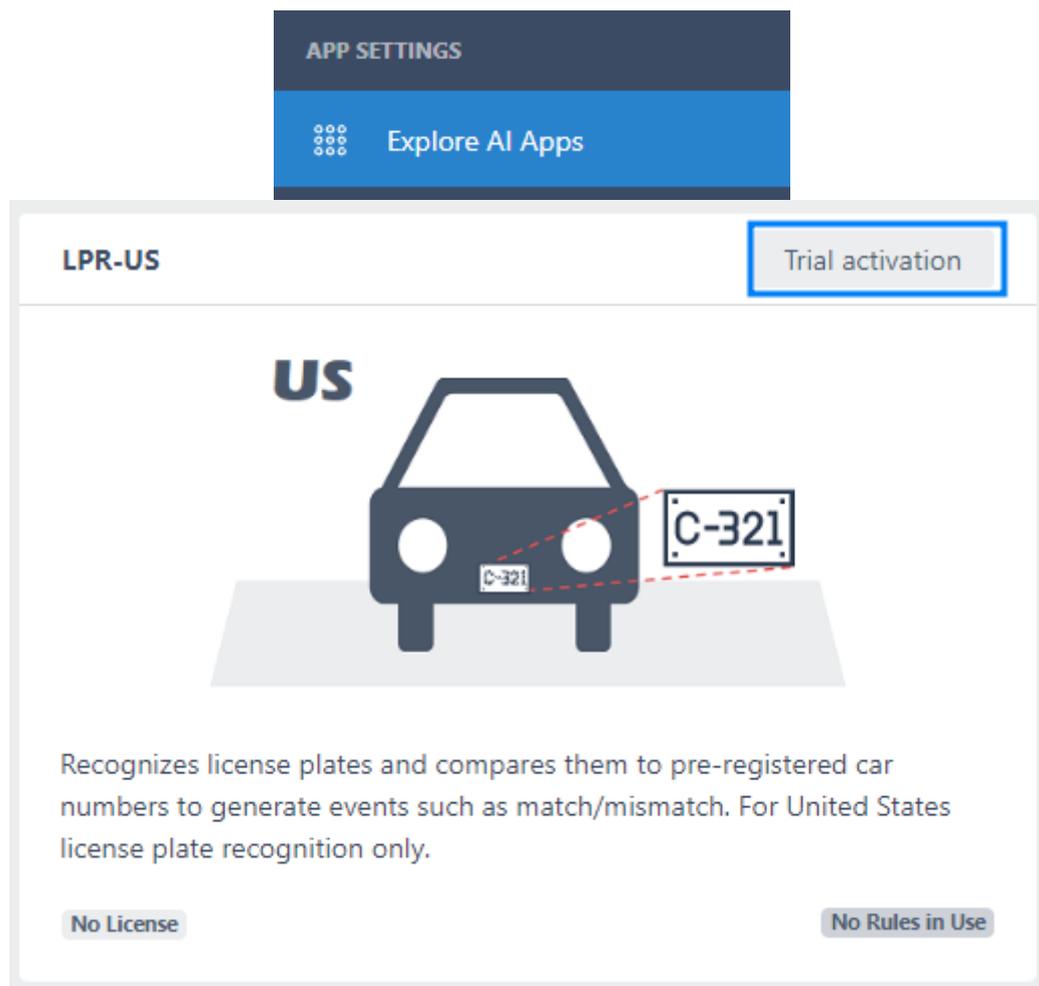
If you need to purchase a full license, contact the place where you purchased your device.
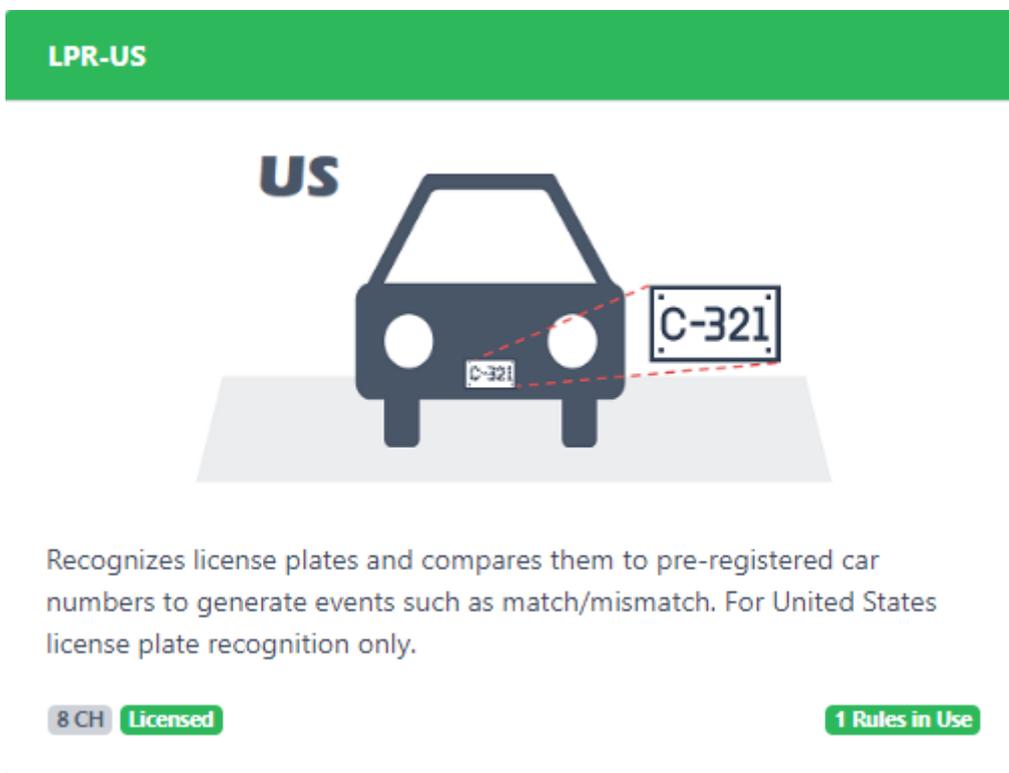
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Licenses to use the app be issued in the form of a JSON file, which you can upload from your device's License Management menu.

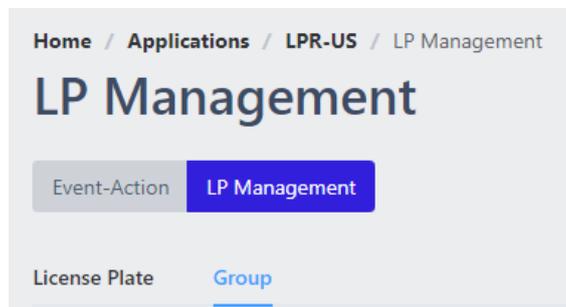
1. Detecting blacklisted vehicles

1.1 Registering a blacklisted vehicle number

1. Click an app card in the Explore AI apps menu to go to the app's settings UI screen.

The LPR app manages the list of license plate numbers as groups.
2. To register a predefined group, go to the LP Management menu.
3. Then go to the Group menu to create a blacklist group.

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4. Add a new blacklist group by clicking the Add Group menu in the Add drop-down at the top right of the group list table.
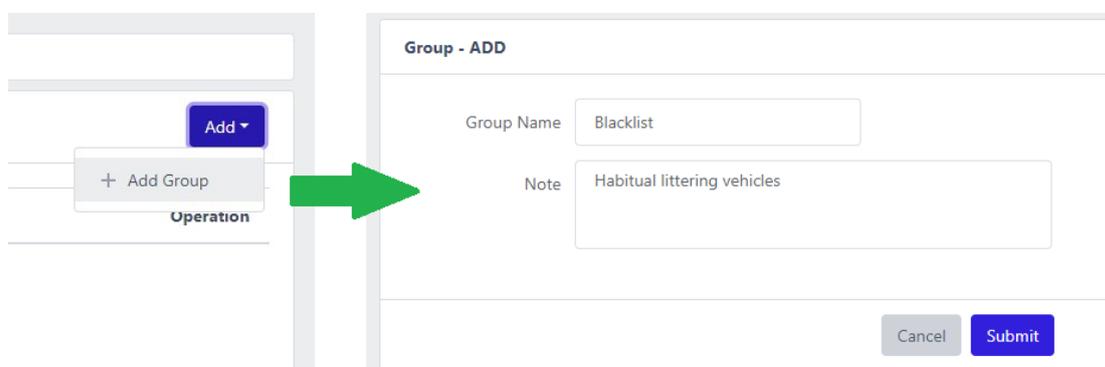
5. Once you have registered the blacklist group, go to the License Plate menu and register the target plate number. Specify it as the Blacklist group you registered earlier.
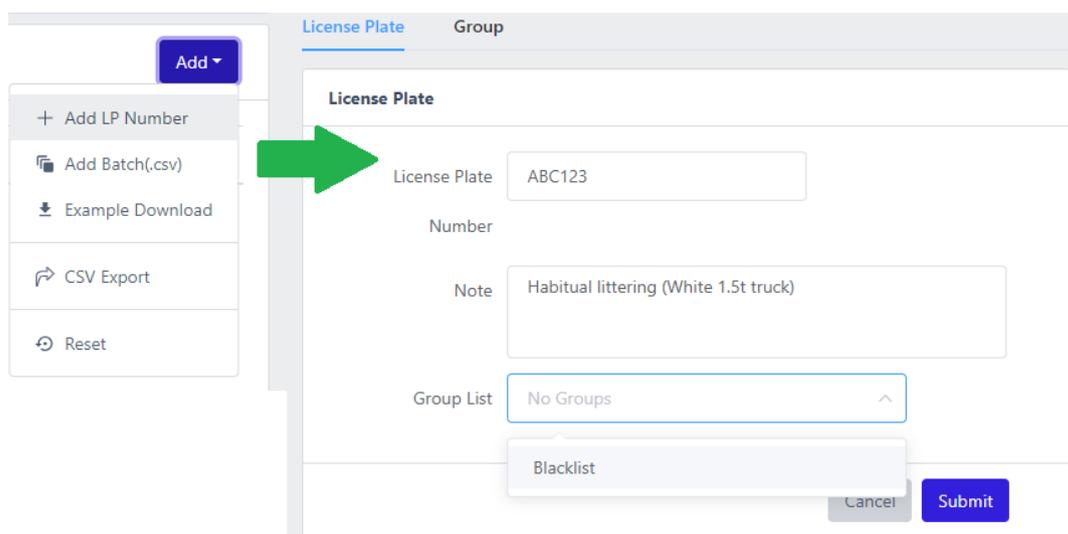
You can batch register multiple car numbers and groups using a batch file in CSV format.
We have provided an example for batch registration, so it is convenient to edit the contents of the file downloaded from Example Download and register them all at once using the Add Batch(.csv) menu.

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1.2 Registering an Event Action Rule

Once you've registered the groups and License plate numbers to be detected, you can set up detection events to configure the action when a LP is detected.

1. You can register a detection event and an action rule that defines the action to be triggered when the event occurs by going to the Event- Action menu.

2. Click the **+ Add Rule** button to register a new event action rule.
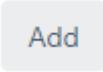
3. In the event settings, click the Add button to add a new event.
See this document for how to set up detection zones and labels.

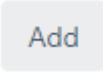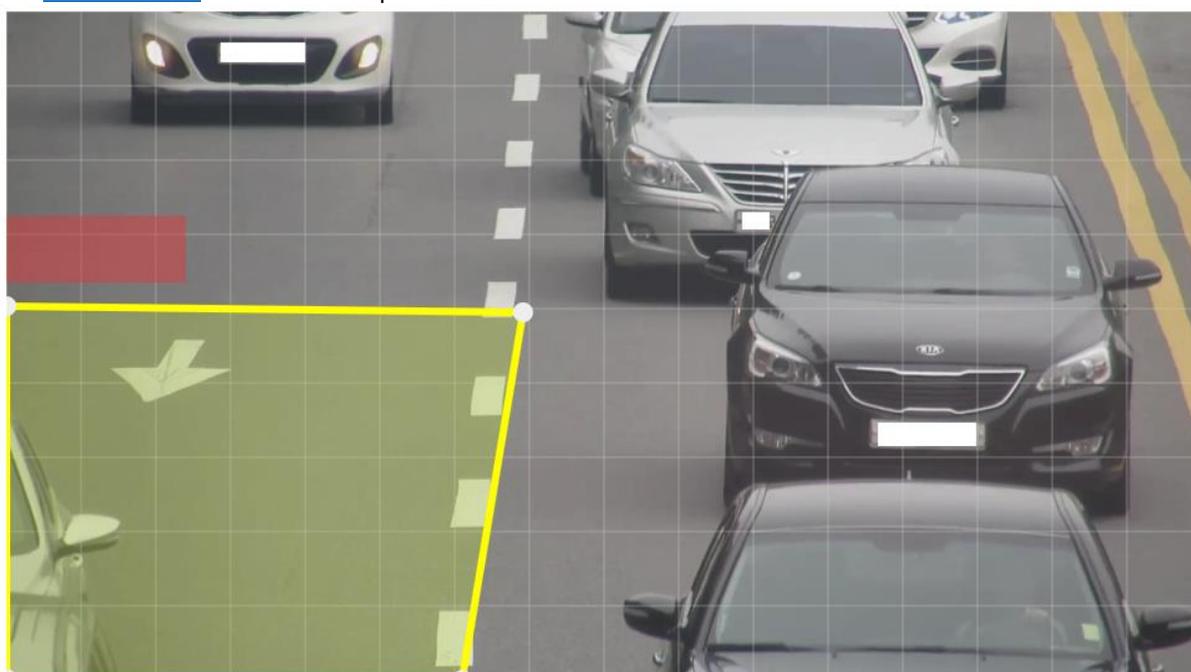# NOTA APPLICATIVA

1.3 Event Setting

Recognition Mode	LP In Groups ⌄
Group	Included In One or More Group ⌄
Matching Policy	Normal ⌄

Allow similar characters

1. Select the LP in Groups of the Recognition Mode, since the event is to recognize license plate numbers that are included in a blacklist group.
   - The event trigger policy based on Recognition Mode is as follows.
     - LP in Groups – the event is only raised if the detected LP number is searched in all or some of the pre-registered groups.
     - LP Not In Groups – the event is only raised if the detected LP number is not in the selected group or not in any group.
     - Any LP Number – the event is always raised whenever LP number is detected.
2. Select the blacklist group. You can select multiple groups.
   - The Group working policy is as follows.
     - If multiple groups are selected, the event is raised when a LP number is detected that is included in any of the groups.
     - If no groups are selected, the event is raised when a LP number registered to any of the registered groups is detected.
3. The matching policy is classified into three levels with settings for how far to allow similar characters.
   - The detailed policy is as follows.
     - Very high – event raises only if the full text of the registered and detected license numbers match exactly.
     - High – event raises if there is a difference of only one similar character (e.g. O/D) in the text of the registered and detected LP number.
     - Normal – the event occurs even if there is a difference between the registered LP number and the detected LP number in the case of similar characters.

1.4 Action Setting

Set the action to take when a blacklisted LP number is detected.
When a blacklisted LP is detected, you can switch on the warning lights via Relay or broadcast an alert through the camera's speaker. You can also send event details via HTTP, FTP, etc.
For the types of action handlers and how to set up each, see the Action Setting Guide and subdocuments.

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2. Registration of an event action rule that uses the vehicle direction property

When detecting a license plate number, you can reflect the car movement direction in the Event Setting Menu. The movement direction allows you to do the following.

- Filter the event to only occur for LP numbers that are moving in a specific direction based on the movement direction of the vehicle.
- Including directional information in action messages by naming the direction of movement.

### 2.1 Example of recognizing only LP number of vehicles moving in a specific direction

For example, suppose a workshop distinguishes as like example image the direction of movement between vehicles bringing in materials and vehicles leaving after finishing the incoming operation, the workshop may want to occur and record events only for vehicles bringing in materials.
You can also set to detect direction of vehicles and event only for moving specific direction in similar use case.

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2.2 Registration of an event action rule that uses the vehicle direction property

Go to the Event-Action menu to register an action rule. An action rule defines a detection event and an action to be triggered when the event occurs.
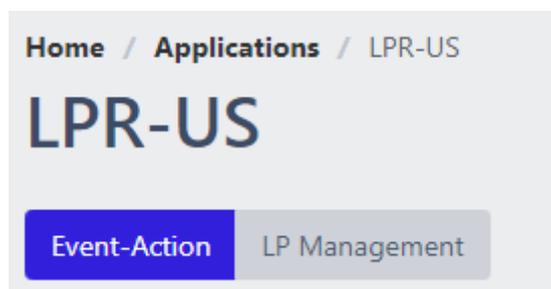
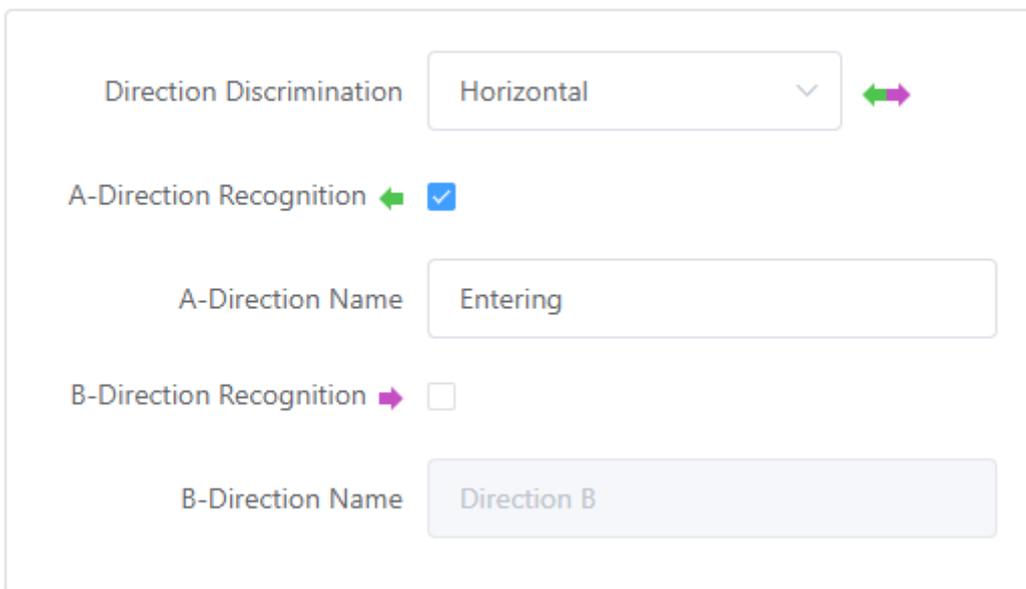2. Click the **+ Add Rule** button to register the new event action rule.

3. In the event settings, click the **Add** button to add a new event.

- See this document for how to set up detection zones and labels.

4. In the setting of Object Movement Direction, you can make settings based on the direction of movement.


5. Set the Direction Discrimination as follows depending on the direction of movement of the vehicle.

- Not use – Detects and recognizes LP numbers regardless of the direction of vehicle movement.
- Vertical – Use when the direction of vehicle movement is separated by a vertical direction. Specified by top (A)/bottom (B) direction.
- Horizontal – Use when the direction of vehicle movement is distinct in the horizontal direction. Specified by Left (A) / Right (B) direction.

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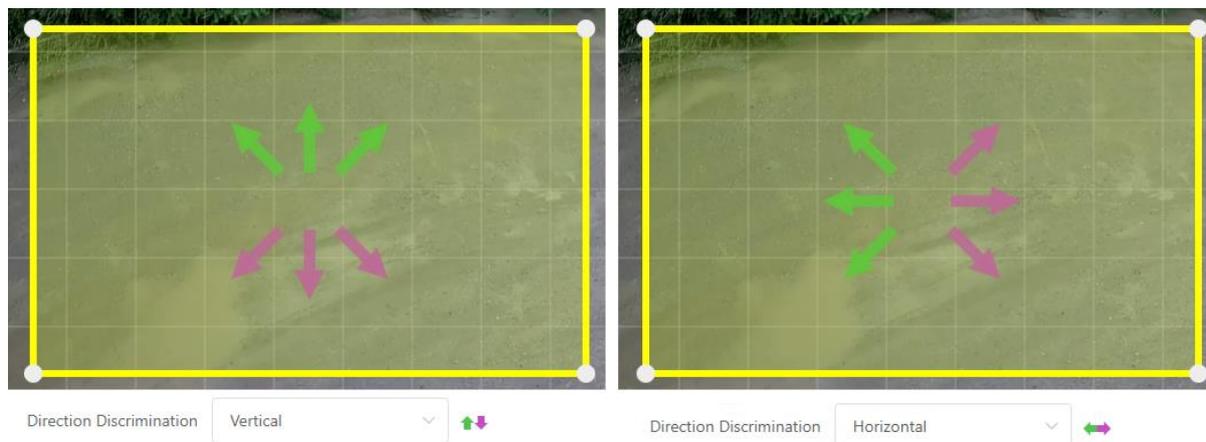
Only recognize license plates for vehicles moving in that direction if the Direction Recognition is checked. This allows you to filter out vehicles moving in unwanted directions without recognizing their license plate numbers. By entering a Direction Name, you can send custom direction name in the action message when the event occurs.

Related action messages are ::OBJ[MOVEMENT_DIR], ::OBJ[MOVEMENT_DIR_NAME].

The ::OBJ[MOVEMENT_DIR] token is replaced by A or B in the action message, depending on the direction of vehicle movement.

The ::OBJ[MOVEMENT_DIR_NAME] token is replaced with the name of each directional customization in the action message, depending on the direction of vehicle movement.

See this document for a detailed guide on how Action Message tokens work and how to use them.