VACRON
ADVANCES IN SECURITY SOLUTIONS

AI License plate recognition

Operation Manual

Contents

Dear Valued Customer,

Thank you for using our products. If you encounter any problem when using the product, please contact your direct supplier, and we will provide you with immediate service through them.
We reserve the right to make any software or hardware upgrade to the product without prior notice.
Please read and follow the product manual carefully before using the product.

Please read the following safety guidelines carefully before using the product.
Make sure that you have followed and operate the product in the proper way.
Please store this equipment away from children and/or infants in an unreachable area.

- Please use only the recommended power source.
- Do not attempt to disassemble, modify or heat the product.
- Avoid dropping or hitting the product on the ground or surface.
- To avoid injury, do not touch inside of the product after it has been dropped or when it's damaged.
- If the product emits smoke, odor or other abnormalities, please stop using the product immediately.
- Do not use organic solvents such as alcohol, benzene, or paint thinner to clean the product.
- Do not allow any liquid or foreign objects to enter the machine.
- Do not place the battery near heat sources or expose it to flame.
- Do not touch the power cord with wet hands.
- Do not use this device for power outlets or wiring accessories that exceed the specified voltage.
- Do not use a damaged power cable, plug, or one that is not fully plugged into an electrical outlet.
- Avoid contact with metal objects (such as pins or keys) or stains on the terminals or plugs.
- Please place and use this product at 0°C~40°C, avoid direct sunlight, or near the heat sources.
- Do not install this equipment in a humid environment.
- Do not expose this equipment to smokey and dusty environments.
- Avoid strong collisions, do not drop the machine.
- Please keep this product at a safe level, install it in a proper place, and pay attention to prevent this product from falling.
- Please install in a well-ventilated place, do not block the ventilation opening of this product.
- Use this device within the range of recommended current and voltage input/output.
- This equipment will be on for a long period of time, please do not place flammable and explosive materials next to the equipment to avoid safety hazards.

A. Operating instructions

1. License Plate Setting

License Plate Reco

Target Recognition : Set Target recognition (OFF, Any Car, Allow List)
Score Limit [0 - 100] : Set Score Limite [0-100], due to AI calculation, there will be many factors that cause poor license plate recognition scores, you can set here to ignore the poorly recognized license plate numbers. (do not recognize, do not store)
Detect Area : Set Detect Area, the identification area can be freely set for identification. (e.g. dual lane, only the left or right lane is recognized)

2. Interlocking setting

Interlocking setting

Duration [0 - 60 Minute] : Set the alarm output Duration Minute/second
Output DO_1 : Set DO-1 output Levle (OFF, Low, Hight) (0V-3.3V)
SD Card : To enable/disable snapshot photo of the license plate recognition result stored on the local SD card.
Upload Via FTP : Enable/Disable photo of the license plate recognition result stored to the FTP Server.
Report Via HTTP : Enable/Disable that each recognition will generate an HTTP connection and send a GET to the HTTP server. · The content of GET includes: whether the license plate is white listed and when it occurred. · After the transfer is completed, the connection will be automatically disconnected. · The same license plate will only send HTTP packets once every 30 seconds. · If it is not sent successfully more than 60 seconds, the HTTP connection wil be abandoned to avoid abnormalities network jam, for detail setting, please check with the HTTP server setting option.
RS485 :   Enable/Disable RS485 oupt · RS485 Output content:[0x80][length][0x01][plate_info][checksum] · [length]:plate_info length +1 · [plate_info]: plate_allowlist_time ex:AAB-2345_1_64126FD3 indicates that the license plate [AAB-2345] is whitelisted and occurred in 64126FD3 is the number of seconds since 1970/01/01 00:00:00 · [checksum]: The values from the beginning of the length to the checksum are added

3. Export or Import List

Export List	Import List
Export the list of license plates	Import the list of set license plates

The established license plate list can be exported for storage, or the export list can be copied to the next license plate recognition camera, and the data export format adopts JSON, if there are multiple entrances and exits in the case, the license plate setting time can be reduced.

Allow List setting

*List import in Batch (Import List)
　· You can go to our website to download the Tool (IVS_Batch_Tool) for large-scale data import
　· Create a folder on the computer, open it, and click Add Text Document .txt File

　-Rename the file name (license plate + license plate remarks), example AAA-1111+ Ming Wang

　-Click on the folder, and you can edit the license plate notes inside the document, such as the name of the resident, the house number or the description of the owner's information such as the work department and so on.
　 (The folder can not be blank. Empty folders will be treated as invalid data import exceptions)

　-Enable the Import tool to enter IP address of LPR Camera Port:80 (default) and account etc..
　 After selecting the import folder file, press OK to import the data.

B. Allow List

Add License Plate

	Set Allow List manually	
	Plate	license plate
	Describe	Description
	Start Date	Valid Date (Star/End date)
	End Date	The temporary right of way is limited to the license plate setting end time After the validity period of the temporary access permission, the date will be changed to red to remind the user that the license plate number's permission has been terminated, and this license plate number whitelist setting is invalid and no longer allowed to pass.

	Delete All (please note that this option cannot be restored)
	If you need to delete a single data, you can delete the data on the right side, check it, and then move the license plate below to delete it in a single transaction.

License plate search	you can search license plate number saved on SD Card. If you have set temporary access rights, you can search for expired vehicle numbers according to the expiration date of the permission. Example AAA-1111 Ming Wang 2023/03/01~2023/03/09 You can search for 2023/03/20 or 2023/03/20 00:00:00 in the search box to trace the expired car number, control, and modify the permission time or delete the license plate information.

C .SD List

1.SD List

	2023/03/14 ~ 2023/03/20	00:00 ~ 23:59		Search...
	License plate data record search (date、time、license plate)			
🗑	Delete the current search data and delete the completed searched data To delete data, data verification is required, and the procedure takes certain time.			
SD	You need to turn on the SD card for photo storage, and the button will show that the local SD card can be fully formatted. Please be noted that executing this program will format the SD card data, and will delete all the data in the SD card, please use the format carefully, and the system will automatically restart after completion.			

License Plate	Click Car No. on the License Plate fied to display the photo.	
Allow List	All List field displays the status linked to the whitelist.	
	✅	The whitelist allows access to license plates.
	❌	If you need to add the license plate to the whitelist, you can also click to add the license plate to the whitelist.

Data search or deletion on SD card needs a lot of calculations and loading, the license plate recognition function will be suspended during this period, and SD card is busy displayed at the top of the image in time, and the recognition function will be restarted after the deletion process is completed.

2.SD card storage description

SD card folder restrictions:

1. Folder Name: Serial Number_Date(0001_20230224)

2. The folder serial number is only from 0001 to 9999

3. If the folder serial number reaches 9999 and the number of folders reaches 9999, the oldest date will be automatically deleted.

4. As in the third point, if there are multiple folders with the same date, all folders of that date will be deleted.

5. If the SD card is full (remaining space <300MB), it will be deleted starting with the low serial number, and 300MB of space will be deleted each time.

6. If you delete some folders through the web page, the new serial number will be incremented by 1 with the current maximum value.

7. As in the sixth point, if the addition of 1 exceeds 9999, and the number of folders does not reach 9999, the serial number missing in the middle will be used as a new one.

SD card archive restrictions:

1. File name: serial number_date_time_x-y-w-h_type_license plate.jpg

2. The serial number of the file is only from 0001 to 9999

3. If the file serial number reaches 9999 and the number of files reaches 9999, the folder will be automatically added and start from 0001.

4. If you delete some files through the website, the new serial number will be incremented by 1 with the current maximum value.

5. As in the forth point, If the addition of 1 exceeds 9999, and the number of files does not reach 9999, the serial number missing in the middle will be used as a new one.

6. If you delete all the files in a folder from the web page, the folder will be automatically deleted.

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