

IP ANPR cameras with OCR

How to install license plate reading cameras





Introduction

Some models of cameras in the RH series have the license plate reading function with OCR, which is managed with the CentroRH management software.

This manual indicates how to position and configure the camera to make the best use of the ANPR function.

Camera position

In order for the ANPR cameras to read the license plates, they must be positioned correctly.

INCLINATION ON THE HORIZONTAL PLAN

For the reading of the characters to work correctly, it is important that the plate is as horizontal as possible. Be careful to rotate the camera appropriately so that the angle of the license plate in the shot does not exceed 5 °



SIZE IN THE PLATE

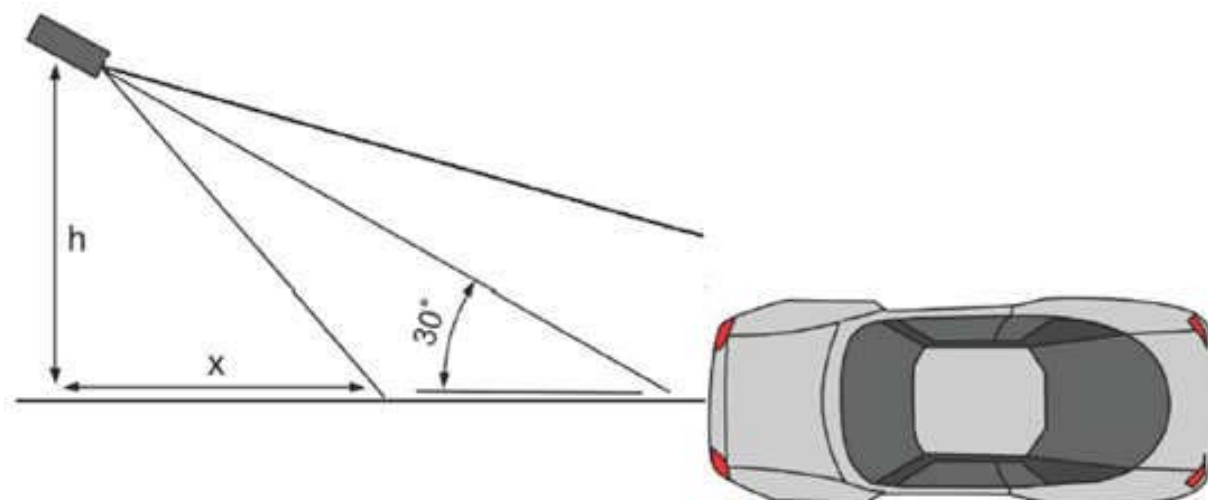
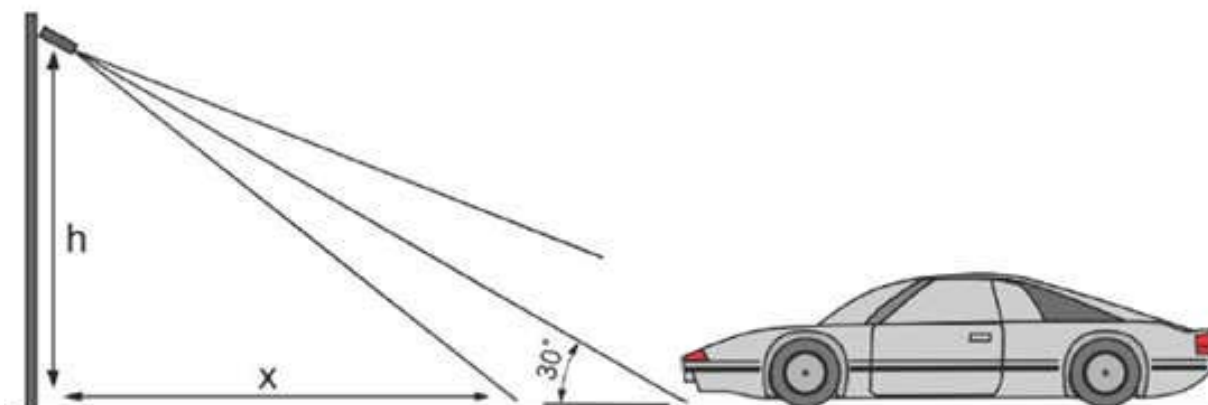
Adjust the zoom so that the license plate is as large as possible in the frame. For the reading to take place, the size in the image must be at least 130x70 pixels.

FRONT OR REAR PLATE

You can pick up both the front and rear license plates of the vehicles. If it is possible to choose, the rear license plate is preferable because the rear lights give less glare.

INCLINATION WITH RESPECT TO THE SENSE OF RUNNING

It is necessary to maintain an angle of about 30 ° with respect to the direction of the vehicles. In the optimal situation, the 30 ° angle should be maintained both horizontally and vertically. The 30% inclination with respect to the direction of travel is important to avoid the glare of the headlights in the night shot.



The minimum reading distance X depends on the positioning height of the camera according to the formula $X = H \times 1.7$. For example, if the camera is positioned at 3 meters, the minimum reading distance is 5.1 m.

The maximum recommended reading distance is 30 meters

ZOOM ADJUSTMENT

These cameras have a motorized lens that you can adjust remotely. It is necessary to zoom in as much as possible in order to obtain an image of the large plate, but without risking that the vehicle can pass out of the shot. The automatic focus normally allows an excellent result both day and night, but possibly it is also possible to resort to manual focus.

POSITION OF THE SUN

When positioning the camera, it is necessary to avoid directing it in directions that during the day can frame the sun from the front. This situation can create camera glare and make the license

ANPR. MANUAL

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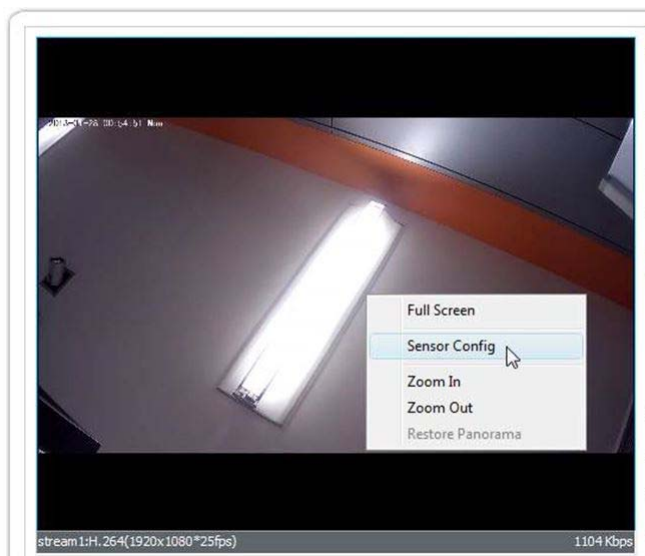
plate reading more difficult.

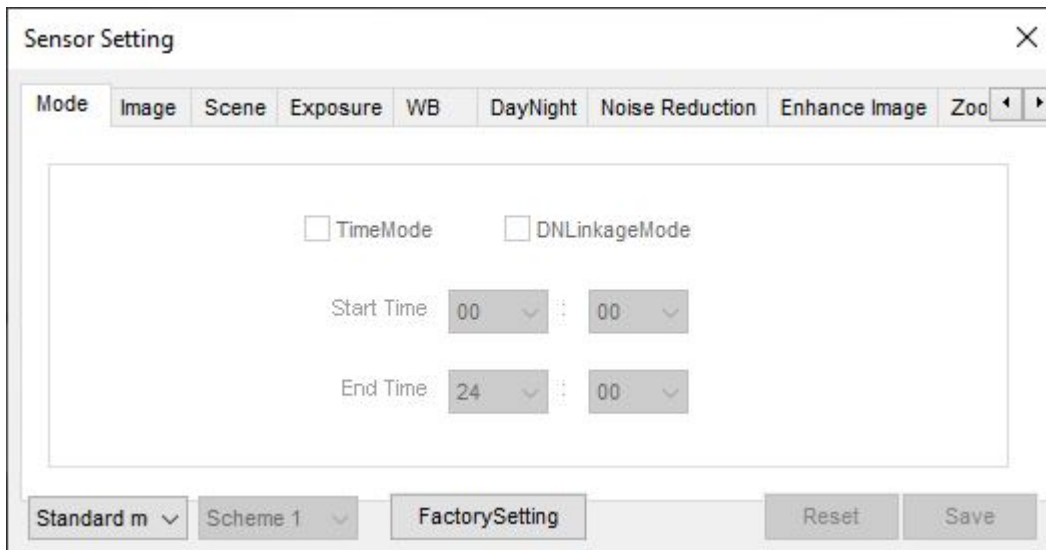
Camera adjustment

A license plate reading camera cannot function like a normal camera, which always uses the automatic shutter adjustment, because it would be dazzled by car headlights at night. For this reason, these cameras must be set up to use the fixed shutter in night mode

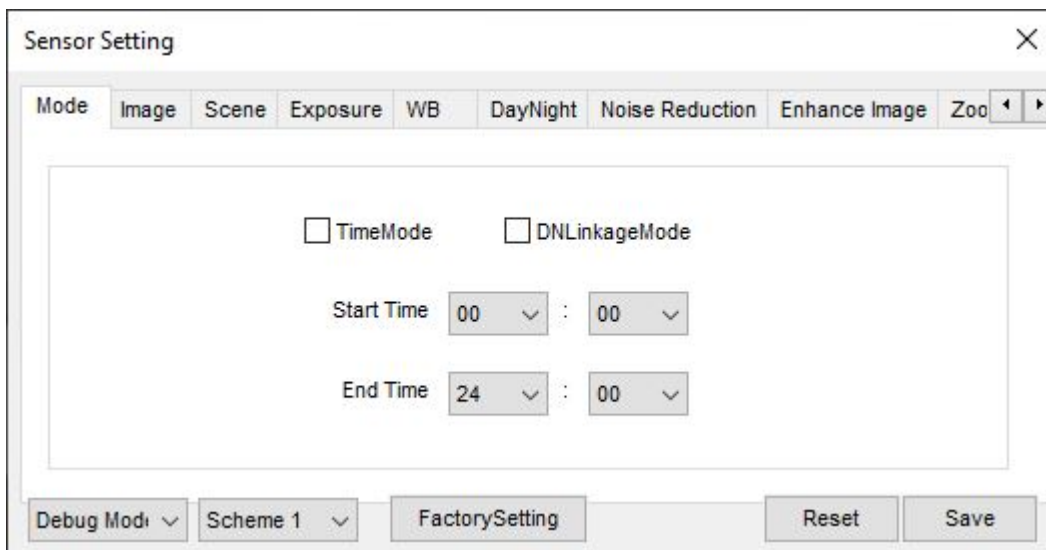
The camera is supplied with the base already configured for reading license plates in normal conditions. However, it is necessary to set the logic with which the camera will switch from day to night mode. This is done in the sensor configuration

To adjust the sensor you need to connect with the Internet Explorer browser. Check the installation manual of the RH Series cameras to find out how. Then you need to right click in the live image and choose SENSOR



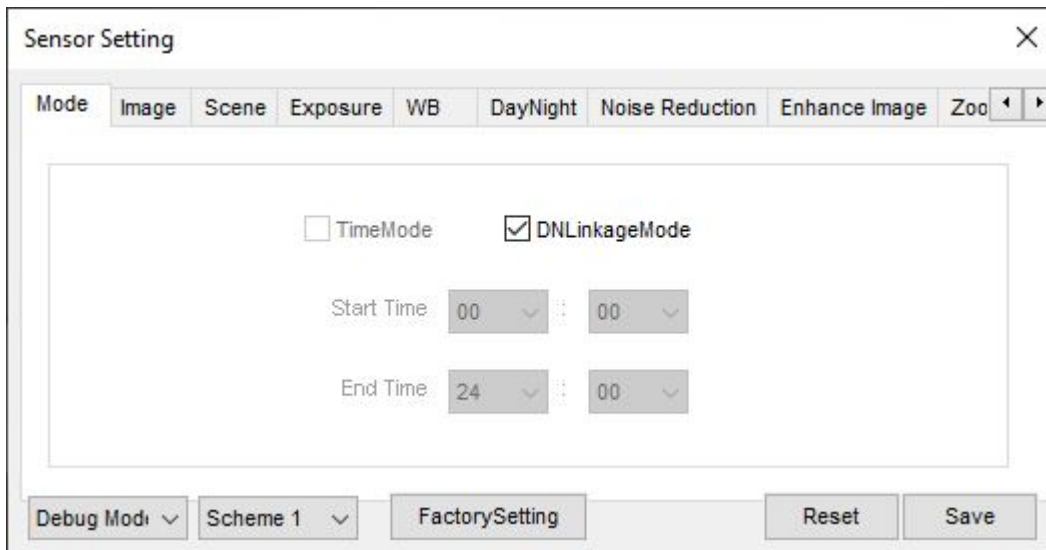


In order to change these settings you must first change the mode in the lower left, from Standard Mode to Debug mode as in the figure below. The debug mode allows you to modify the sensor parameters and then save and return to the Standard operating mode.

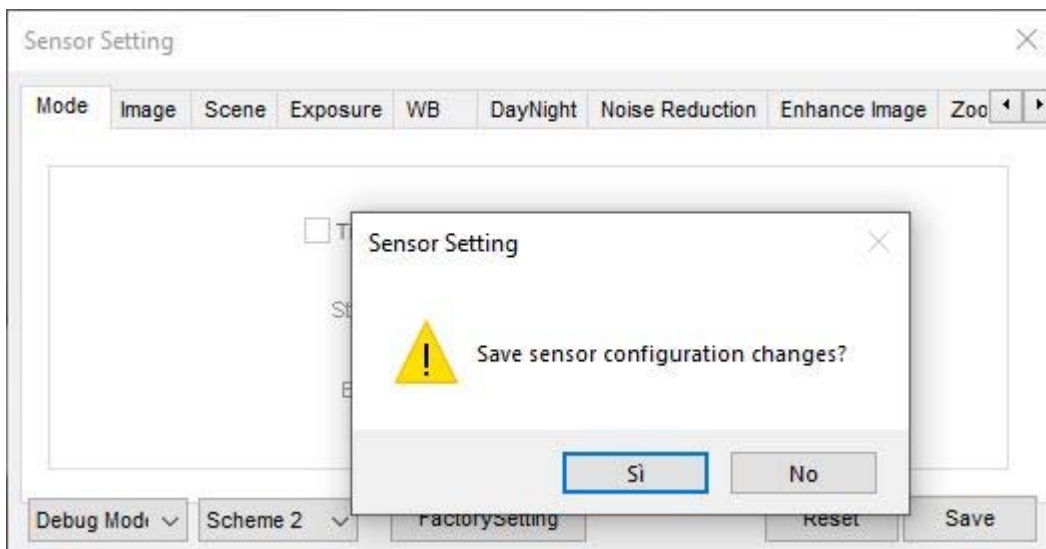


The debug mode allows you to set up to 4 customized configurations (DIAGRAM 1,2,3,4) to be activated according to the situation. These license plate cameras use the first 2 configurations: SCHEMA1 during the day and SCHEMA2 at night which are already configured at the factory for an optimal recovery in the two situations.

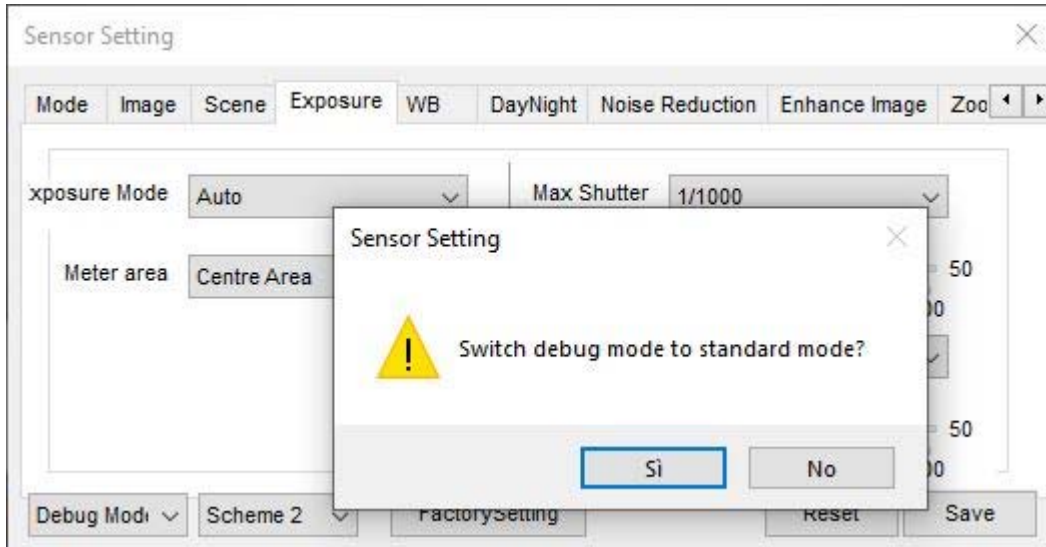
The recommended operating mode is to set the switch from SCHEMA1 TO SCHEMA2 by following the illumination of the camera lights. To do this you need to activate the DNLinkageMode function.



Then press the SAVE button to save the setting



You can now close the configuration panel by answering YES to the window that reminds you to return to STANDARD mode

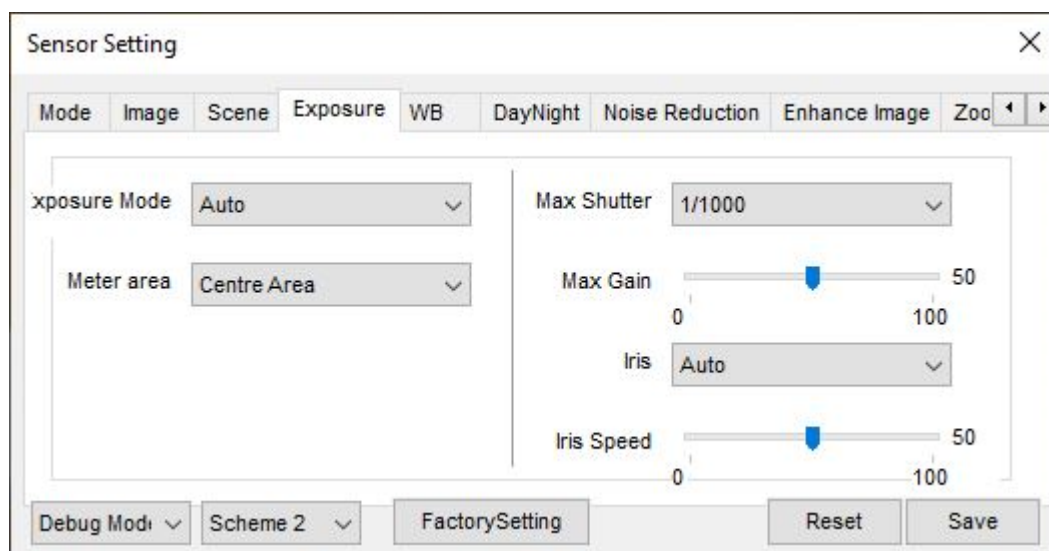


Advanced adjustments

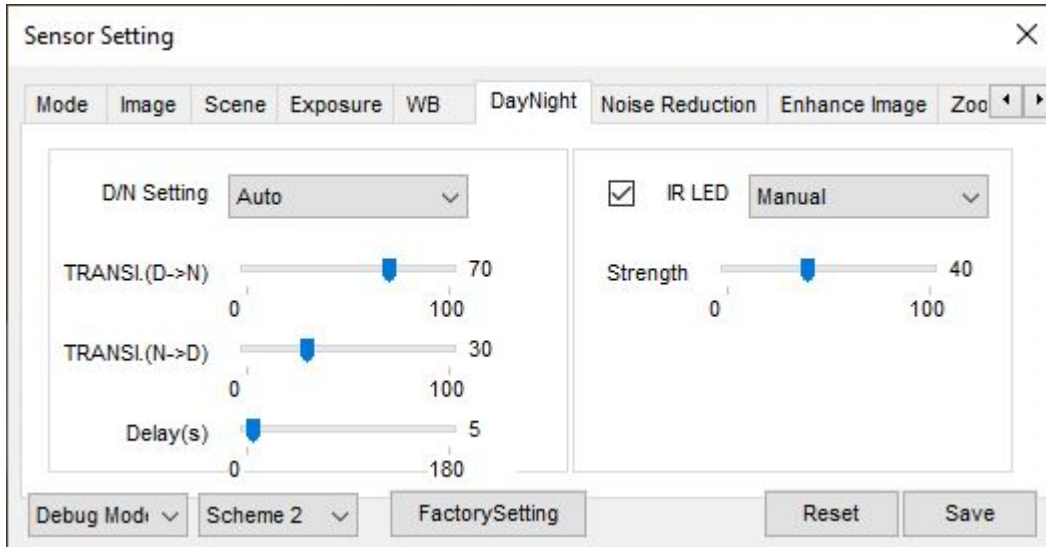
If you are not satisfied with the basic settings, you can customize them. Enter the sensor configuration, as seen previously, and activate the DEBUG mode and the SCHEMA2 which is used in night shooting.

Below we explain the fundamental parameters that come into play in the recovery of the night license plates

In the EXPOSURE folder you find the shutter speed which is recommended at 1/1000. You can set it to shorter values, such as 1/2000 if you plan the passage of vehicles at high speed. The area can be set to CENTER AREA or even CENTER SPOT if you want more brightness in the center.

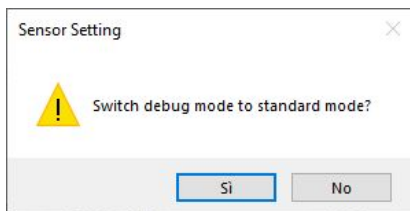


The manual IR power mode is set in the DAYNIGHT folder at the factory. With the slider you can adjust the power of the LEDs which is factory set to 40. The power is adjusted according to the distance of the vehicle, but in general it must be kept rather low to prevent the plate from being bleached at night. On close-ups the best result is obtained with very low values even from 2 to 5.



To customize the settings, you should place a vehicle in the reading area at night and check the correctness of the changes on the monitor.

Once you are satisfied with your settings, press **SAVE** to save. Then return to **STANDARD** mode to keep the customizations. If you exit the configuration without returning to the standard mode, this message appears which must be answered **YES**



This message reminds you that you must not leave the configuration mode active (Debug) but you must switch to standard operation which will take into account the settings you have defined in the Debug mode.

Now you have configured the camera for reading license plates. Carry out some vehicle transit night tests and possibly review the settings. If you are not satisfied with your changes you can restore the factory values with the **FACTORY SETTING** button. The night shot of the optimal plate is the one shown below, with a very dark image and a plate well lit by infrared, but without being bleached by excessive lighting.



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