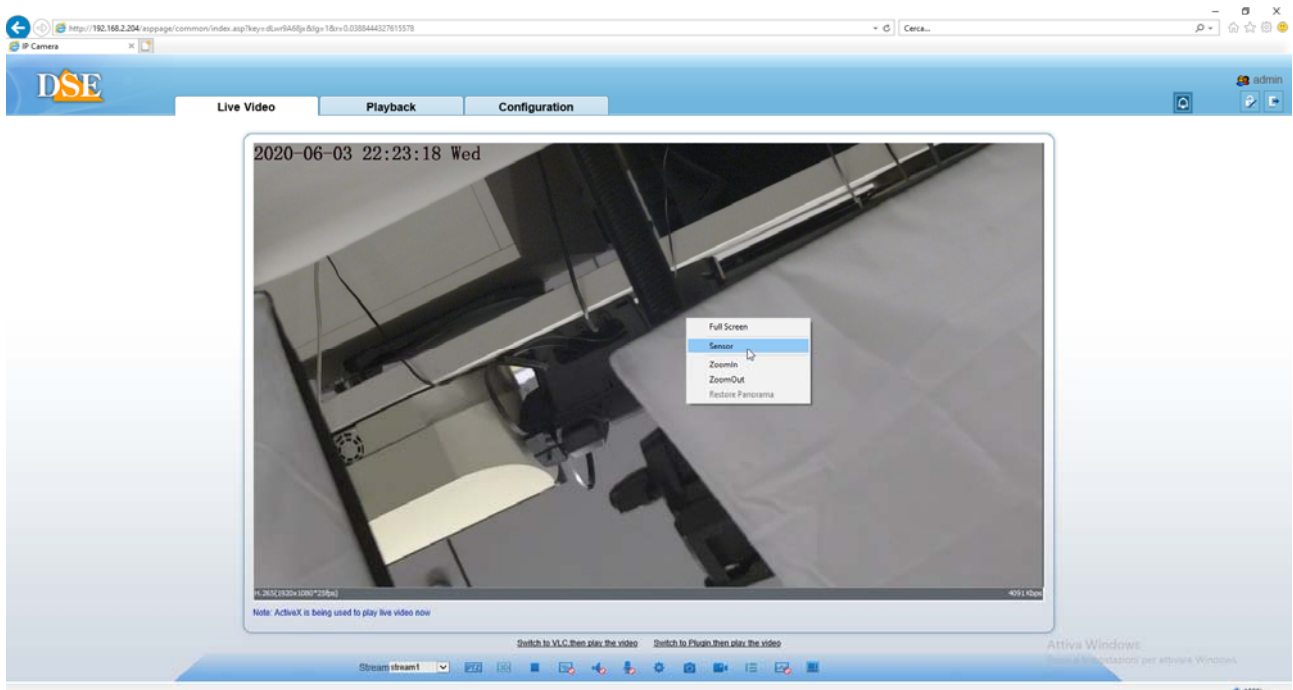# Configuration of the C-MOS sensor

RH series - ONVIF IP cameras

Introduction

The RH series cameras have numerous configurable operating options.

It is possible to completely configure the cameras from PC using any browser (IE, Chrome, Safari etc.), or through the supervision software. Smartphone configuration is also possible with the free DSE SmartLive application.

All configuration options of the camera are explained in the configuration manual.

This manual explains the configuration options of the C-MOS sensor that allow you to intervene in the video rendering of the camera and to cope with suboptimal shooting situations.

This manual refers to PC access with the browser. The same options are found identical both in the NetVMS software and in the DSE SmartLive application, to which specific manuals contained on the CD are dedicated.

When applying changes to the configuration of the C-MOS sensor, it is necessary to consider that the camera needs some time to make them operational so it will take a few seconds to see the effects of the change on the screen.

IMPORTANT

The options available in the sensor configuration vary according to the model. This manual is intended as a general reference guide on the main functions.

Sensor configuration

It is possible to intervene in the configuration of the camera sensor to modify the video yield. To access the sensor configuration, connect to the camera with Internet Explorer and in the live viewing window, right-click to choose the SENSOR item
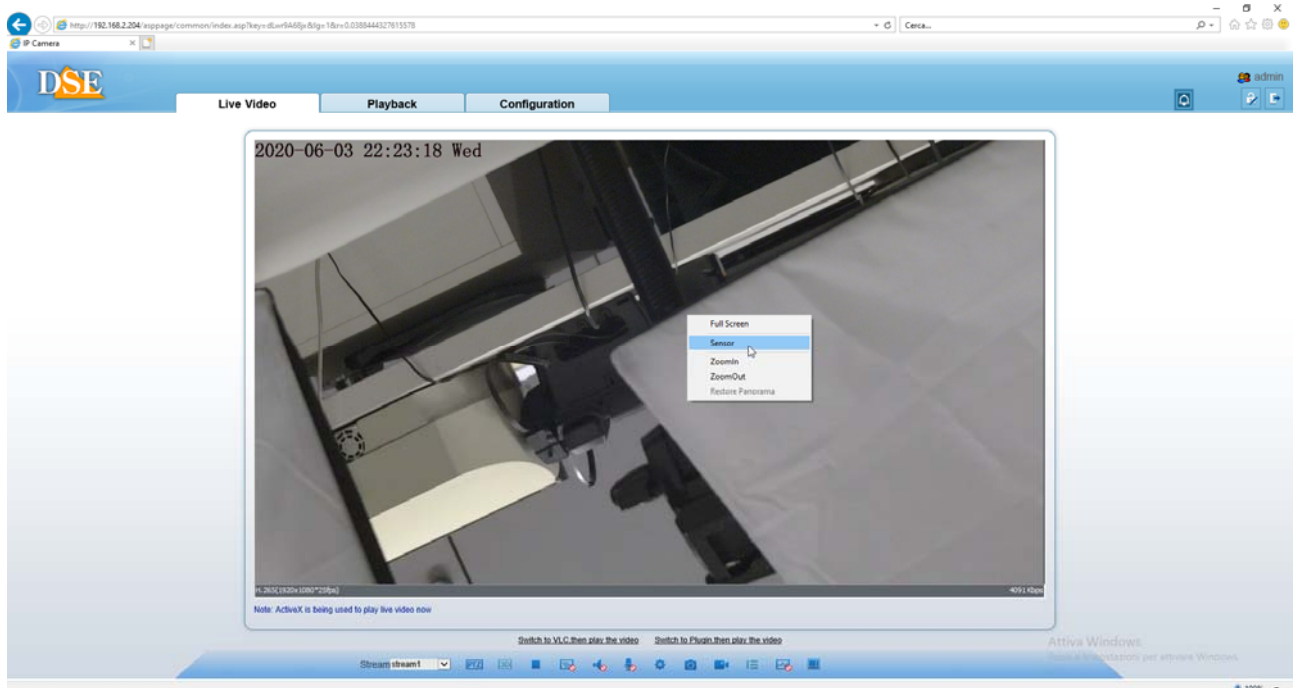
A window will open containing several folders which we will analyze below.

ATTENTION - The contents of these configuration folders may vary according to the camera model.

STANDARD MODE / DEBUG MODE
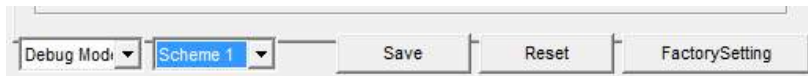
These cameras include a checkbox where you can choose STANDARD MODE or DEBUG MODE.

STANDARD MODE represents normal camera operation. To customize the settings, you must activate the DEBUG MODE which provides 4 configurable scenarios (SCHEME 1..4) that can be configured as desired.

With the SAVE and RESET buttons you can save the changes or abandon them by returning to the last saved settings.

A FACTORY RESET button is also available to reset everything to the factory settings.

Once the configuration has been completed in Debug mode, the camera must be returned to STANDARD mode so that it works on the basis of the defined settings.

When exiting the sensor configuration, a message reminds you to return to the STANDARD MODE.

The availability of 4 configurable scenarios allows you to set 4 memorized configurations that can be recalled based on the time of day

TIME SEGMENT
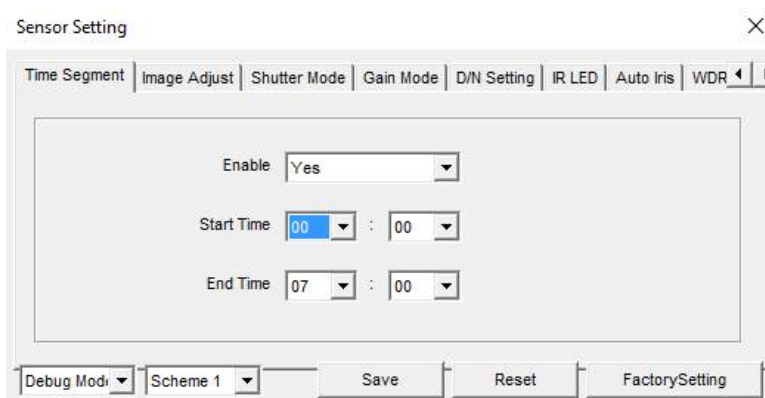
In the window it is possible to set when to activate the selected configuration scheme (1,2,3,4) with start and end time.

IMAGE ADJUST

Allows you to adjust Brightness, Saturation and Contrast in the image. Some models also offer additional options.

These adjustments change the shutter and gain settings found on the following pages. Obviously it is necessary that the SHUTTER and GAIN settings allow automatic adjustment, otherwise the camera will not be able to modify a parameter set as fixed.

SHUTTER CONTROL (or EXPOSAL SETTING)
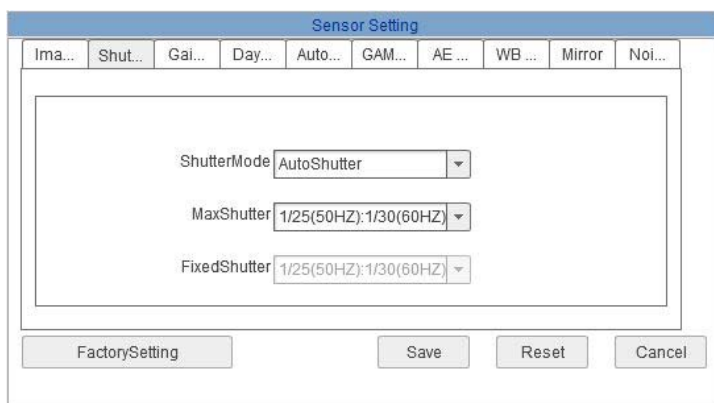
Adjusts the speed of the electronic iris to be defined according to the ambient brightness. A slow diaphragm is very bright with little light but is likely to cause bleaching in case of strong daylight. On the contrary, a fast shutter will be excellent in a bright environment but could give underexposed images in low light.

By choosing AUTOSHUTTER (recommended) the camera will automatically adjust the electronic shutter while allowing you to set the maximum allowed shutter value. By choosing FIXEDSHUTTER the camera will maintain a constant shutter value that can be defined.
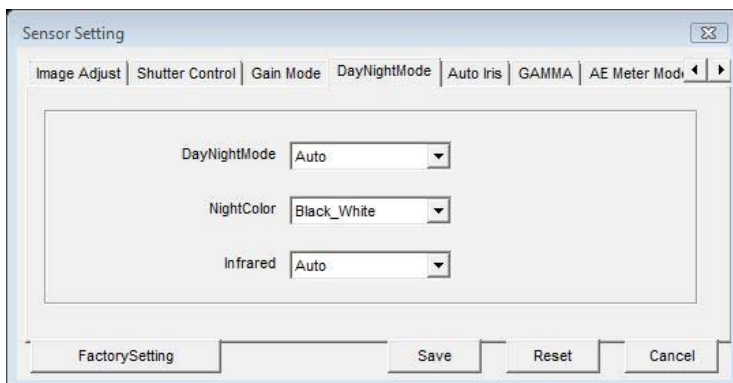
Some models may offer additional adjustment options.

GAIN CONTROL
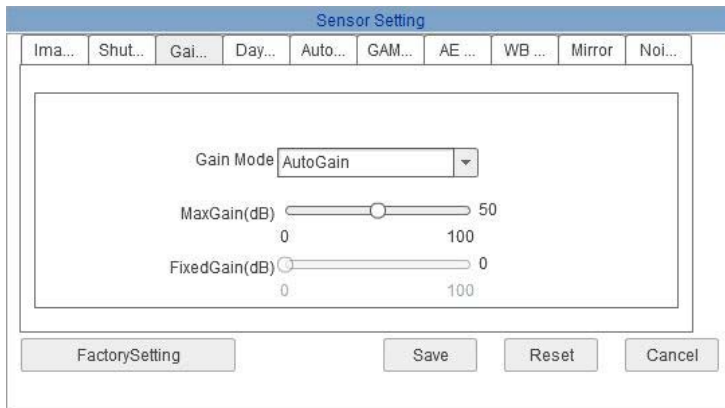
Allows you to adjust the sensor gain. It is possible to set an automatic value (with adjustable maximum threshold) or a fixed value.

DAY & NIGHT

In this tab you can set the behavior of the day / night function. The window may include more or less options depending on the camera model in question. DAY / NIGHT MODE - Set to AUTO it enables automatic switching to night mode when darkness falls. Set to Day or Night mode it always forces a COLOR (DAY) or B / W (NIGHT) mode regardless of the ambient brightness. In some models it is also possible to define the thresholds of the day / night changeover or decide to do it on an hourly basis.

NIGHTCOLOR - It is possible to define whether in night mode keep the color vision or switch to B / W for infrared vision

INFRARED - Controls the turning on of the IR illuminator (if equipped). AUTO means turning on the illuminator automatically in night mode, while ON and OFF allow you to keep it always on or always off.

AUTOIRIS
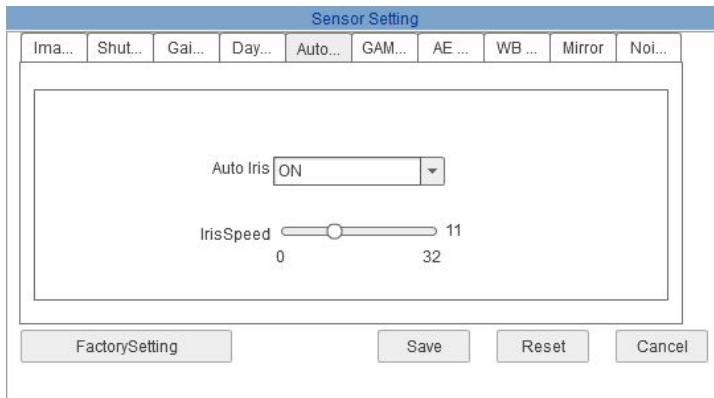
If the camera uses an auto iris lens it is possible to set the actuation speed. In the case of a fixed lens, leave the setting OFF. In AUTOIRIS OFF mode the priority of the brightness adjustment is given to the electronic shutter. IRIS SPEED indicates the reaction speed of the lens. Reduce the speed if the lens were to open and close continuously giving a flash effect in certain light conditions.

RANGE

Gamma correction can be adjusted with several pre-configured options

AE METER MODE

When the camera measures the brightness of the image to adjust the shutter, it generally considers the whole area framed. However, if the image has areas with different brightness, it is possible to indicate which area should be of greater importance. MULTI PATTERN - The whole area is considered

CENTER - The central area (1/5 of the total) has prevalence

VERTICAL CENTER - The vertical zone in the center (1/2 of the total) has the prevalence

HORIZONTAL CENTER - The horizontal area in the center (1/2 of the total) has a prevalence

WB MODE

In this window you define the white balance. AUTO mode is recommended in most applications. In cases of particular light, it is possible to set the MANUAL mode which offers several pre-configured options referring to the most common types of lighting and also the possibility of establishing the white tone manually.

MIRROR

It is possible to invert the image to adapt the vision to the position of the camera.
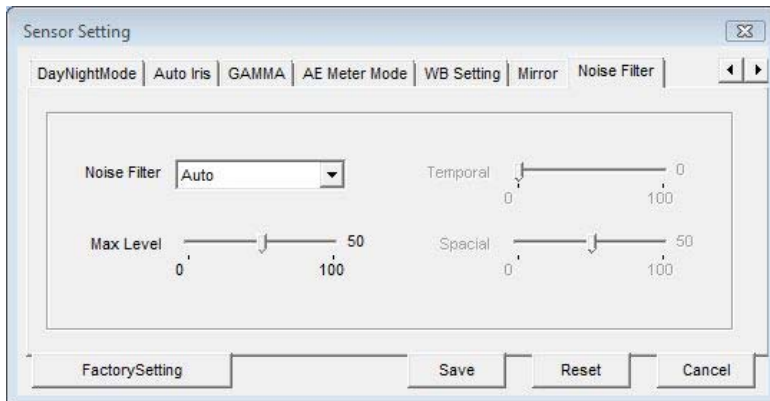
CLOSE - Natural vision

HORIZONTAL - Horizontal tipping

VERTICAL - Vertical overturning

PICTURE FLIP - Horizontal and vertical tipping

NOISE FILTER

It is possible to set the digital reduction of video noise automatically (with max adjustable threshold) or manually (with adjustment of time and space thresholds). The SPACIAL setting reduces the noise in the single frame, while the TEMPORAL setting defines the interval of the frames.

In some models (4MP) it is possible to use two different types of Noise Reduction (2D and 3D)

INFRARED
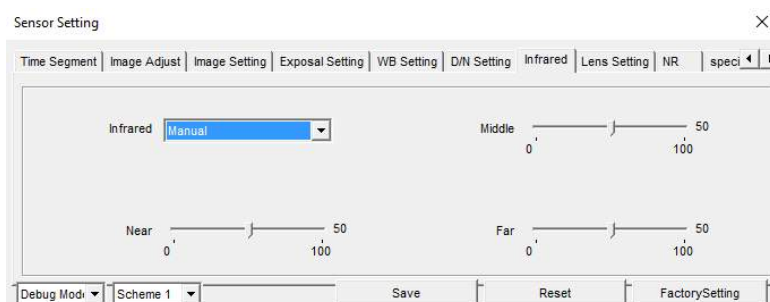
In some models it is possible to adjust the power of the LED lighting to avoid excessive bleaching in close-up shots. In this example (Speed Dome 3MP) there are 3 adjustment levels for close-up, medium and long distance shooting based on the zoom level set.
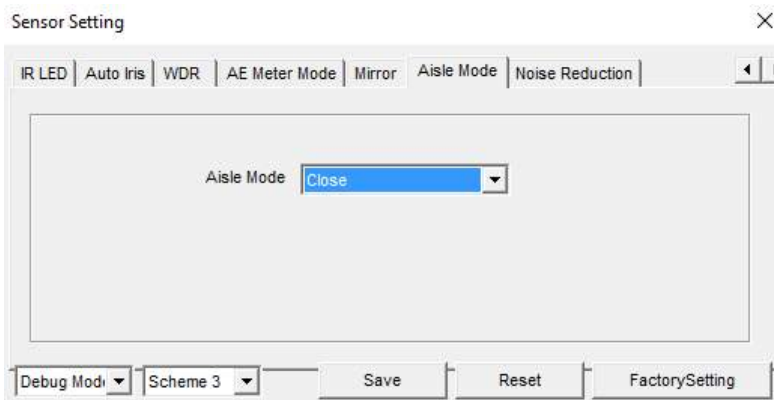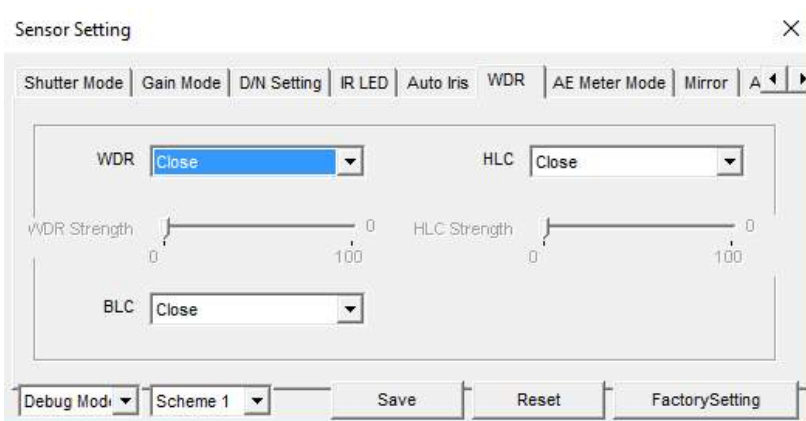
AISLE / CORRIDOR MODE

In some models it is possible to enable the corridor mode which allows you to change the resolution of the camera using the greater value on the vertical side instead of the horizontal one. This type of shot can be effective when shooting a long narrow area such as a corridor.

WDR

In some models the WDR (Wide Dynamic Range) function is available which allows you to better capture scenes with different brightness present in the field of view.

WDR - Use if darker and more illuminated areas are present in the shot, for example in video surveillance under an arcade.

BLC - Use when shooting a dark subject with a very bright background, for example in the case of a shop entrance where the person entering is underexposed with respect to the illuminated background. It is possible to define the position of the subject in the frame.

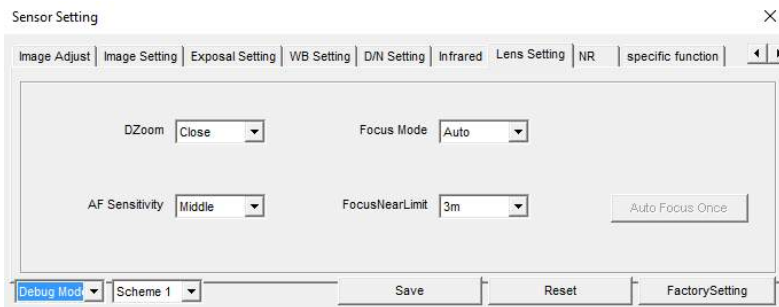HLC - Use to avoid glare from strong light sources such as car headlights.

LENS SETTING

The cameras with motorized lens allow to set the functioning of the lens

DZOOM - Enable or disable the digital zoom that is activated once the maximum optical zoom is reached.

FOCUS MODE - Allows you to enable autofocus or use manual focus

AF SENSITIVITY - Autofocus sensitivity

FOCUS NEAR LIMIT - Minimum focus distance