CONFIGURATION MANUAL
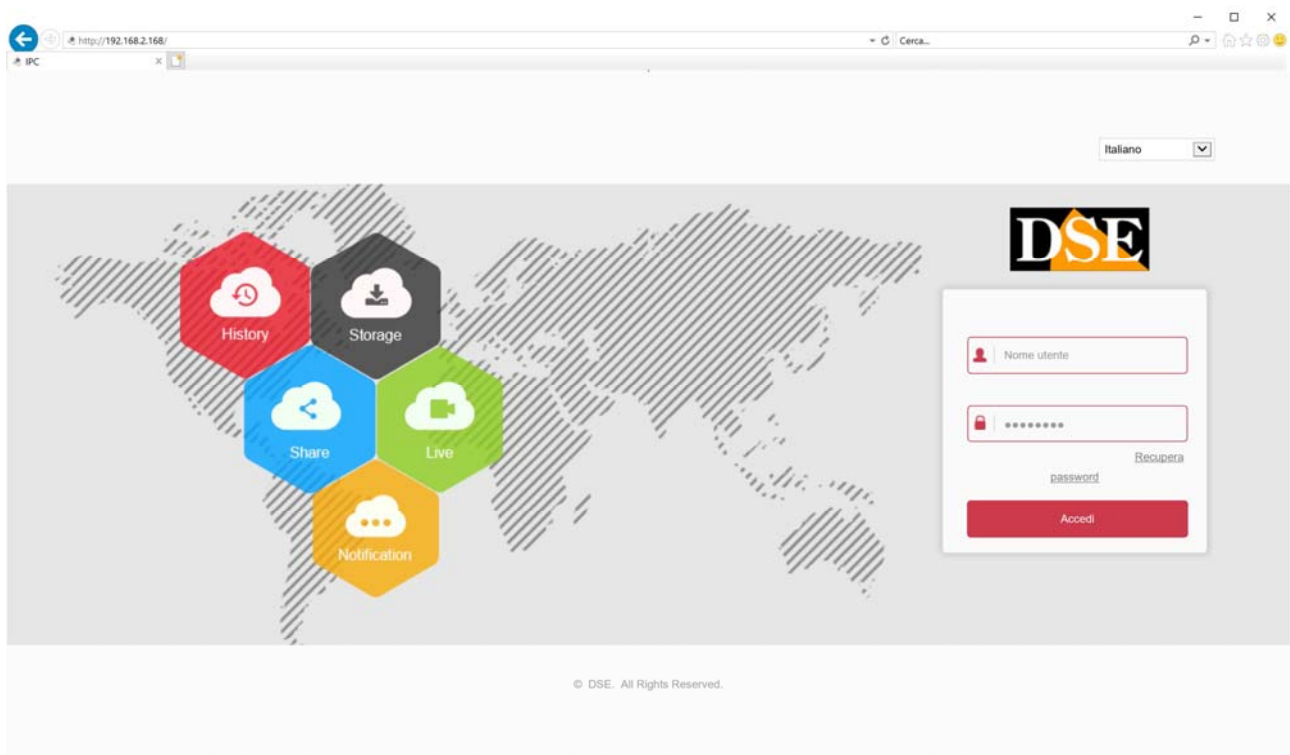RK SERIES - ONVIF IP CAMERAS (GUI vers. II)

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Configuration options

RK SERIES IP cameras

GUI Version II

Operative manual
for the installer and for the user

How to configure the camera with the browser

CONFIGURATION MANUAL

RK SERIES - ONVIF IP CAMERAS (GUI vers. II)

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Introduction

The RK series cameras have several configurable operation options.

It is possible to customize these settings by accessing the cameras with Internet Explorer.

All configuration options are explained in this manual.

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Access with browser

The installation manual of the camera explains how to access the cameras with the PC using the browser. RK cameras today support all common browsers, while previous models can only require Internet Explorer.

Internet Explorer, with the installation of the activeX plugin, also allows a more complete control of all functions than other browsers.

If you have never logged in with the browser to your camera before, it is advisable to go back to the installation manual and follow the instructions to connect successfully.

In this manual we start from the login window where you can enter the username and password for access.
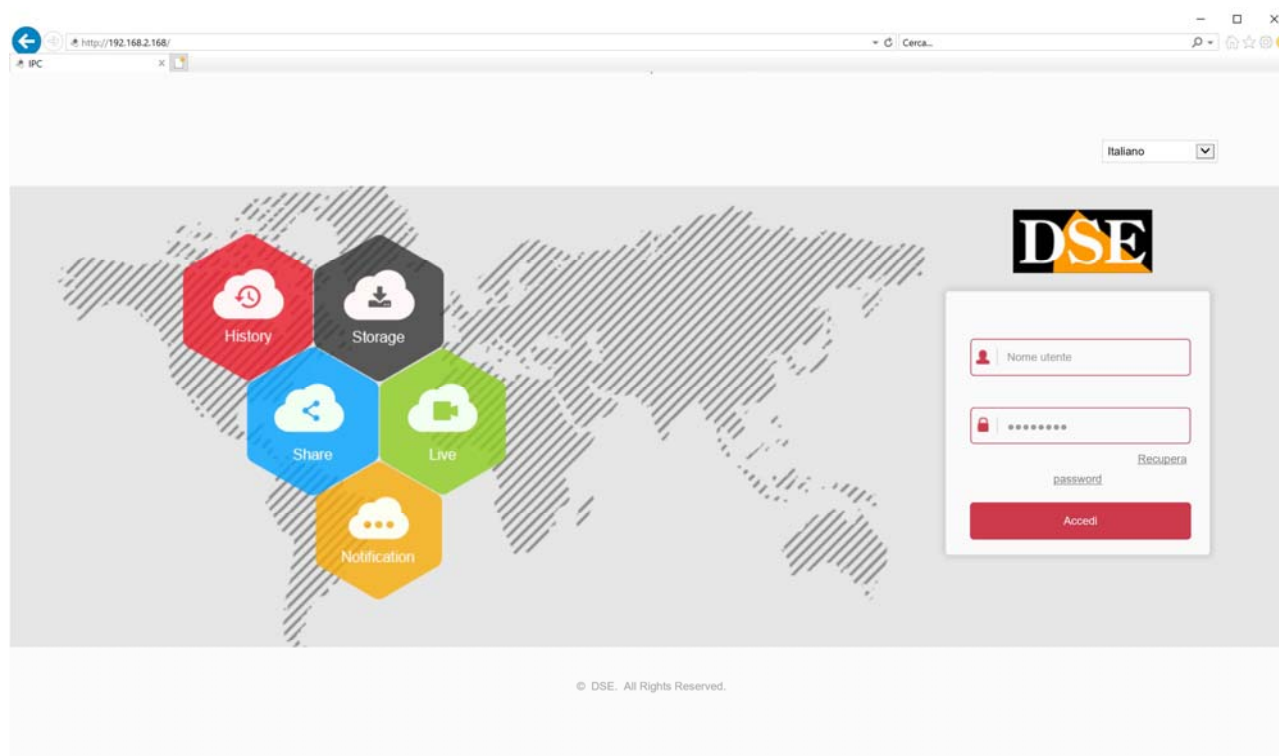
The factory access data of the RK Series cameras are:

USER NAME: admin

PASSWORD: admin

It is important to choose the Italian language to obtain the interface used in this manual. The CHOICE OF THE LANGUAGE is done in the selection box at the top right.
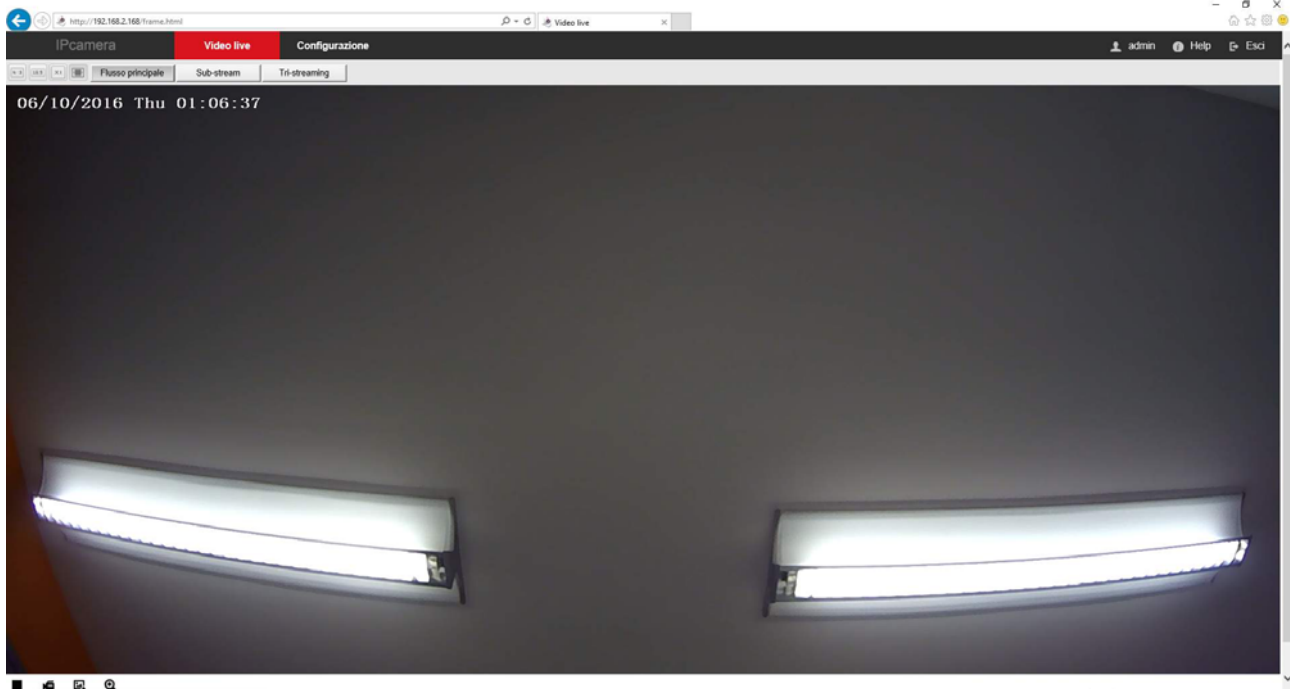
You enter the camera control mask.

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ATTENTION - It is possible to connect several clients at the same time up to a maximum of 15 clients per camera.

A message suggests changing the factory password, if you haven't done so already. You can postpone if you don't want to not change the factory password for now.

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Checks in live view

When the connection is started, the LIVE view of the camera opens automatically. If this does not happen, go back to the installation manual and check the correct installation of the ActiveX components.

If you have opened other configuration windows, press the LIVE VIDEO button at the top to return to live viewing.

Let's first see the functions available in the command bar at the top of the browser

4: 3- This button plays the image in a 4: 3 frame, typical analog video resolution. It can be used to see the image correctly when the camera is set to 4: 3 resolution such as VGA 640x480

16: 9- This button reproduces the image in a 16: 9 frame, typical of modern megapixel cameras. It can be used to see the image correctly when the camera is set to 16: 9 resolution such as HD 1280x720 or Full HD 1920x1080.

X1- This button shows the on-screen camera in its original resolution format. If this size is larger than the number of pixels available on the screen, the image will only partially appear.

- This button shows the camera resizing it to take up all available space in the window.

DOUBLE CLICK- Double clicking on the live image brings the display to full screen without the outline graphic interface. Double click again to exit.

MAIN STREAM / SUB STREAM / TRI STREAM- Each camera of this range can manage up to 3 different video streams of different quality and bandwidth occupancy. With these buttons you can choose whether to receive the main stream or the secondary sub-stream or the third stream, usually set to occupy less bandwidth.

At the bottom left there are some commands available to the user

 Start and pause video display

 Start and pause video recording. Press the RECORD button to start saving the video you are viewing in real time on your PC. The writing REC in red appears at the top right of the image to indicate the recording in progress. Press the button again to stop recording and save the file. The

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movie is saved in AVI format in the native resolution of the video stream.

Note that recording via Internet Explorer is intended for saving short clips and not for 24/7 uninterrupted recording for which an NVR must be used. The folder where the files are saved is defined in the configuration.

Take and save a photo. Pressing the TAKE PHOTO button saves on the PC the frame you are viewing at that moment. The image is automatically saved in JPG format in the native resolution of the video stream.

Activate digital zoom thanks to which it is possible to draw frames to enlarge on the image. Right click to exit.

ATTENTION

If you find that the capture is not working, check that you have not enabled the ENABLE PROTECTED MODE option in the browser's security settings.

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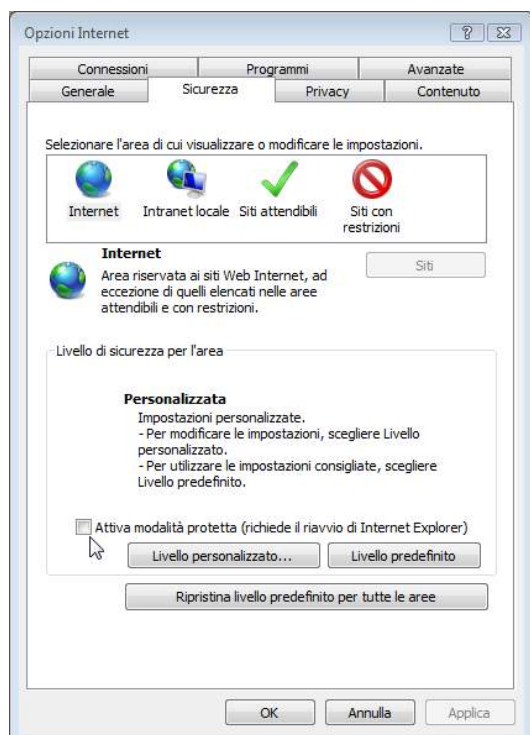
Check in playback

If the camera has an SD card slot you can insert a micro SD memory to record. You can review the recordings in the PLAYBACK section
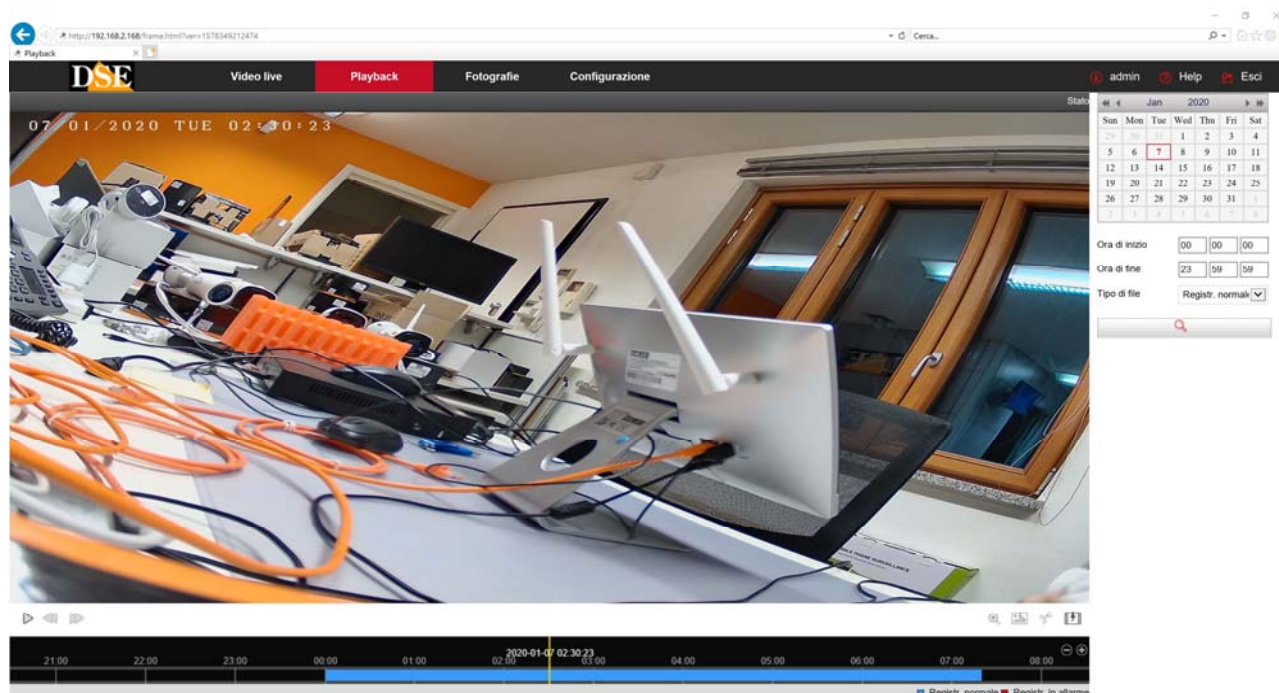
1 - Choose the date at the top right

2 - Choose a time slot

3 - Choose if you want to search for normal or alarm recording. It depends on how you set up the camera recording on the SD: continuous recording is normal recording, while motion recording is alarm recording.

4 - Press the search button and if there are any recordings you will see the timeline at the bottom turn blue (continuous recording) or red (alarm recording)

You can drag the timeline to review the moment you like and use the play button to start playback. With the forward arrows you can switch to accelerated viewing and return to normal.

At the end of the timeline there are two buttons (+/-) with which you can zoom the timeline for greater precision in moving

These buttons are also available

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⊕ Activate digital zoom thanks to which it is possible to draw frames to enlarge on the image. Right click to exit.

🖼️ Take and save a photo. Pressing the TAKE PHOTO button saves on the PC the frame you are viewing at that moment. The image is automatically saved in JPG format in the native resolution of the video stream.

✂️ Cut a clip to save the movie. During playback click the scissors at the beginning of the clip you want to save and then press again when finished to close the clip. The file is automatically saved in AVI format

🎞️ Download the video. By pressing this button you can consult the list of video files contained in the SD card and download them

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Check Photographs

If the camera is equipped with face recognition you can view the photos taken in the PHOTOGRAPHS section

You can search for photos that the camera has saved as a result of face detections and download them. For each survey you will find the complete photo and the detail of the face alone that triggered the survey.

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CONFIGURATION

All camera configuration pages are accessible in the configuration section.

Later in this chapter we will analyze one by one all the options found in these folders. The options are the same for all cameras in the RK series, with small variations based on the specific features and functions of the individual models.

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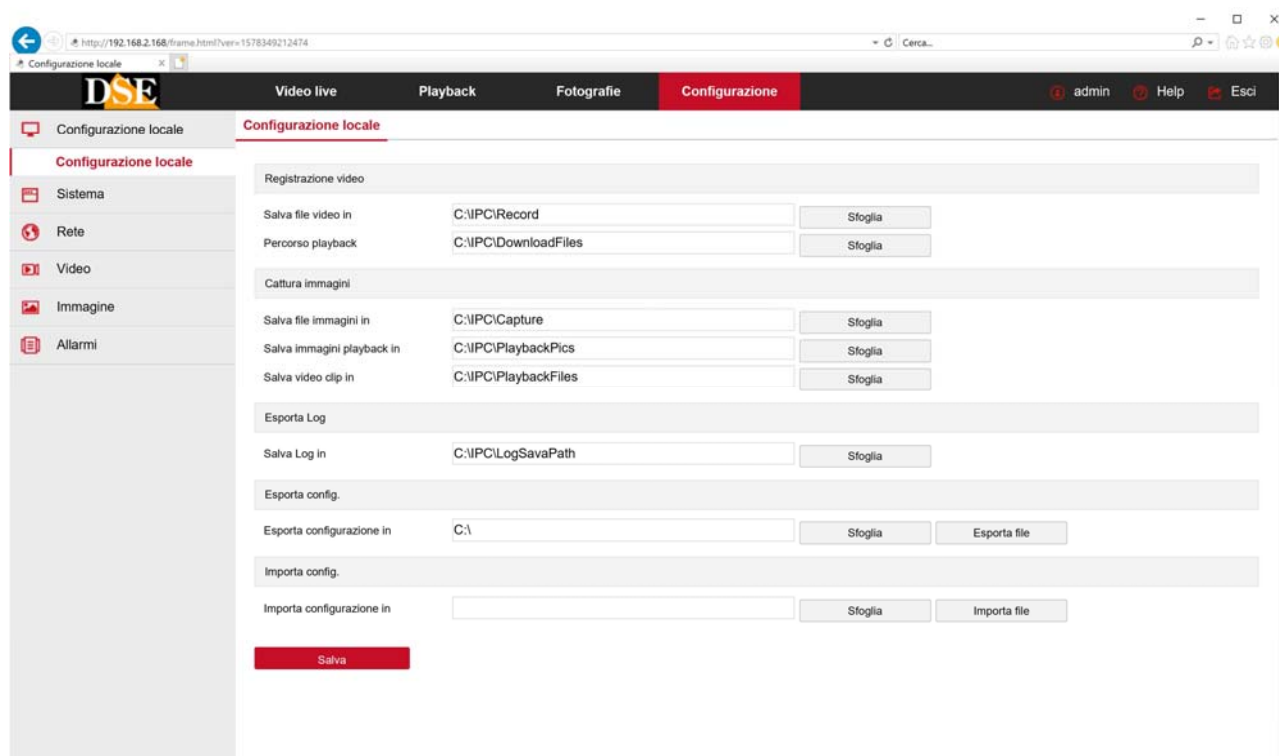
LOCAL CONFIGURATION

In this section you set the save folders that the browser uses to save files on the local computer
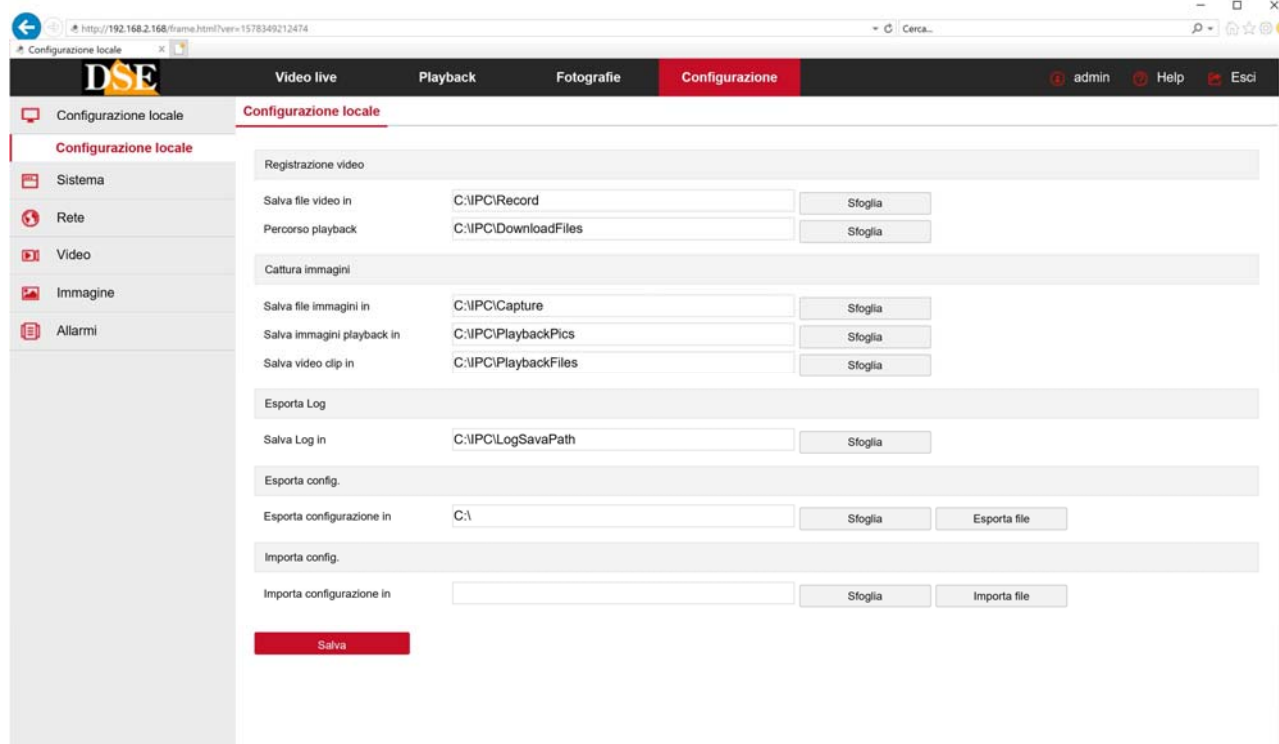
SAVE VIDEO FILES IN- Choose in which folder to save the files recorded with the browser

PLAYBACK PATH- Choose in which folder to save the downloaded video files from the memory in the camera.

SAVE IMAGE FILE IN- Choose in which folder to save the photos taken with the browser

SAVE PLAYBACK IN IMAGES- Choose which folder to save photos taken during playback playback

SAVE VIDEO CLIP IN- Choose in which folder to save recorded videos during playback playback

SAVE LOG IN- Choose in which folder to save the event log

EXPORT / IMPORT PARAMETERS- Choose the folders where to export and import the camera configuration file

ATTENTION

If you find an incorrect operation in the setting of these folders, check that you have not enabled the ENABLE PROTECTED MODE option in the browser security settings and that you have run the browser as administrator.

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SYSTEM

This section of the configuration contains general system options. Contains 3 subsections.
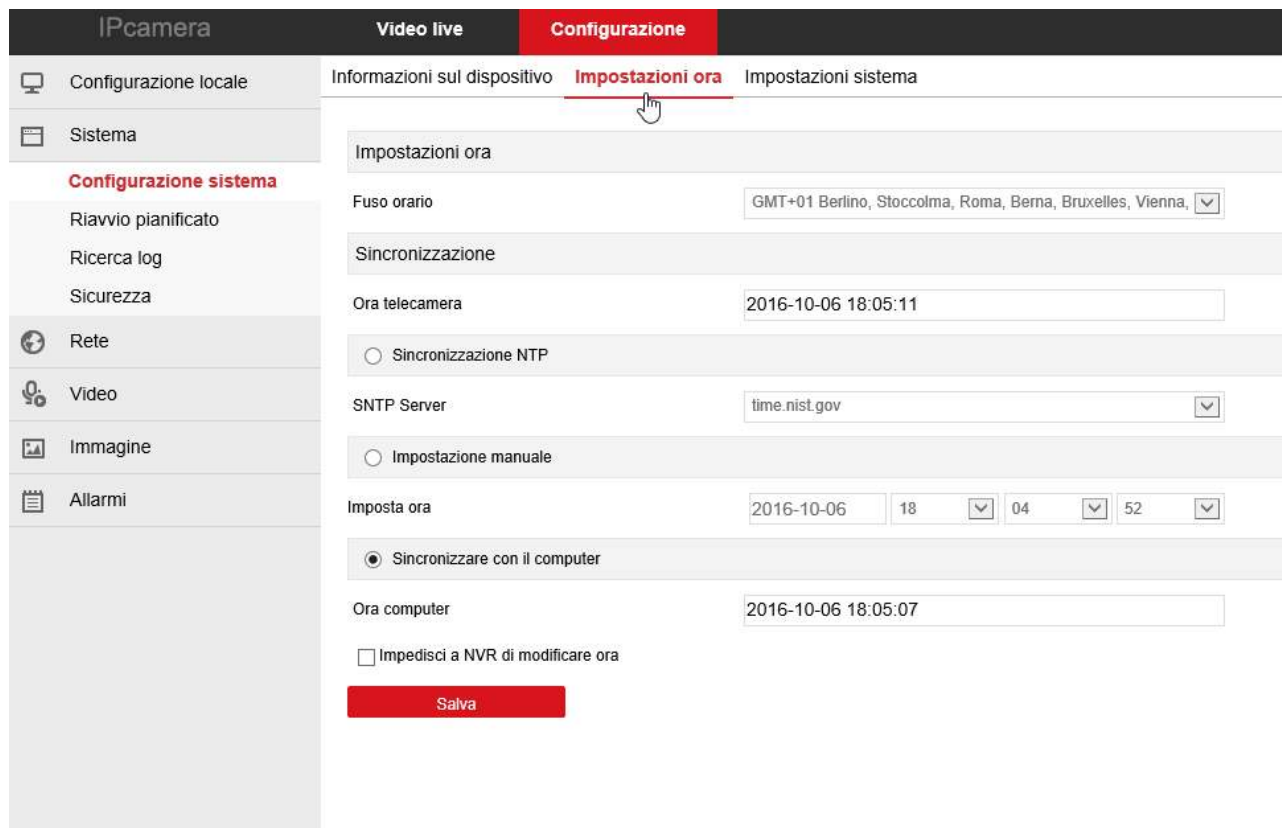
DEVICE INFORMATION

This window contains the version data of the camera

DATE HOUR

In this section you set the date and time of the camera which is shown in superimposition if necessary and is necessary for the correct functioning of various functions.

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The cameras support 3 kinds of setting: Automatic synchronization from NTP Server via web, Manual setting, Synchronization with computer

TIME ZONE- Select the reference time zone. For Italy GMT + 1.

NOW CAMERA- Displays the current date and time stored in the camera

NTP SYNCHRONIZATION- By selecting this option, it is possible to have the camera automatically synchronize the time and date via the Internet with an NTP (Network Time Protocol) server chosen from the list available. This is a very good option because it allows you to always keep the time correct. For synchronization to take place, the network to which the camera is connected must have access to the Internet and that the gateway (usually the router address xxxx.1) and the DNS server (recommended that of Google 8.8.8.8). It is also important to set the daylight saving time (DST) and the time zone as described below for the time to synchronize correctly. There are several NTP servers, among the most used, if necessary you can choose CUSTOMIZE and set a different NTP server.

MANUAL SETTING- By selecting this option, you can set the time and date manually and transfer them to the camera by pressing SAVE. However, consider that the IP cameras do not have an internal battery and are not able to preserve the date and time if they are disconnected from the network. For this reason, if you choose this option, it is good that the camera never loses power by providing a backup system for the system.

SYNCHRONIZE WITH PC TIME- By selecting this option, the camera automatically

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synchronizes the date and time with the computer in use. Furthermore, if you use this option, in the event of a blackout the camera will automatically update the time by interrogating an NVR on the network. This is a great setting to use in a network with NVRs.

PREVENT NVR FROM CHANGING NOW- The connected NVRs can remotely change the time of the camera to synchronize it with their own. Generally this function is very convenient for automatically updating all the cameras in the system together. With this option it is possible to prevent the modification of the time by the NVR, if for some reason it becomes necessary.
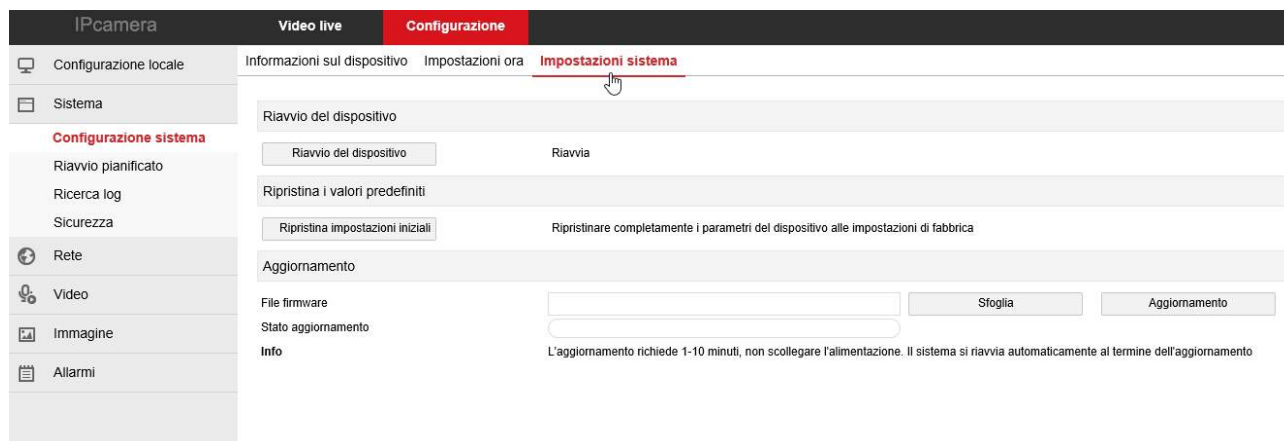
DST SETTINGS (SUMMER TIME)

In this section, the setting for automatic switching to daylight saving time is made. The settings for Italy are shown in the figure
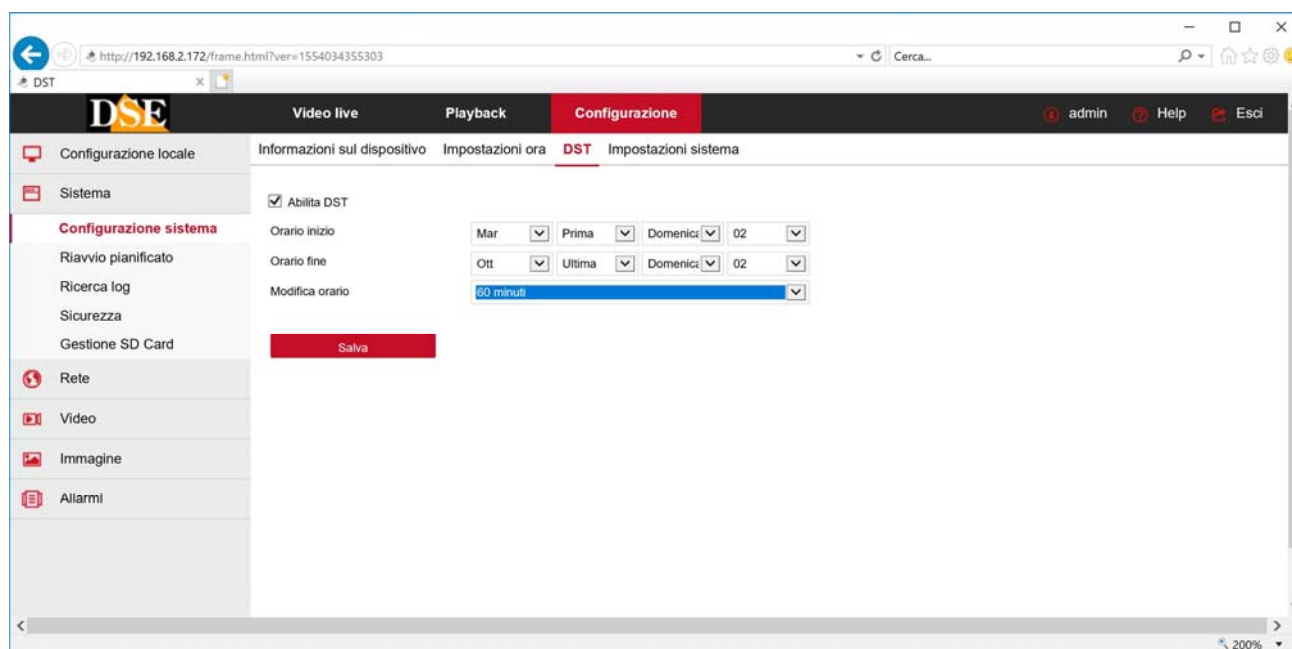
SYSTEM SETTINGS

In this section, update and reset operations are carried out

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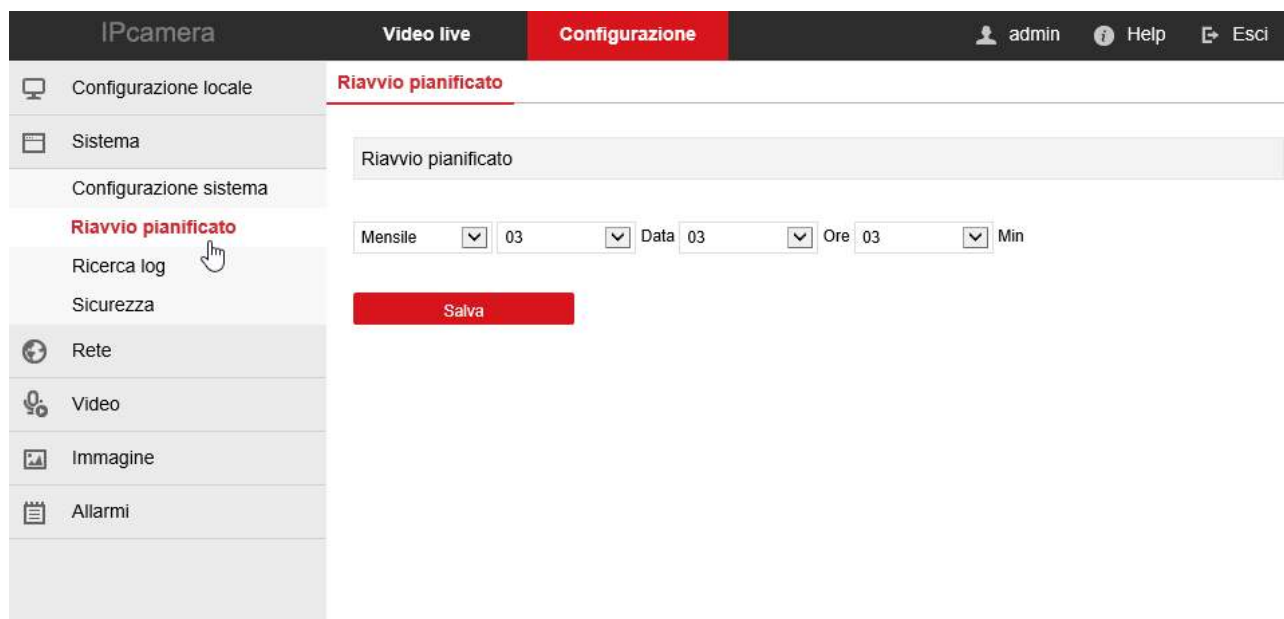
RESTART THE DEVICE- Perform a restart of the equipment

RESTORE DEFAULT VALUES- Clears all user configurations and restores the camera to factory settings.

FIRMWARE FILE- Allows you to search for the camera firmware update file and upload it to the camera with the UPDATE button. This operation is to be carried out only on the instruction of our technical department. Please note that loading non-original firmware on the device can render it useless and invalidate the warranty.

SCHEDULED RESTART

In this section you can schedule a periodic restart of the camera on a daily, weekly or monthly basis.

SEARCH LOG

In this window it is possible to search the events recorded in the camera memory on a time basis.

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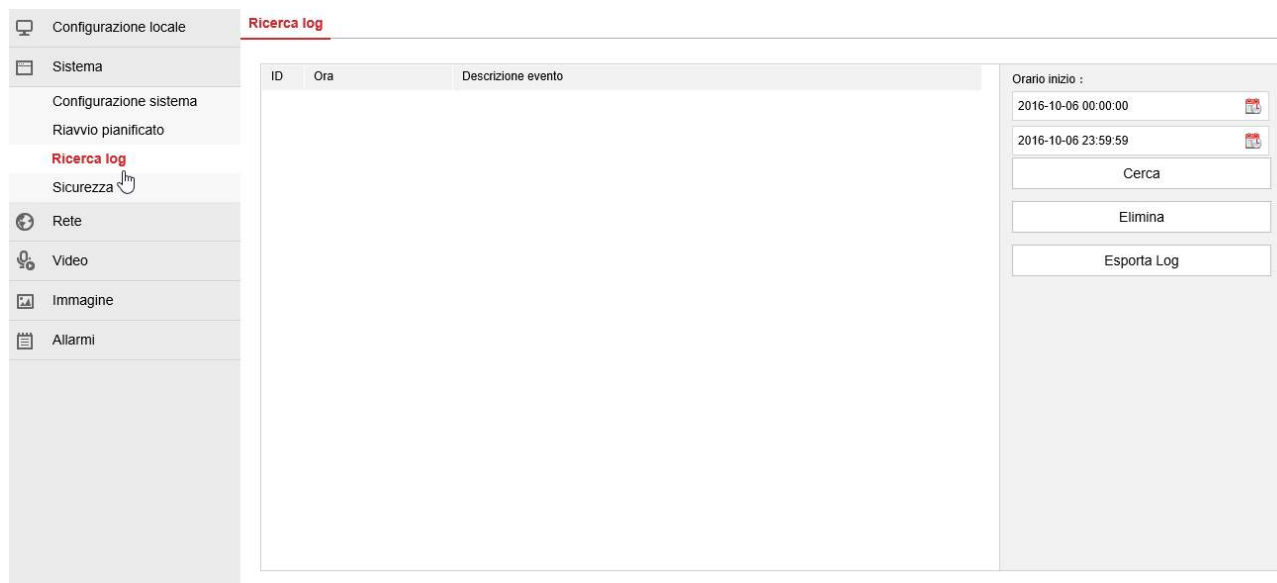
It is possible to export the memory in TXT format.

SAFETY

In this section, the passwords for accessing the camera are configured
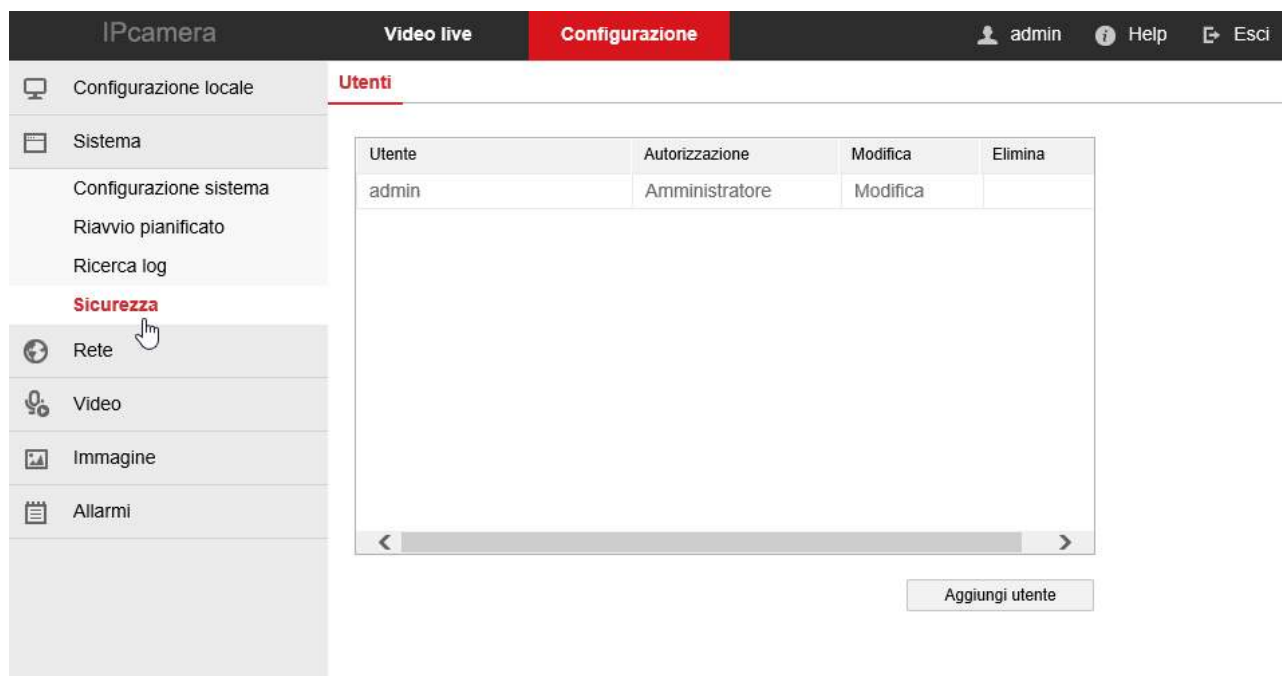
Each camera can recognize up to 16 different users.

It is possible to insert new users with the ADD USER button.

Each user must be assigned an access level which can be:

ADMINISTRATOR- Access to all functions

OPERATOR- Access to all functions except user setup

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USER- Access to LIVE viewing only, access to configuration disabled.

SD CARD MANAGEMENT

In this section you can format the SD card you have inserted into the camera (for cameras that have an onboard SD slot). It is necessary to format the SD card to be able to record by pressing the FORMAT button
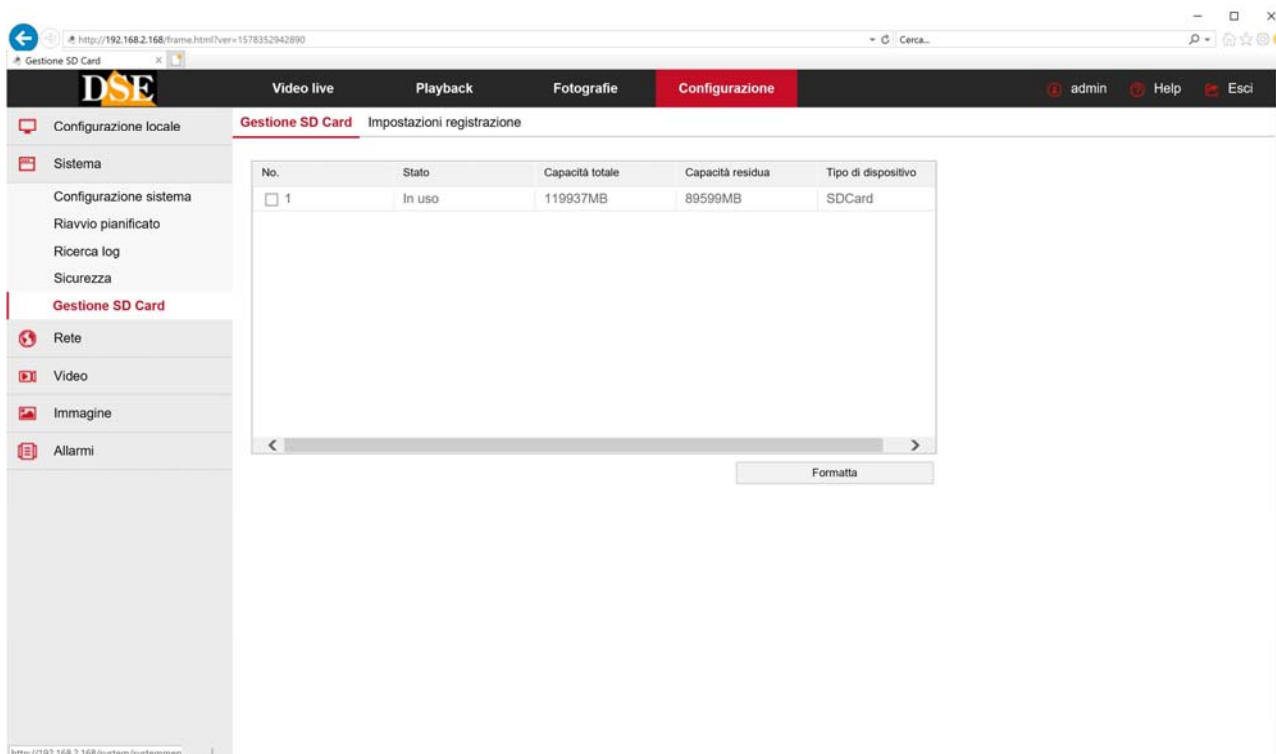
In the RECORDING folder you can decide whether to record on the SD card continuously. In this window the possible continuous recording is set, while the recording in case of alarm event is enabled in the alarm section.

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RECORDING MODE - Choose overwrite if you want the camera to continue recording with full memory overwriting the oldest files. Alternatively, you can choose Do Not Overwrite if you prefer the recording to stop.

STREAM MANAGEMENT - You can decide whether to record the main stream at high resolution or the secondary stream that allows you greater archive capacity.

WEEK - For each day of the week you can set up to 4 recording times. If you want to record always choose ALL DAY and FULL DAY

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NET

This section consists of several sections

TCP / IP

Here the basic parameters for network communication are set.
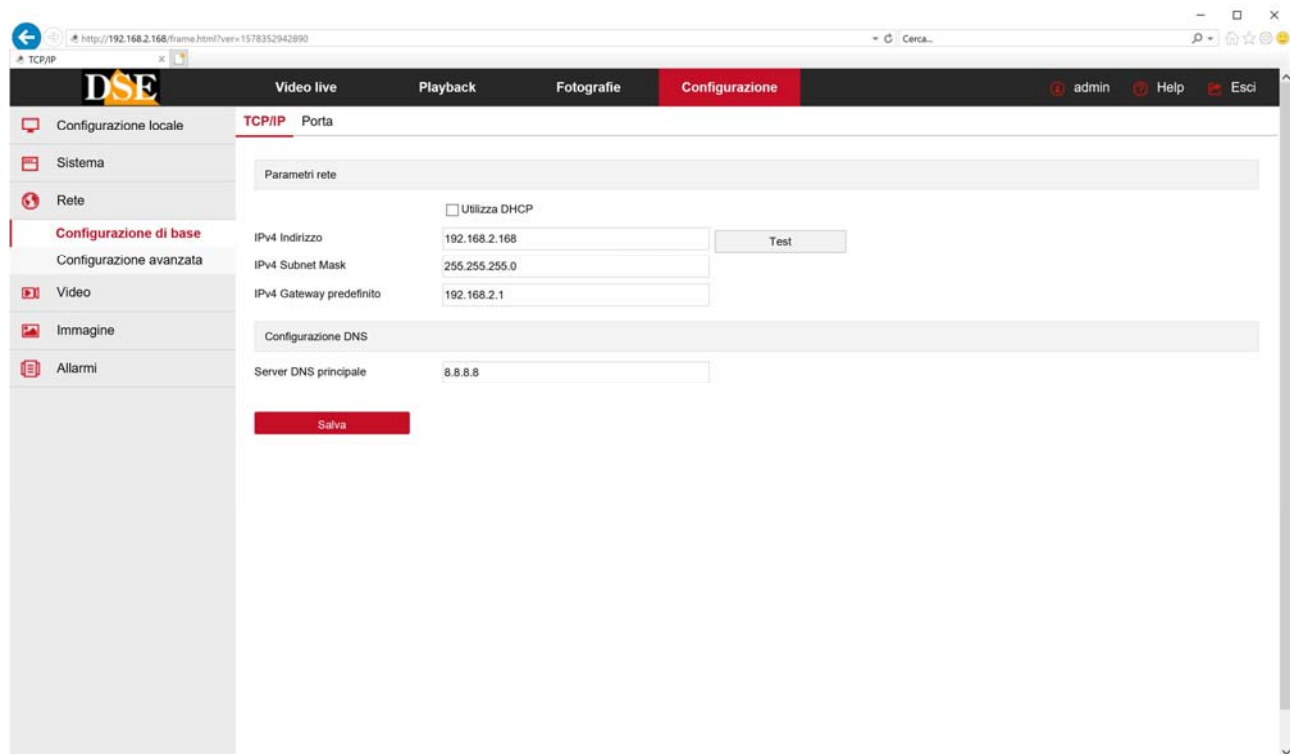
These parameters are usually programmed during installation with the IPCSEARCH program. In this window it is possible to modify them if necessary, taking care to do so consciously since modifying these settings normally leads to having to adapt the client devices to be able to maintain the connection.

CAR: The cameras support both manual IP address assignment and automatic assignment by a DHCP server on the network. The latter is certainly the most convenient, but it is generally not used in IP CCTV systems because it could cause the camera address to change over time.

IP ADDRESS / SUBNETMASK / GATEWAY: These are the classic parameters that allow the peripheral to communicate with its own network. Normally these parameters are assigned during installation with the IPCSEARCH software as shown in the installation manual. If the data is entered manually, the camera must share the first 3 numbers of the IP address with the rest of the network (eg 192.168.0.xxx) and also the subnet mask (usually 255.255.255.0). The gateway is the IP address of the device that allows access to the Internet, usually a router and is almost always number 1 on the network (e.g. 192.168.0.1)

DNS- It is the DNS server address that allows the camera to interpret website addresses. If this address is invalid, the camera cannot contact websites such as our P2P server or NTP server for

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the time.

You can enter the DNS server address of your Internet provider (ISP) or other online DNS servers such as Google's (8.8.8.8).

TEST- If you enter a new IP address for the camera you can, with the TEST button, check that it is available and not used by other devices on the network.

DOOR

Here you can change, if necessary, the communication ports that the camera uses in the network dialog.
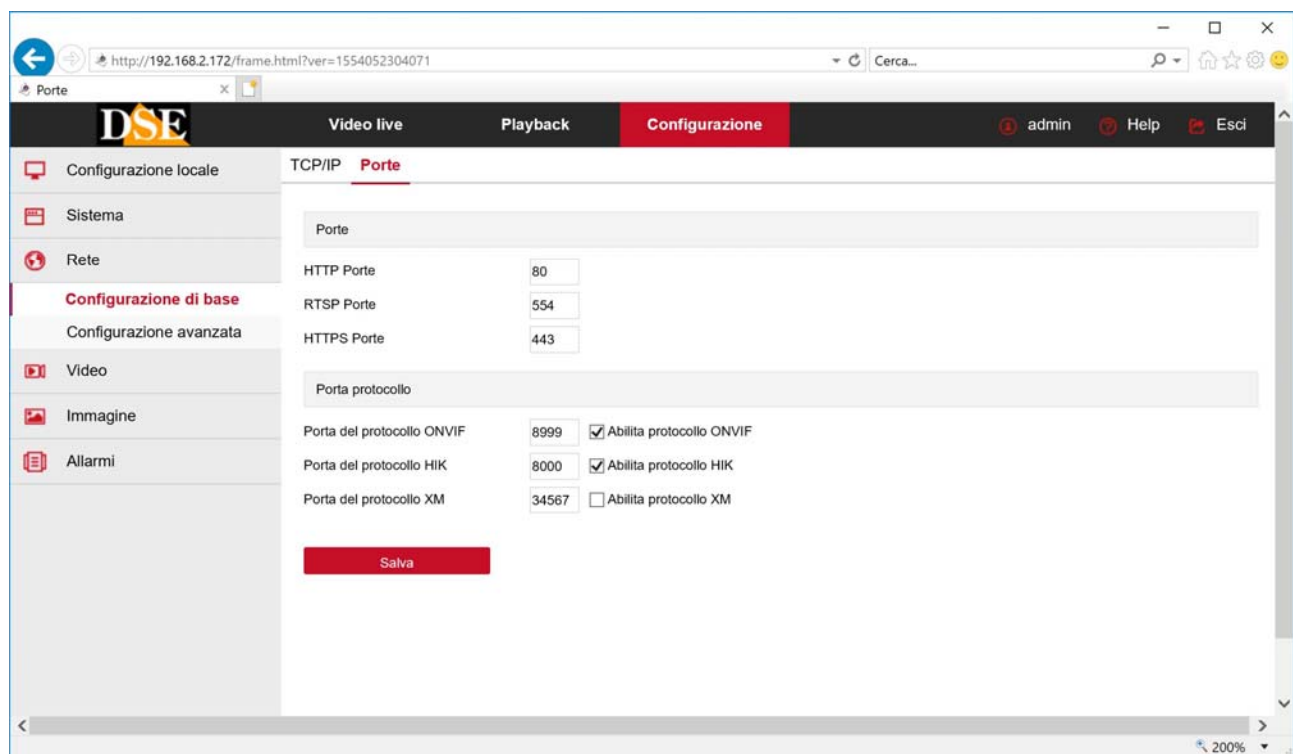
HTTP PORT- It is the port used by the camera for connection with browsers. Port 80 by default is the one used by browsers normally if you do not specify a different port. If you change this port it will be necessary to indicate the new port in the address bar of the browser at each connection. For example, to connect to the address 192.168.2.120 on port 72 you will have to call http://192.168.2.120:72

RTSP PORT: It is the port used for video streaming with RTSP protocol towards clients such as VLC, REALPLAYER etc. Factory: 554
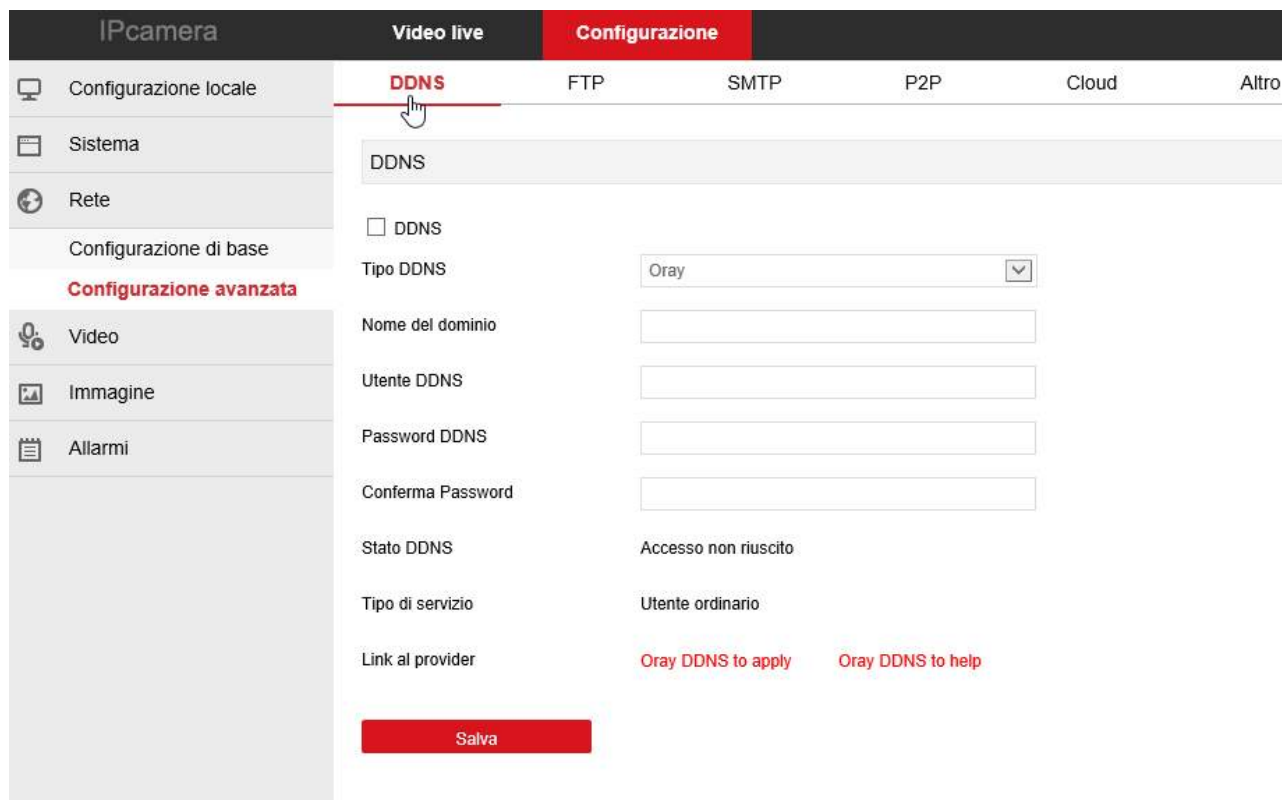
PORT HTTPS- This port is used in encrypted security communications with the https protocol

PORTA ONVIF- The port used to communicate with the onvif NVR. Factory 8999

It is also possible to enable the use of proprietary Hikvision and XM protocols.

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For more information on network ports see the installation manual.

DDNS

To connect to an IP camera through the Internet, you generally pass through the NVR which deals with remote access management. However, it is also possible to access the camera directly if it is useful. If remote access is managed directly by the camera, it is certainly advisable to have a fixed IP address so that the exact address to connect to is always known. If it is not possible to obtain it from your provider, all the cameras in the range support DDNS (Dynamic DNS) services that allow you to continuously monitor the IP address of the equipment. These services, also available online for free, provide the user with a domain name to type in the browser.

The RK Series cameras support the most popular DDNS services and are able to periodically send the Internet IP address assigned to them to the DDNS provider.

The following parameters can be set:

ENABLE DDNS -Enable the service

DDNS TYPE -DDNS service provider. Supported: No-IP, Dyndns and Oray
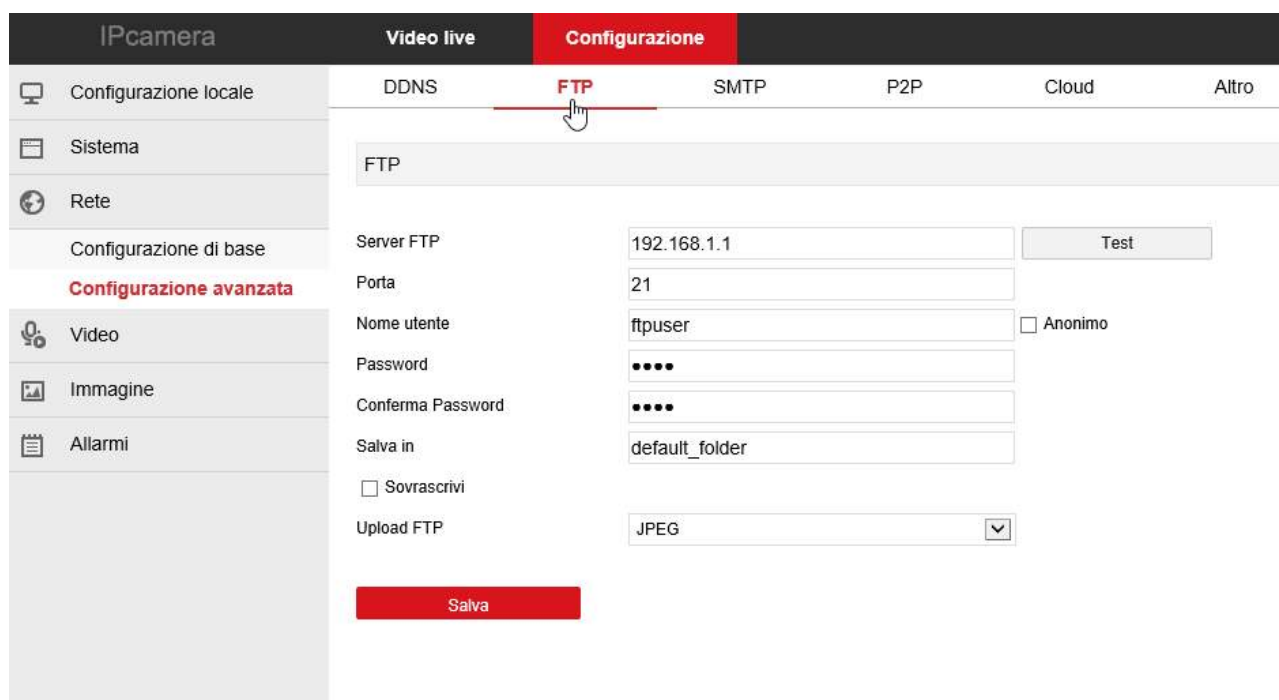
DOMAIN NAME:personal domain name that is assigned to the device by the DDNS provider

DDNS USER / PASSWORD:authentication for access to the DDNS service.

We remind you that as an alternative to DDNS services it is always possible to use the P2P cloud

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server WWW.FREEIP.COM whose use is free as it is included with the camera, as illustrated in the installation manual. Connection with P2P server, unlike DDNS, does not require router port mapping.

FTP

RK cameras can upload images or videos to a website through the FTP protocol following an event generated by motion detection.

FTP SERVER- FTP server address

DOOR- FTP communication port (usually 21)

USER NAME / PASSWORD- Credentials for accessing the FTP server

SAVE TO- Server folder to upload files

OVERWRITE- Allows you to overwrite the oldest files once the available space is exhausted

UPLOAD FTP- Allows you to choose whether to upload images in JPG format or videos in AVI format via FTP

TEST- With the test button you can check whether the access to the FTP server is successful with the set parameters.

The conditions that generate the FTP sending are set later in the ALARMS section.

SMTP

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RK cameras can send alarm EMAILs following an event generated by motion detection and attach a photo or video.

ADDRESS -the sender address that will appear in the e-mail sent by the camera.

SMTP SERVER- Name of the SMTP server that is used for sending the e-mail

DOOR -Port used by the SMTP server

SMTP EMAIL- You can choose whether to send a single message by email, or to attach a JPG photo or an AVI movie.

AUTHENTICATION- Enable if the SMTP server requires password control for sending emails.

USER NAME / PASSWORD -If the SMTP server requires authentication to send emails, you can enter username and password.

RECIPIENTS -It is possible to send emails to 3 recipients. With the TEST button it is possible to test a sending.

Remember that if the test fails it is not the fault of the camera but it is because something went wrong in the communication with the server. Try other settings or other SMTP providers that you can subscribe to for free on the net.

For example, try to sign up for an account with LIBERO.IT and use

SMTP SERVER: smtp.libero.it

PORT: 25

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AUTHENTICATION: YES
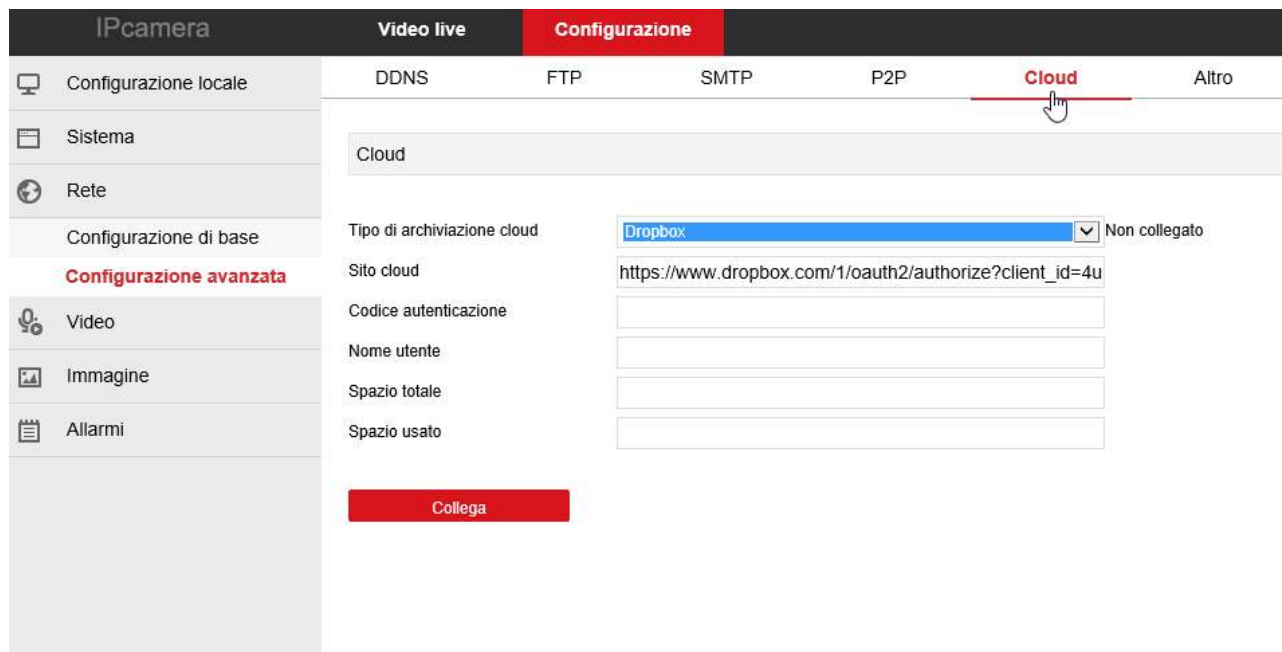
USER / PASSWORD: Those of your account

P2P
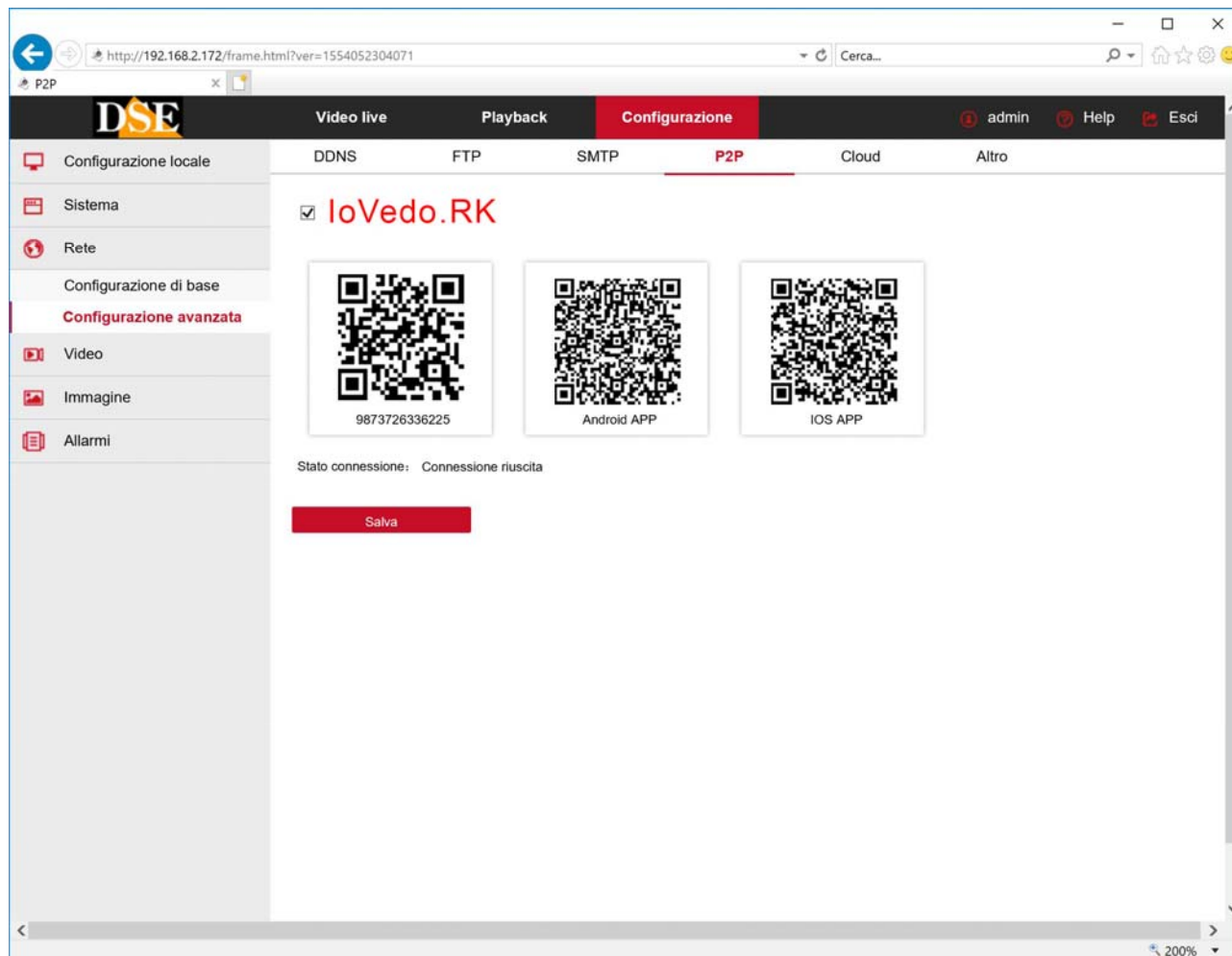
This function must be enabled if you wish to access the camera via web using the P2P cloud server as illustrated in the REMOTE ACCESS manual. The first QR code on the left shows the SERIAL NUMBER of the camera which is already registered in the server. The second and third QR codes allow you to download applications for mobile phones.Download the IoVedo.RK app manual to learn how to use P2P access data with the app.

CLOUD

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The RK series cameras allow you to save recordings on external cloud servers, if the upload bandwidth that your provider makes available to you allows it.

CLOUD TYPE - Cloud services on Google and Dropbox platforms are supported. The camera is already registered to be able to access these services.

CLOUD SITE / CODE - These fields are completed automatically depending on the service chosen. Copy the address that will appear in a browser and follow the instructions to register the camera that are given to you by the provider.

USER NAME - To be filled in according to the indications of the cloud provider

TOTAL / USED SPACE - Monitor space usage on the cloud server.

NOT CONNECTED or CONNECTED appears next to the cloud name if the connection is successfully established.

OTHER

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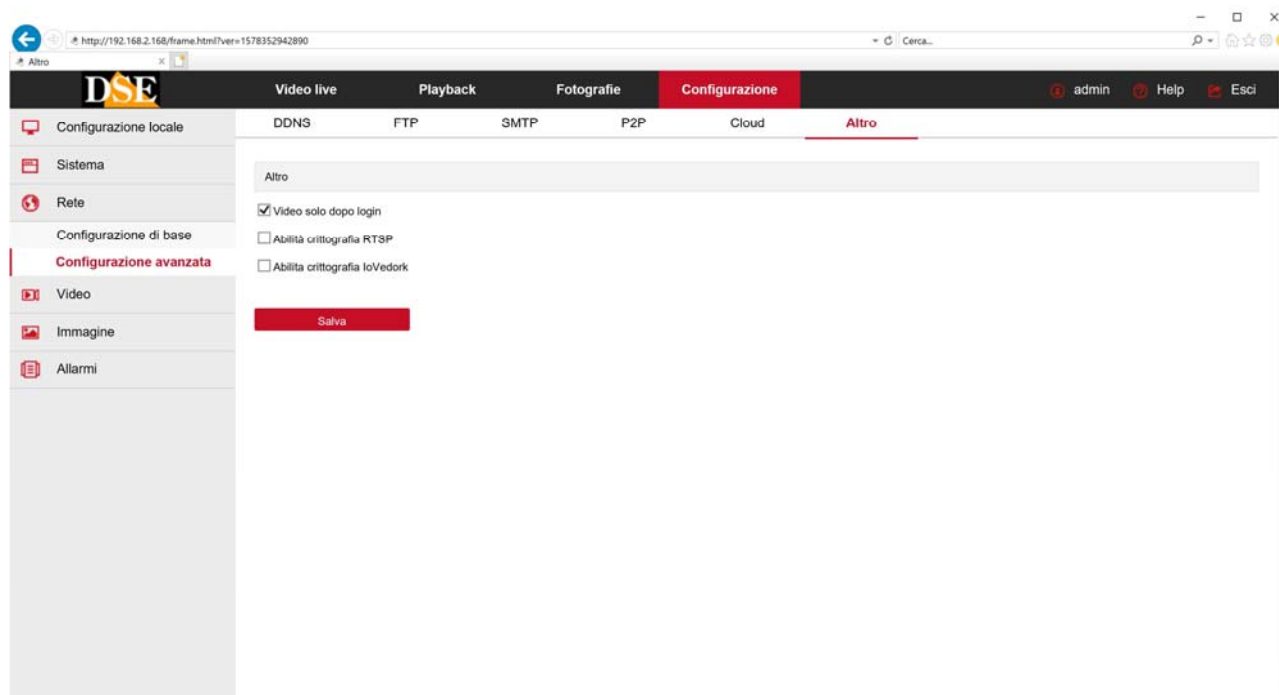
VIDEO ONLY AFTER LOGIN - This setting refers to accessing the camera via RTSP with a client such as VLC (see installation manual). If you disable this option, the client will be able to receive the streaming video without having to enter the login credentials.

ENABLE RTSP and IOVEDO.RK ENCRYPTING - For high-risk applications you can enable encrypted communication of video streaming to clients (RTSP) and communication with the IoVedo.RK app.

WIFI

If your camera is equipped with wifi you can access the wifi folder which allows you to connect the camera to a wifi network to use it wirelessly.

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SCAN - Press to search for all available wifi networks

STATUS - Indicates the status of the connection

SSID - Choose the name of the network you want to connect the camera to

KEY - Enter the password

ENCODING - Choose the encoding that is already presented automatically based on the scan performed

DHCP / IP - You can allow the camera to connect in DHCP obtaining an automatic IP, or set fixed parameters. This last option would be advisable in a CCTV system but first you must check that the address you intend to give is available on the network and enter the correct subnet mask, gateway and DNS.

After pressing SAVE the camera will connect to the wifi network and the connection status will become CONNECTED. At this point you can disconnect the network cable and contact the camera on the new wifi address.

ATTENTION - On laptops with very small monitors or with an enlarged viewing scale, the SAVE button may not be visible at the bottom of the page. Adjust the resolution or scale of the monitor to adjust the view to the size of the window.

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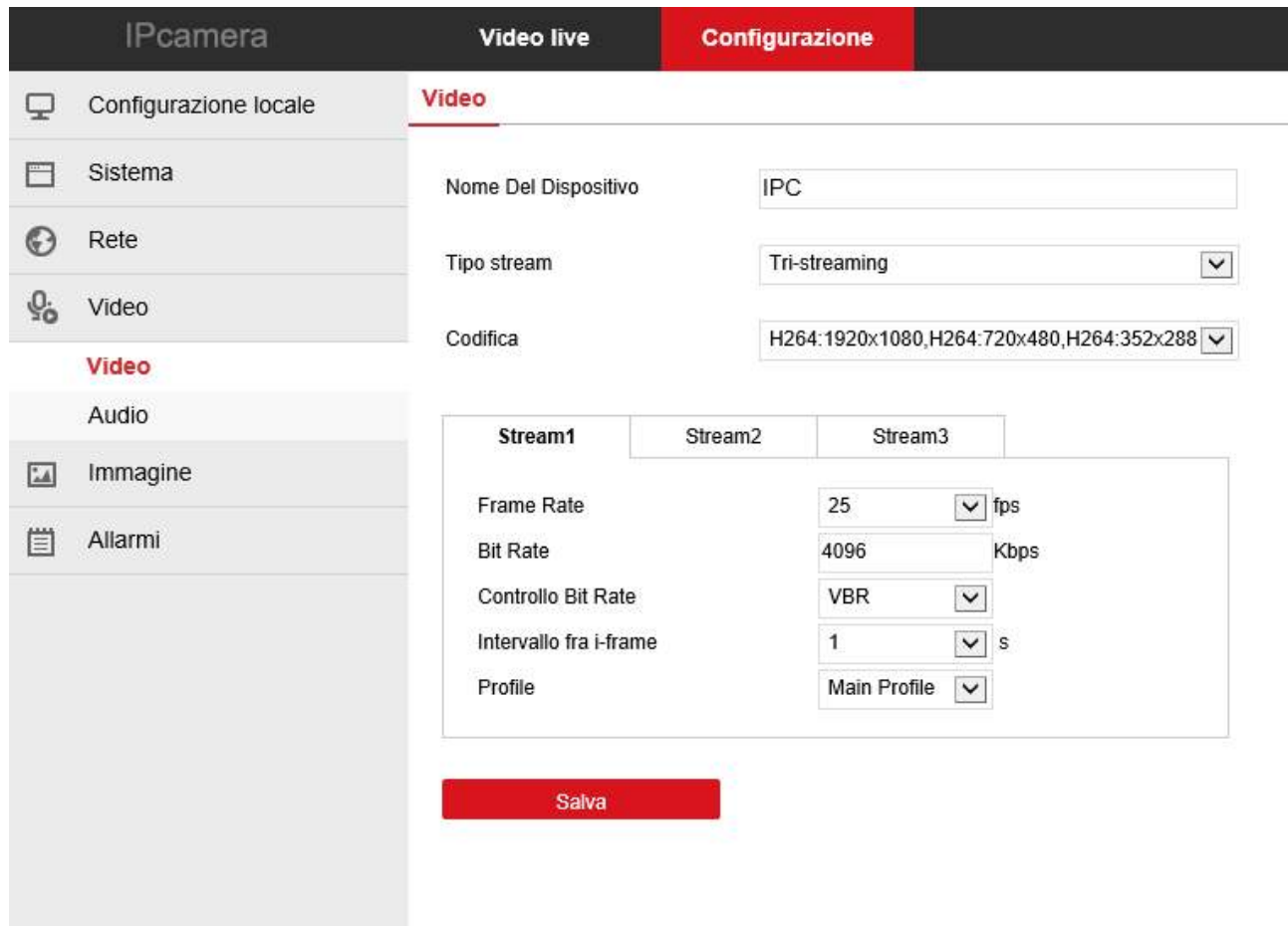
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VIDEO

This section allows you to adjust the parameters of the camera's video streams

VIDEO

In this section all the parameters that regulate the video streams of the camera are set and that determine their heaviness in terms of available bandwidth requirement. This is a fundamental regulation in the economy of an IP CCTV system and which is often mistakenly neglected with the result of weighing down the clients and obtaining long latencies (delays between action and image).

On a local network, generally adjusting the streaming to use a maximum of 2000/3000 Kbps per camera, you get a FullHD streaming of good quality and you can connect numerous cameras without introducing a lot of latency.

DEVICE NAME- It is possible to assign a distinctive name of the camera

STREAM TYPE- Each camera can generate up to 3 different types of video streams that can be chosen by the client when connecting. This way you can easily adapt to the bandwidth you have available. For example, if we have access to the camera through a mobile connection with low

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bandwidth we will choose to receive a stream with low resolution and frame rate. In this box you can choose whether to manage one or three streams. This choice changes the underlying field automatically.

CODING- Depending on the previous choice here you will find combinations of 1 or 3 resolutions which will be assigned to streams 1,2 and 3. These cameras only use dynamic H264 compression, older compressions such as MPG4 and MJPEG have been abandoned. The available combinations include the main stream in maximum resolution and streams 2 and 3 in lower resolution to be used with low bandwidth available.

GUY- Here you set the resolution that will be used by the camera exclusively in the live view window of the Internet Explorer browser.

STREAM 1,2,3- in these folders you can set the video compression details of the camera video streams whose number and resolution we have already seen in the previous steps.

FRAME RATE- The number of frames per second that make up the video stream (max. 25/30 - min. 1). Consider that 25/30 f / sec corresponds to the so-called real-time that is the television standard in which the human eye does not perceive single frames but a single uninterrupted sequence. Generally it is also possible to reduce this parameter down to 10/12 f / sec without perceiving big differences in video fluidity and saving a lot of bandwidth.

BITRATE- Represents the maximum bandwidth that the camera will occupy with its video streaming. As a rule, it is advisable not to exceed the value of 4000 Kbps

BITRATE CONTROL-This section gives the possibility to choose between two different management modes of the occupied band: CONSTANT BIT RATE (CBR) and VARIABLE BIT RATE (VBR).

In CBR mode the camera maintains a constant Bit Rate which can be set in the box above. In VBR mode, on the other hand, the camera changes the bit rate in the various operating conditions in order to maintain a constant video quality.

INTERVALl FRAME - It is the interval between 2 consecutive Key-Frames in H.264 compression and can be set from 1 to 10 seconds. A shorter interval corresponds to greater accuracy in the time position of the video but greater use of bandwidth.

PROFILE- It is the H264 compression type: Baseline, Main and High profile.

AUDIO

Some RK series cameras support audio. In this section you can choose the audio encoding and adjust the volume.

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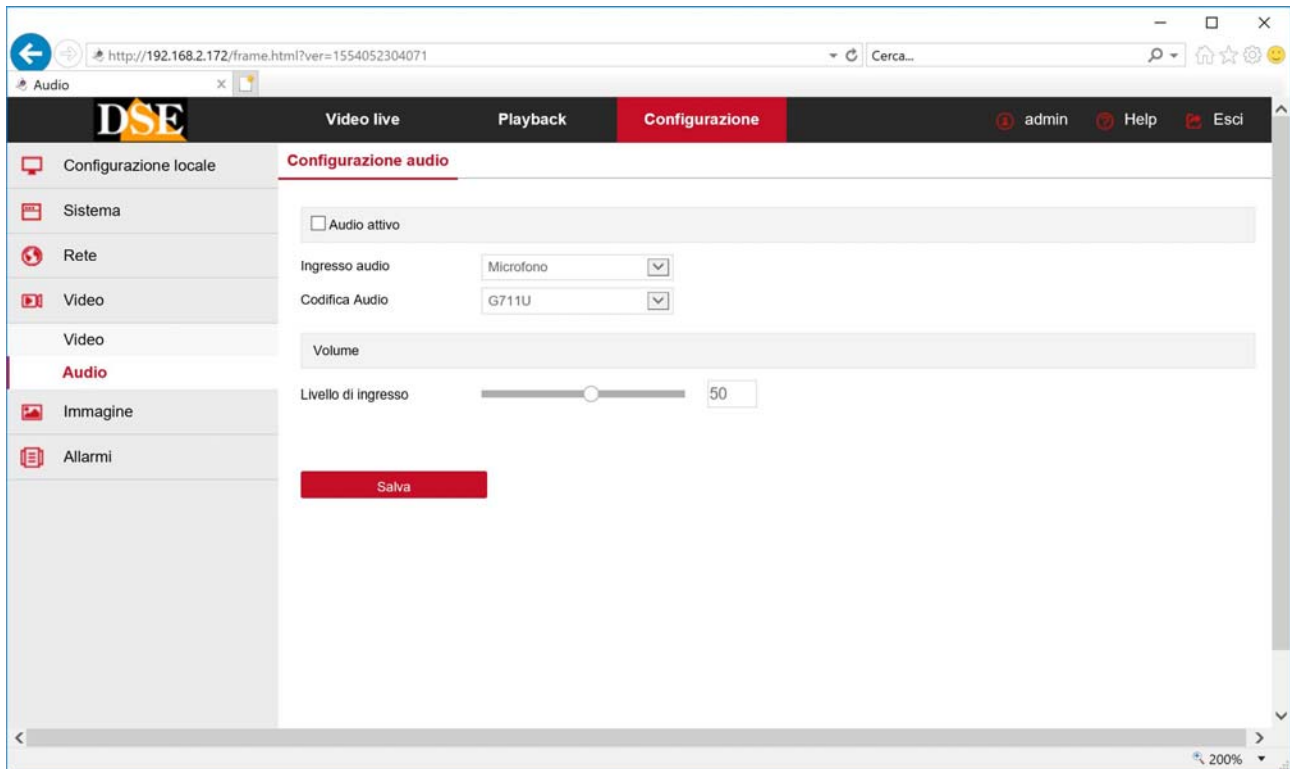
IMAGE

This section allows you to adjust the image quality of the camera. The available items may vary depending on the camera model.

IMAGE ADJUSTMENT
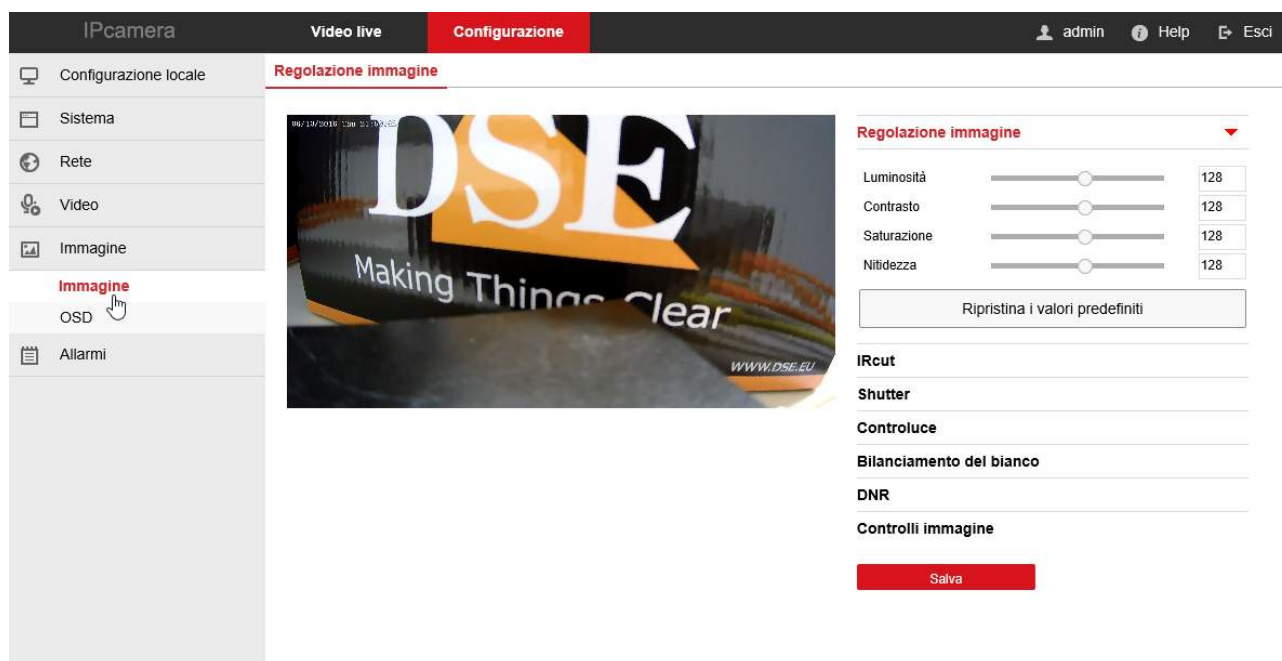
PICTURE ADJUSTMENT -Contains BRIGHTNESS / CONTRAST / SATURATION / SHARPNESS adjustments - Directly adjust the camera image allowing you to compensate for any non-optimal situations. You can see the effects of the adjustments in the preview. With RESTORE DEFAULT SETTINGS it is possible to restore the factory settings in case the result of the previous manual adjustments is not satisfactory.

IRCUT- All cameras in this range include day / night function with automatic removal of the IR filter (ICR). To understand the importance of this feature, it is first of all necessary to remember that all color cameras mount an IR filter in front of the sensor capable of reducing the passage of infrared components of light that are not visible to the human eye. If the IR filter were not used, the camera would produce strange colors, not corresponding to those we are used to seeing. In a color camera without day / night function, the presence of the IR filter makes it impossible to use infrared lighting. In order to allow the passage of infrared light in night mode, the cameras of this series integrate a mechanical device capable of physically removing the IR filter when darkness falls. This function is called ICR (Infrared Cut-Filter Removable) and guarantees the camera day / night performance.

The camera automatically switches between day and night based on the ambient light. In night mode, shooting takes place in B / W and the IR illuminators are turned on.

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In this section you can adjust two parameters: The day / night passage delay (filter removal) from 1 to 9 and the camera operating mode with the following options: Always colors, Always B / W, Automatic based on the analysis video, Automatic based on the LPR sensor on board the camera

SHUTTER-The behavior of the electronic shutter (diaphragm) is defined in this window. AUTOMATIC mode is recommended in most applications.

In special cases it is possible to set the MANUAL mode which offers the possibility to set the aperture opening time manually in the box below SHUTTER. Note that with manual setting the camera will not be able to adapt to changes in brightness. Times can be set from 1 second to 1/10000 sec.

In manual setting the GAIN ADJUSTMENT (AGC) is also active, which increases the low brightness performance of the camera while introducing an inevitable video noise.

BACKLIGHT -This function is used to improve the visibility of a dark subject against a light background such as a customer entering a shop photographed from the front.

WHITE BALANCE-In this window the white balance is defined in order to make the white color realistic in all lighting situations. AUTOMATIC mode is recommended in most applications. There are other options to choose from depending on the type of lighting in your shot.

In case of particular lighting it is possible to set the MANUAL mode which offers the possibility to establish the white tone manually with the RED / GREEN / BLUE sliders below.

3D NOISE REDUCTION- Digital function for video noise reduction if present.

PICTURE CONTROLS -In this section there are some digital functions to compensate for difficult shooting situations: ANTIFLICKER - Improves the shooting of a television screen avoiding the line effect, WDR (Wide Dynamic Range) allows you to improve vision when there are areas of brightness in the image different, for example in the case of an external shooting in a portico

OSD SETTINGS

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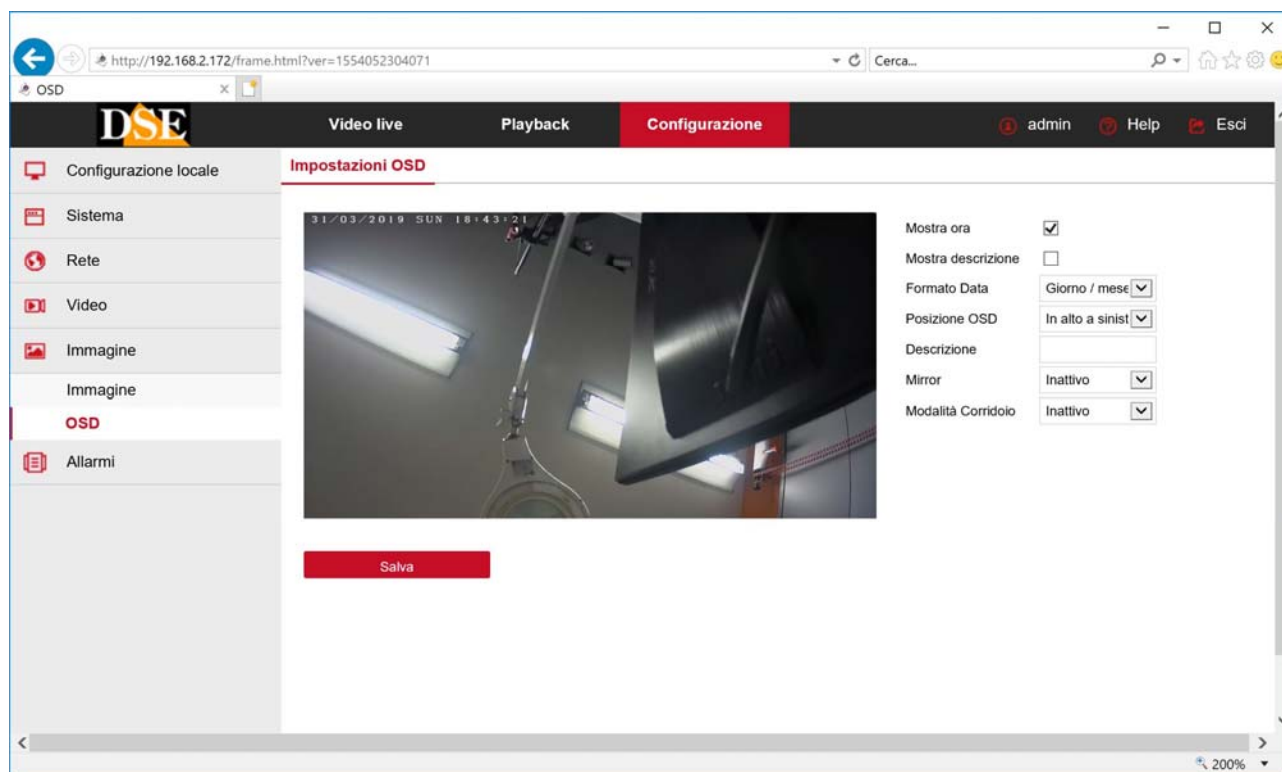
It is possible to define which information should appear in the image overlay. You can enter the date and time as well as any description, such as the camera name

The position of the overlay can be chosen at the top or bottom left.

The MIRROR option allows you to flip the image vertically or horizontally.

The CORRIDOR option shows the image rotated so that the long edge is vertical.

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NORMAL ALARMS

Cameras can generate alarms and perform actions. The alarms section includes NORMAL EVENTS and, if you have a camera with human detection, also the SMART EVENTS section.

MOTION DETECTION

RK cameras are able to detect the presence of moving subjects in the shooting field and trigger alarm actions.

Motion detection setting is done in 3 windows
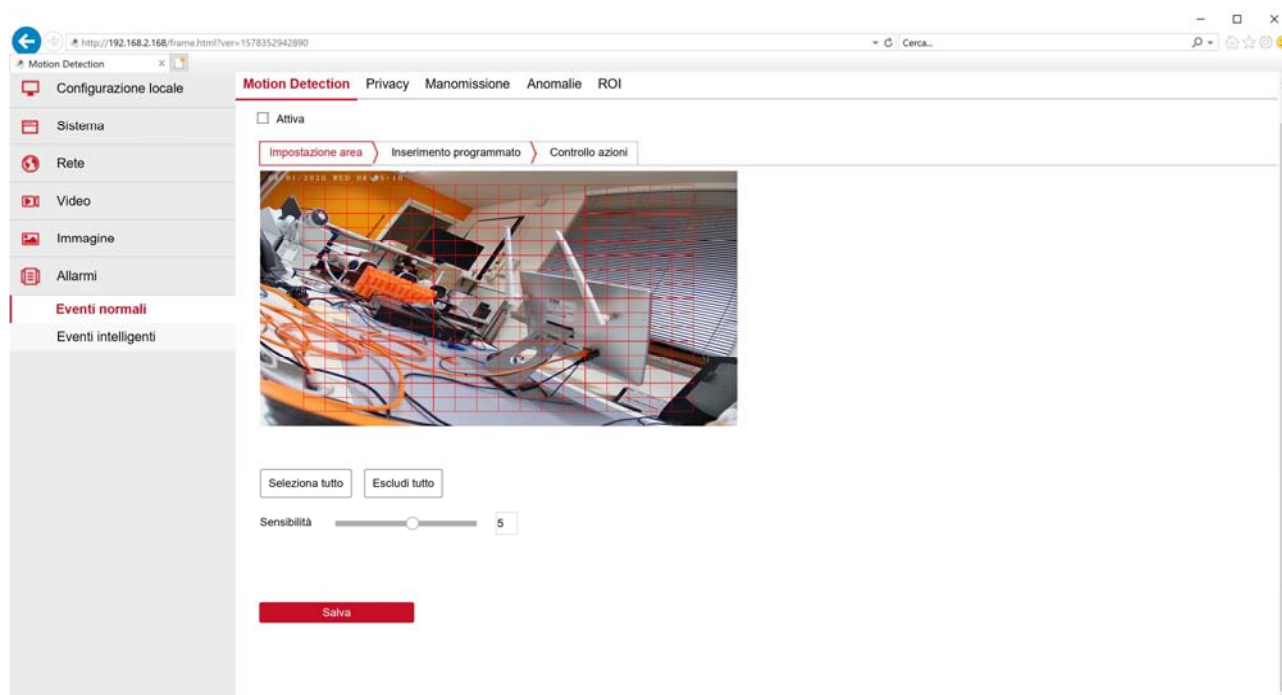
In this first section the area in which the detection will be valid is defined by dragging the mouse on the screen. Furthermore, the sensitivity of the detection is set in order to avoid untimely alarms (from 1 to 9).

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In this second window concerning the Motion Detection it is defined in which time bands of the week the motion must be activated.

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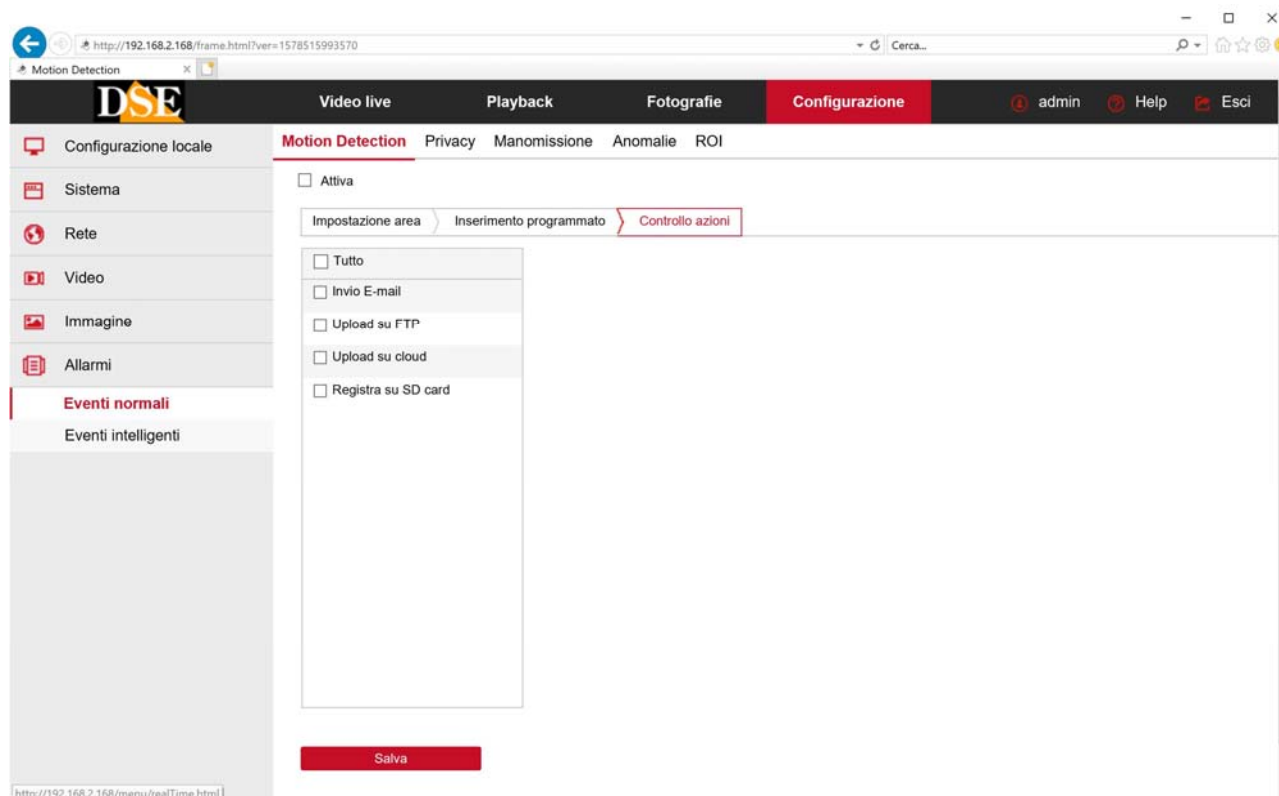
In the last window of the motion adjustment, the alarm actions to be performed in the event of a motion alarm are established: Email sending, Upload via FTP, Upload to the cloud server and possibly others such as recording on SD card or activating alarm outputs , if the camera has one.

PRIVACY

The RK series cameras allow you to mask areas of the image to protect privacy needs.
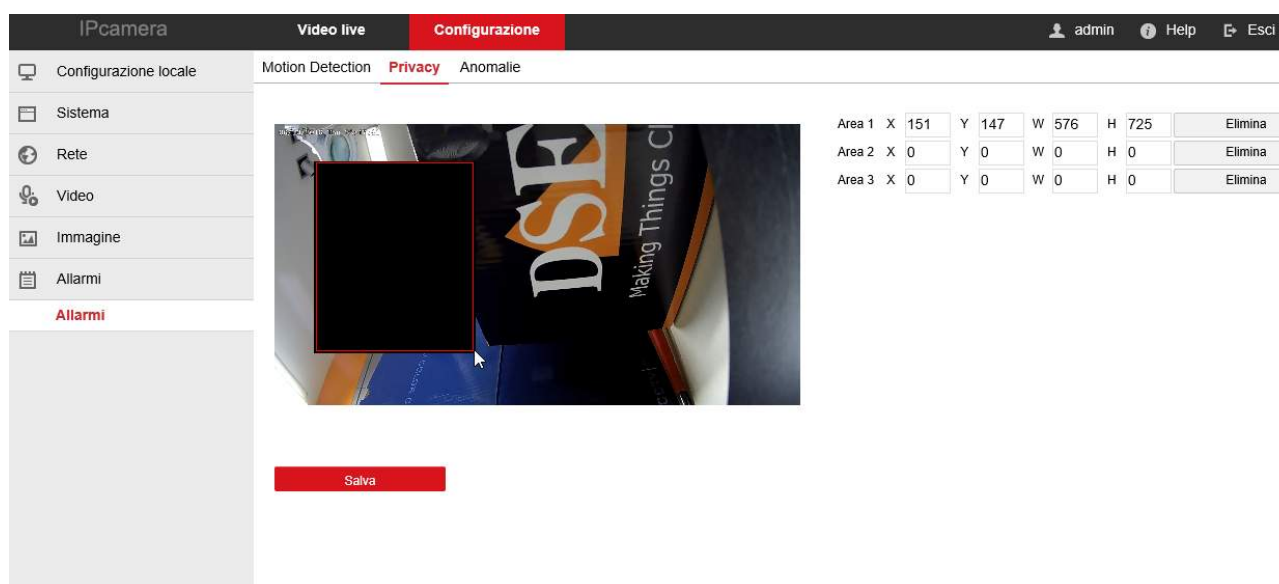
It is possible to trace up to 3 privacy masks with the mouse.

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TAMPERING

The RK series cameras allow you to signal if the camera is blinded by covering its field of view. This allows you to generate an alarm if the camera is subject to a sabotage.
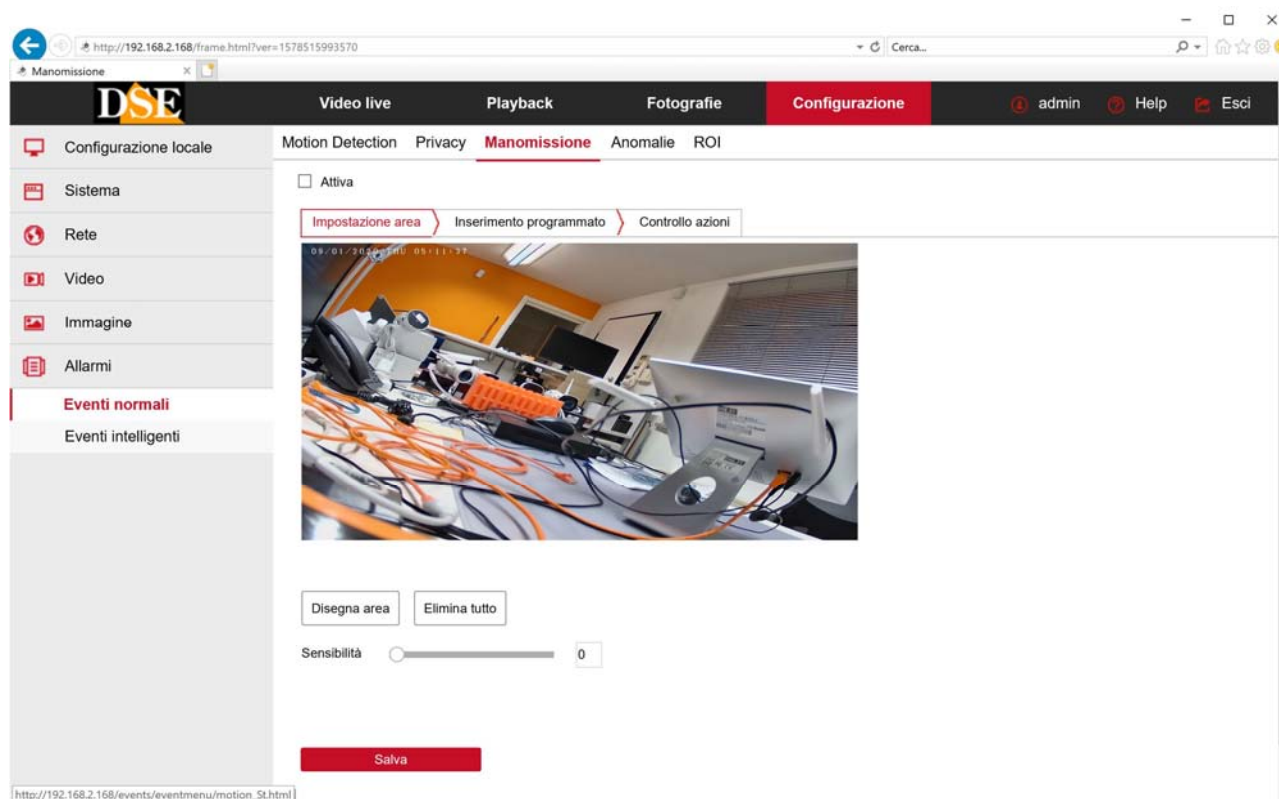
As in the motion detection described above, you can draw the detection area and set the sensitivity. In the Scheduled Arming and Actions windows you can enable detection and define alarm actions.

ALARM INPUTS

If your camera has alarm inputs you have a window to set the operation, the hourly enabling and the alarm actions.

ANOMALIES

In this section, the alarm actions to be performed in case of network anomalies, such as loss of network connection and detected IP conflict, are set

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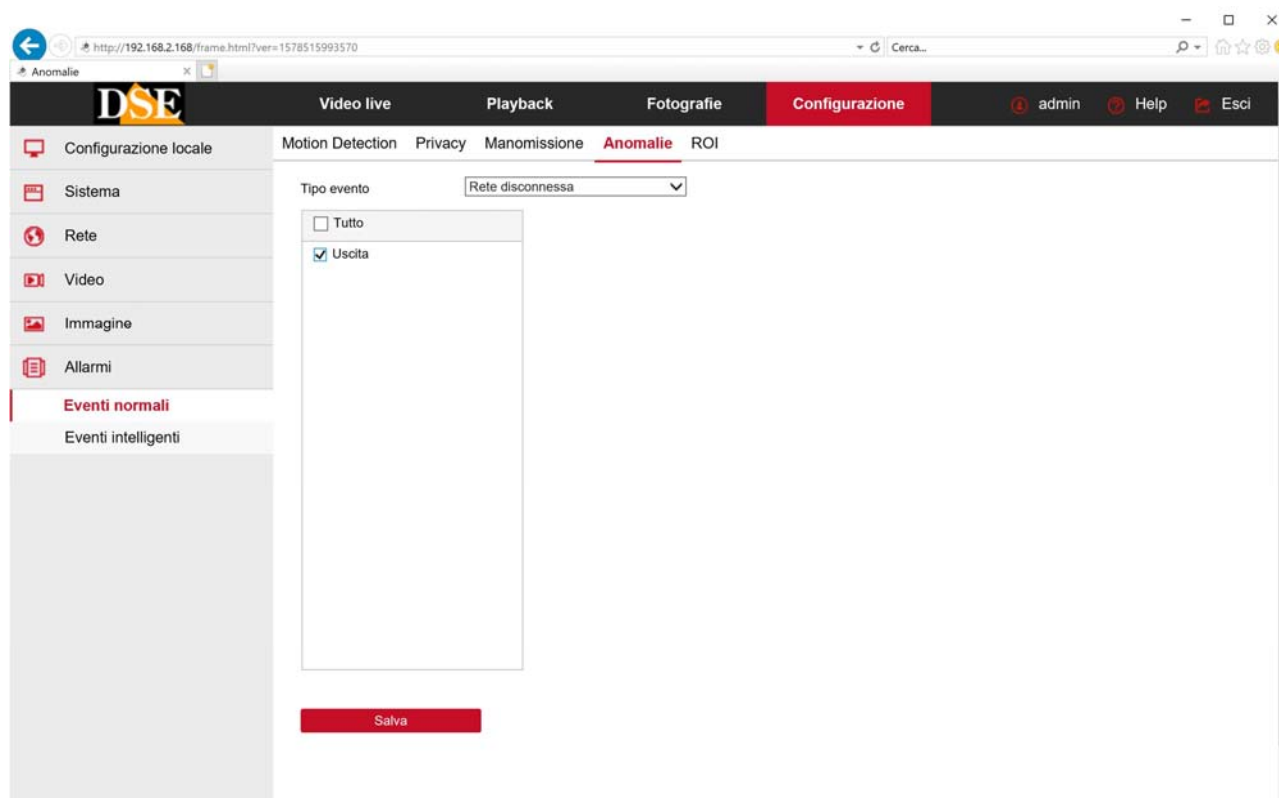
ROI

RK cameras can manage: Region Of Interest (ROI) or Areas of Interest. This is an advanced setting aimed at optimizing the use of video compression in the image.

Under normal conditions the camera uses the same type of video compression throughout the image. By setting ROIs, you can define particularly important areas where you can ask the camera for lower video compression and therefore higher video quality.

You can set up to 3 areas by drawing them on the screen with the mouse. For each area you can enter a QP (Quantization parameter) value that can range from 0 to 51. The higher the value, the greater the compression, therefore lower video quality, but less weight.

If you are setting an area of particular importance it is best to set a low QP value.

You can set an absolute or relative QP value. The absolute QP value should be used with caution because it imposes a constant QP and therefore the video bitrate could vary greatly based on the movements in the image.

After setting the area of interest, use the NO AREA slider to set the frame rate of the areas outside the ROI, therefore less important. For a good ROI system effectiveness you should set a low frame rate in the non-ROI areas, such as 5-10 f / sec so that the camera saves bitrates in these less important areas. The frame rate used in the ROIs is obviously the maximum programmed in the encoding section of the camera.

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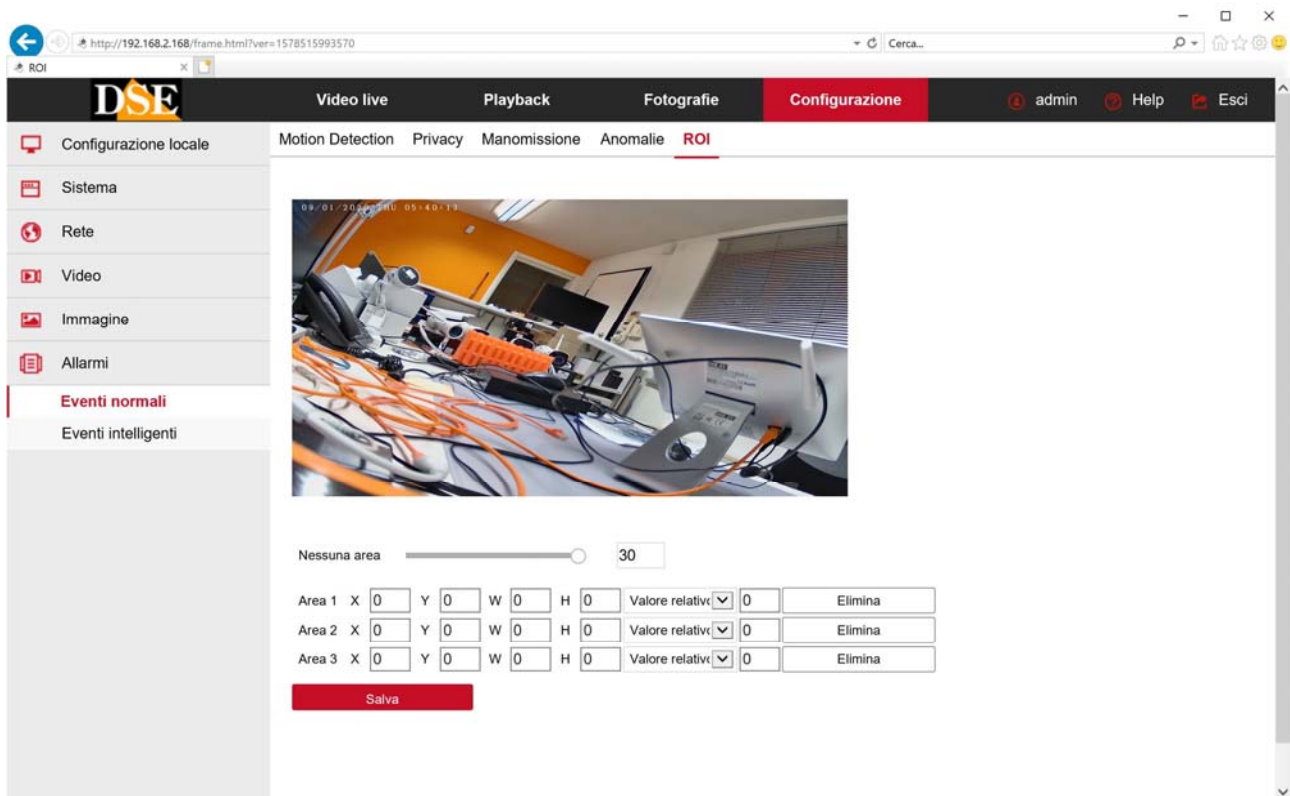
Region Of Interest (ROI) are only effective with H264 and H265 compressions.

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INTELLIGENT ALARMS - FACE RECOGNITION

Some cameras can generate alarms following intelligent detections, also called video analysis. If you have purchased an RK Series camera equipped with face recognition, you will find the adjustments in the SMART EVENTS section.

FACIAL RECOGNITION

Cameras can recognize the presence of a face in the frame and perform alarm actions. For effective operation it is necessary to film the subject as much as possible frontally respecting the optimal detection distance of the camera.

It is possible to upload a database of photos to the camera in the FACE DATABASE folder. The camera can detect the presence of a known or unknown subject.

In the first face recognition tab you can trace the detection area to be considered with the mouse. You can choose SELECT ALL or delimit a smaller area by tracing it with the mouse.
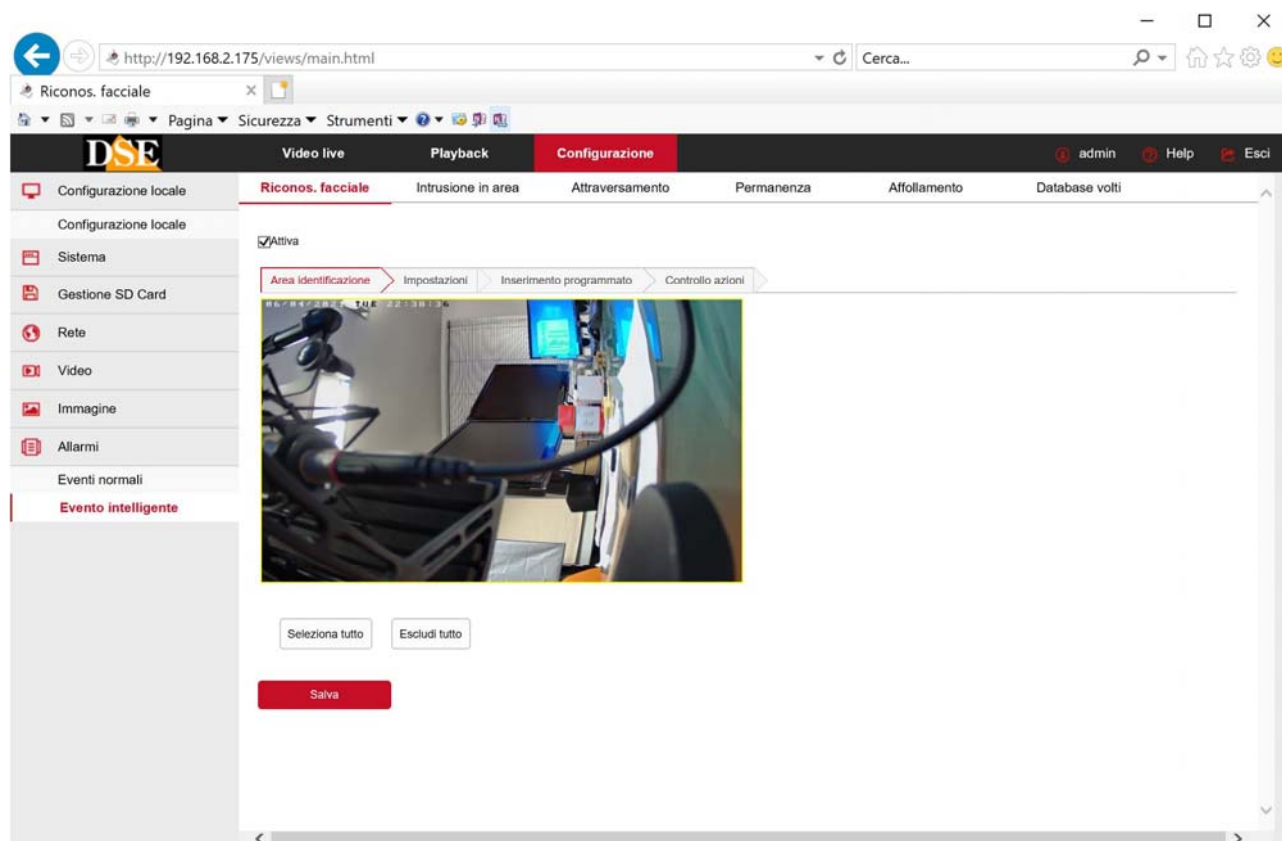
In the second face recognition SETTINGS tab are the detection settings.

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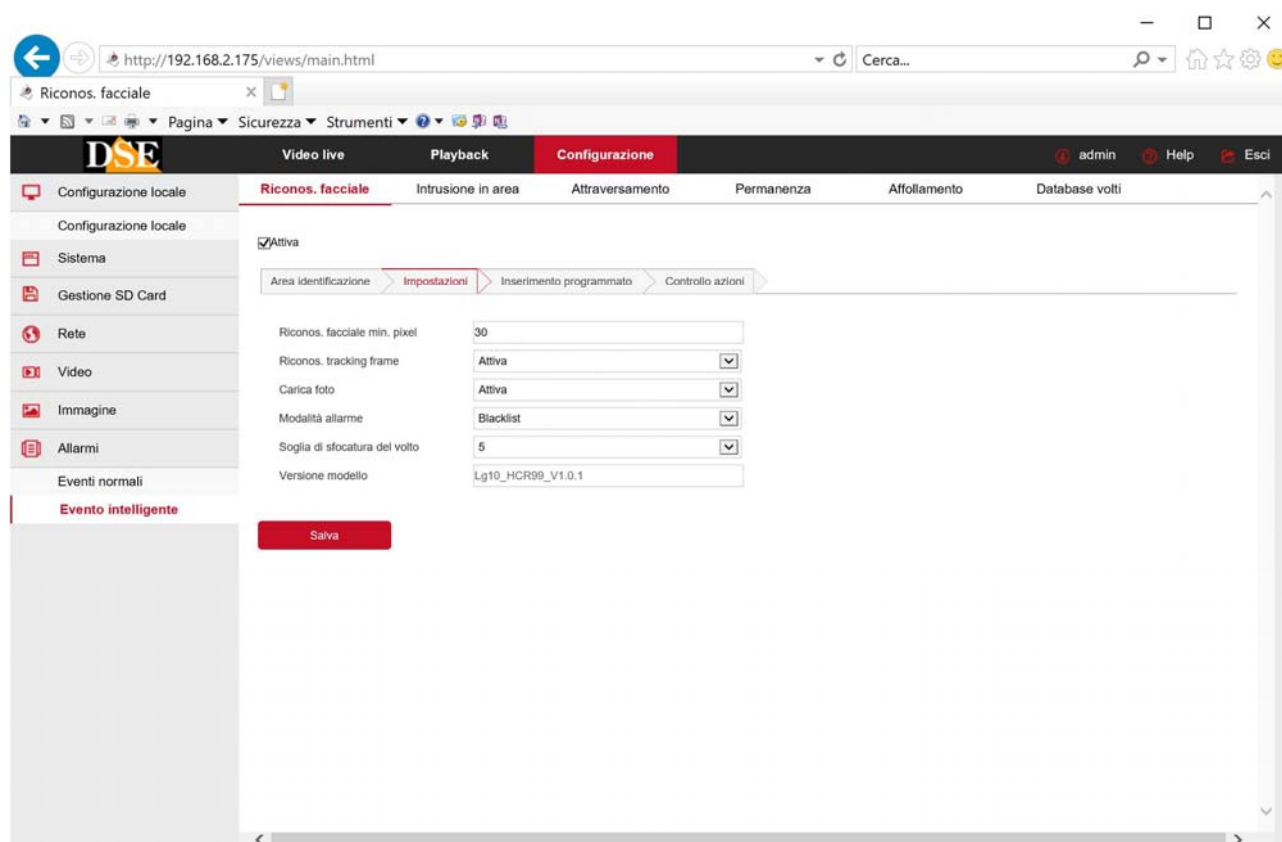
MIN. PIXEL - If you choose, for example, 30 pixels it means that a face, to be recognized, must occupy at least 30 pixels. Faces further away, therefore smaller, will be ignored

TRACKING FRAME - If you activate this function, the detected face is highlighted by a red frame in live view.

UPLOAD PHOTO - If you activate this function, when a face is identified as present in the database, the name of the identified subject and the recognition percentage will be superimposed

ALARM MODE - Here you can set the alarm mode. In the whitelist logic, the camera signals all the faces that are included in the library. In blacklist mode, the camera signals when a face is detected that is not included in the library. The Whitelist and Blacklist management mode is set individually for each face library, as we will see in the next chapter, but in this box you can choose whether to manage whitelist libraries only or blacklist only ones.

BLUR THRESHOLD - You can set a value from 1 to 10. If you set a high value, beyond 6, the camera will not react if the face is not in perfect focus. If you set a low value, below 6, the camera will also detect faces that are not perfectly focused.

In the PROGRAMMED ARMING tab you can enable recognition in certain time slots as we have already described for all the alarms managed by the camera

In the ACTION CONTROL tab, the alarm actions are associated with face recognition.

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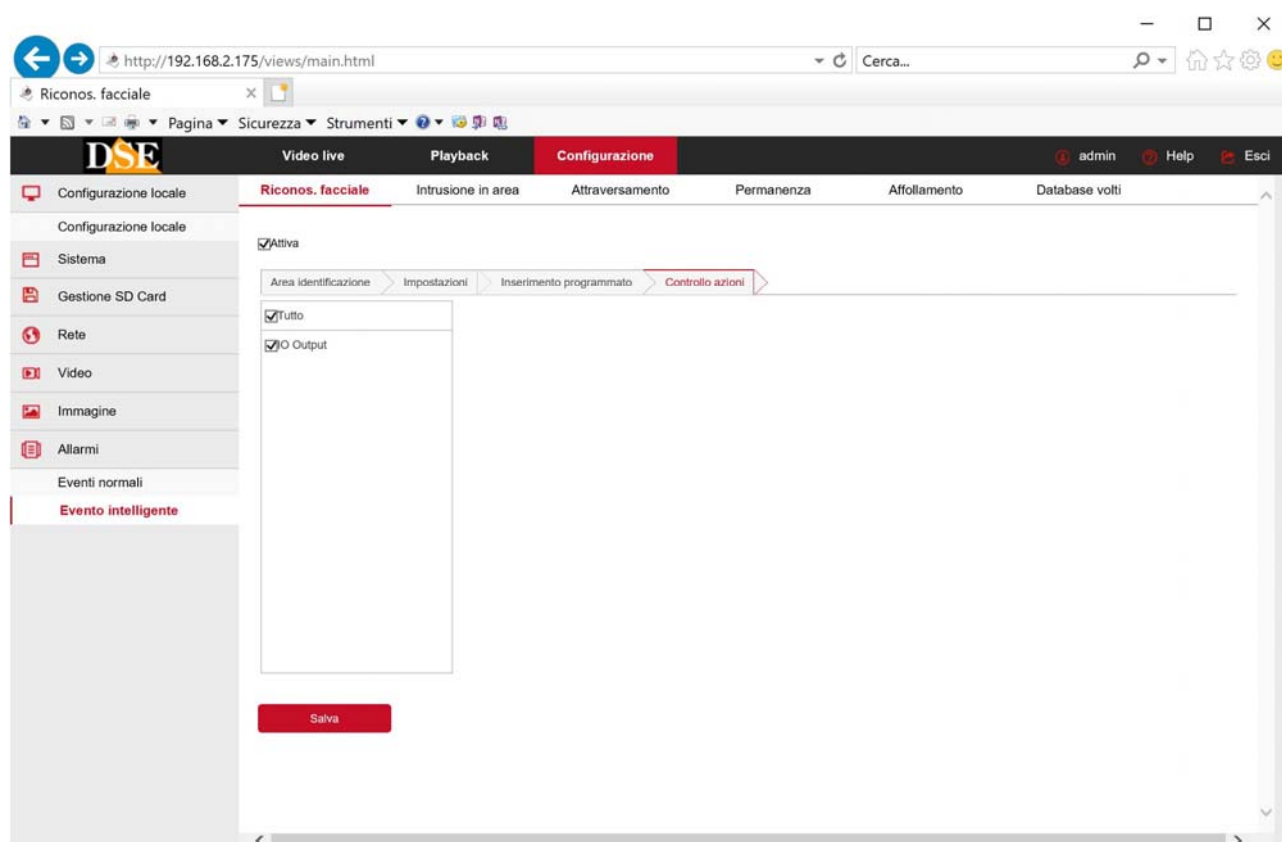
IO OUTPUT - The camera triggers the alarm output it is equipped with.

In addition to its own alarm actions, the camera sends the signal to our RK series NVRs which can trigger other alarm actions.

FACES DATABASE

In the Face Database tab you can upload images for recognition

You can put all the photos of known people in a folder on your computer. For example, you can upload photos of your family members, or the inhabitants of an apartment building, or the employees of a company. You can also upload photos of wanted or missing people. Each photo can have any resolution but maximum size 100K. The supported image format is JPG.

The camera uses the name of the image file as the name of the person so it is convenient to name each image with the name of the subject.

Once the folder has been prepared, you can search for it with the BROWSE button and then load it into the camera with the IMPORT button.

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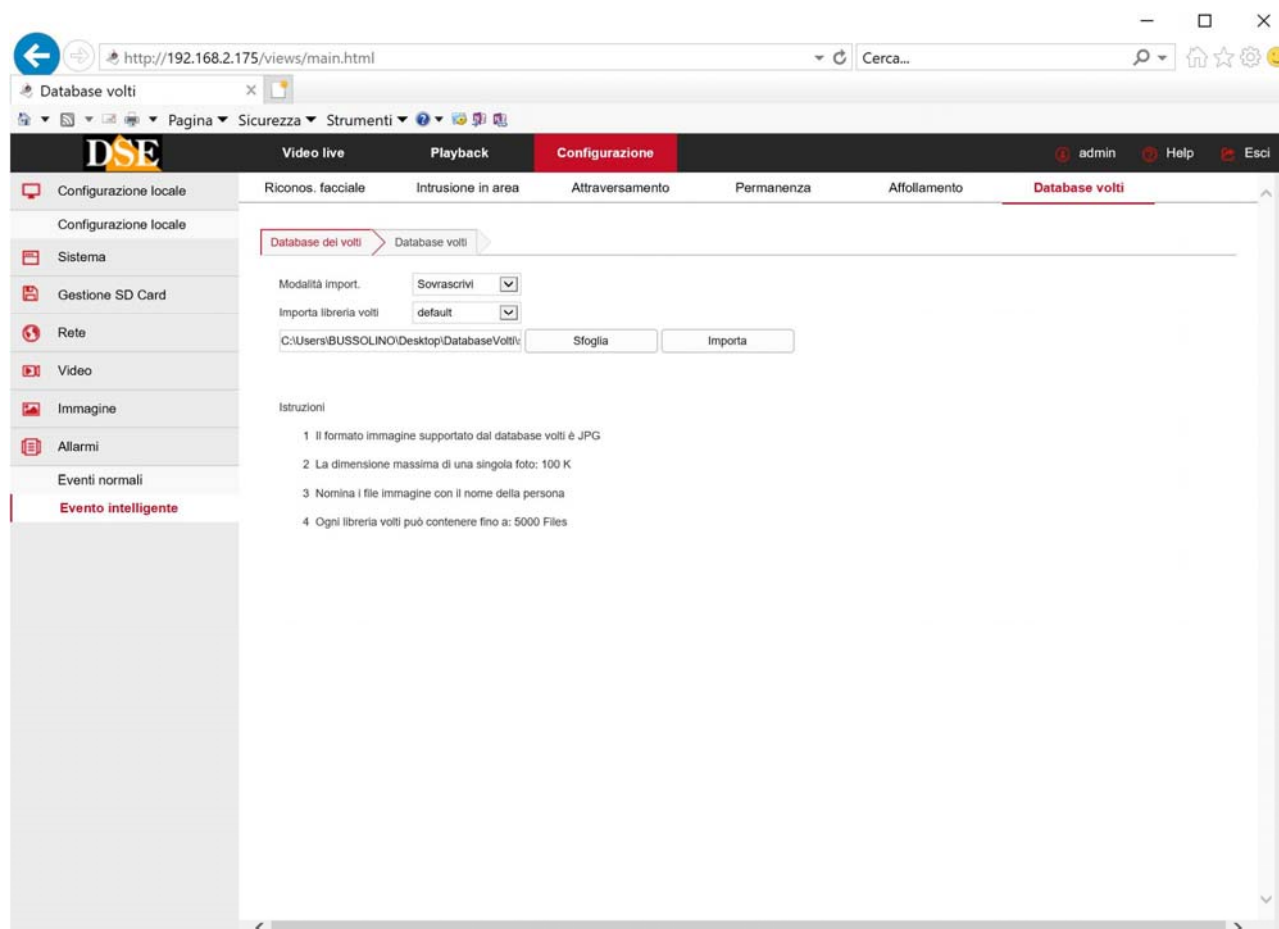
IMPORT MODE - You can choose to load a new database and overwrite any previous database by choosing OVERWRITE. If you choose ADD, the photos you upload will be added to those previously uploaded.

IMPORT FACE LIBRARY - In the next FACE DATABASE you can create libraries

to divide your photos into folders. Here you choose which library you are going to upload the photos you are importing to.

BROWSE - Select the folder on your computer that contains the photos you want to upload.

IMPORT - Starts the transfer of photos to the camera. Wait for the upload to complete following the progress band.
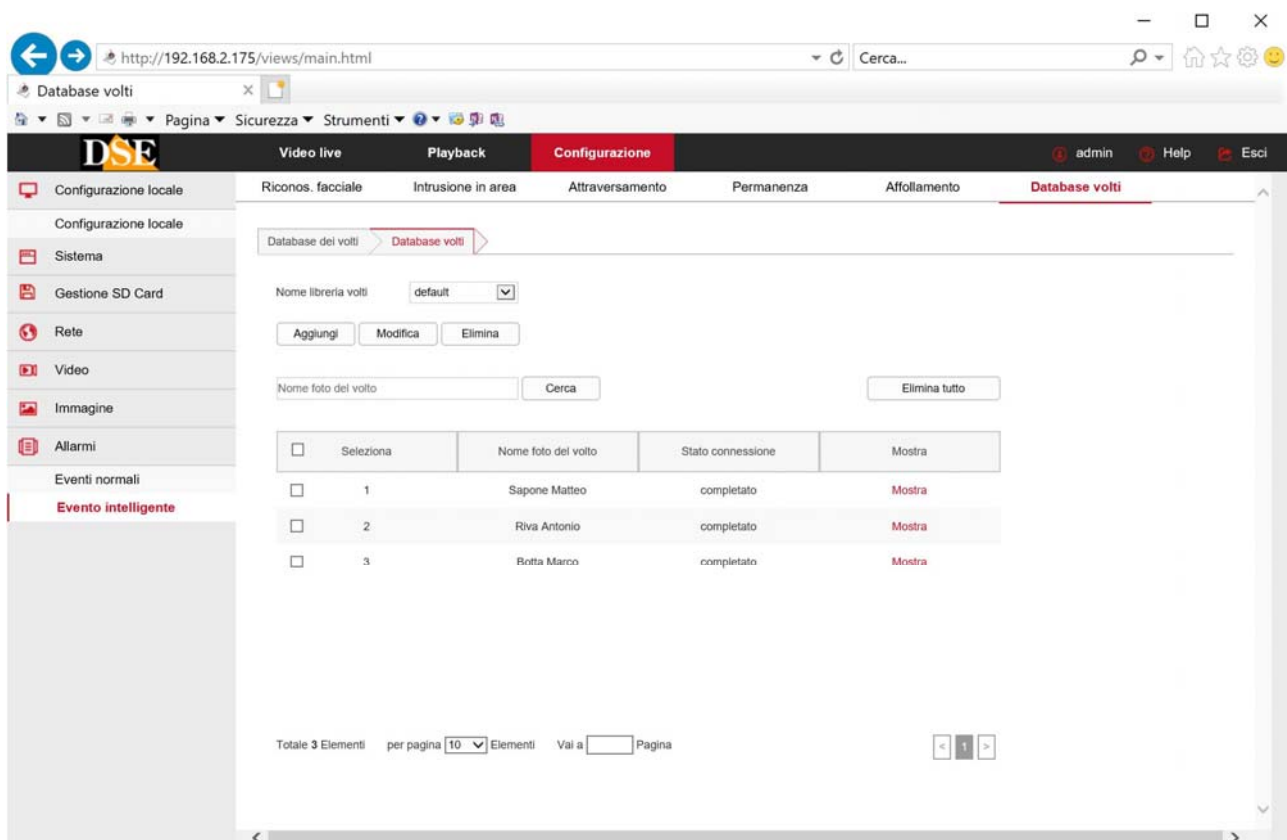
In the FACE DATABASE tab you can create and manage face libraries to divide the photos in your database into separate folders. It is a practical function to manage many subjects.

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A library called DEFAULT already exists by default but it is advisable to create one or more customized ones with the ADD / MODIFY / DELETE buttons. For each library you will enter these parameters

LIBRARY NAME - You can give the library a distinctive name

LIBRARY PROPERTIES - Each library can work in Blacklist or Whitelist logic. In the whitelist logic, the camera signals all detected faces that are included in the library. In blacklist mode, the camera signals when a face is detected that is not included in the library.

CONTRAST THRESHOLD - When the camera identifies a face in its database it is

does based on a certain percentage of common traits between the subject being shot and the photo in the database.

For example, a very similar subject can be recognized 85-90% in this box

you can set what the similarity threshold must be to trigger an alarm. If you set a

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high value, like 70/80%, the subject must be very similar to be

reported, while if you set a low value, below 50%, you may have untimely detections, but you will also be able to identify the subject when the face is only partially visible.

In the TABLE of this page you can manage the photos of your libraries. You can search for a photo with the SEARCH button, view it with the SHOW button and delete it with the DELETE button.

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SMART ALARMS - HUMAN DETECTION

Some cameras can generate alarms following intelligent detections, also called video analysis. If you have purchased an RK Series camera equipped with human detection, you will find the adjustments in the SMART EVENTS section.

INTRUSION IN THE AREA

Cameras can detect if a person enters a defined area. This survey detects only a human person.
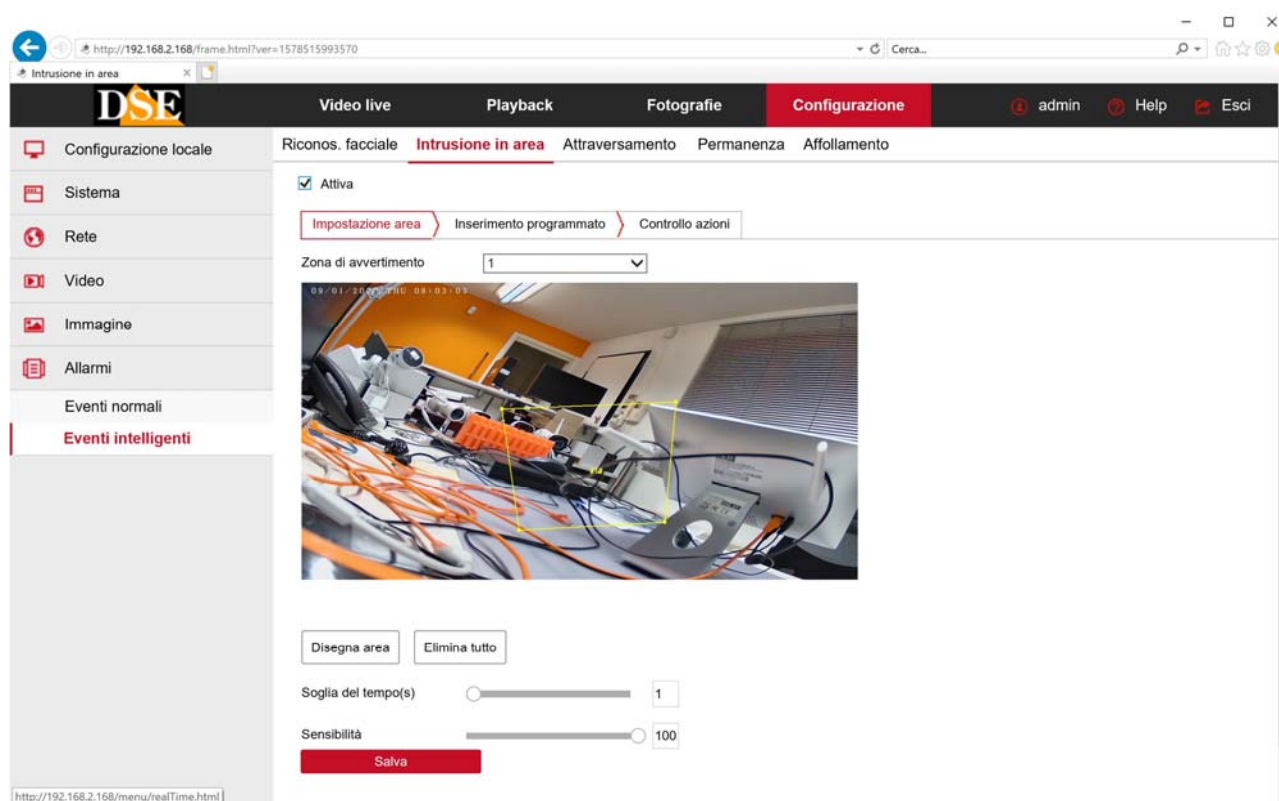
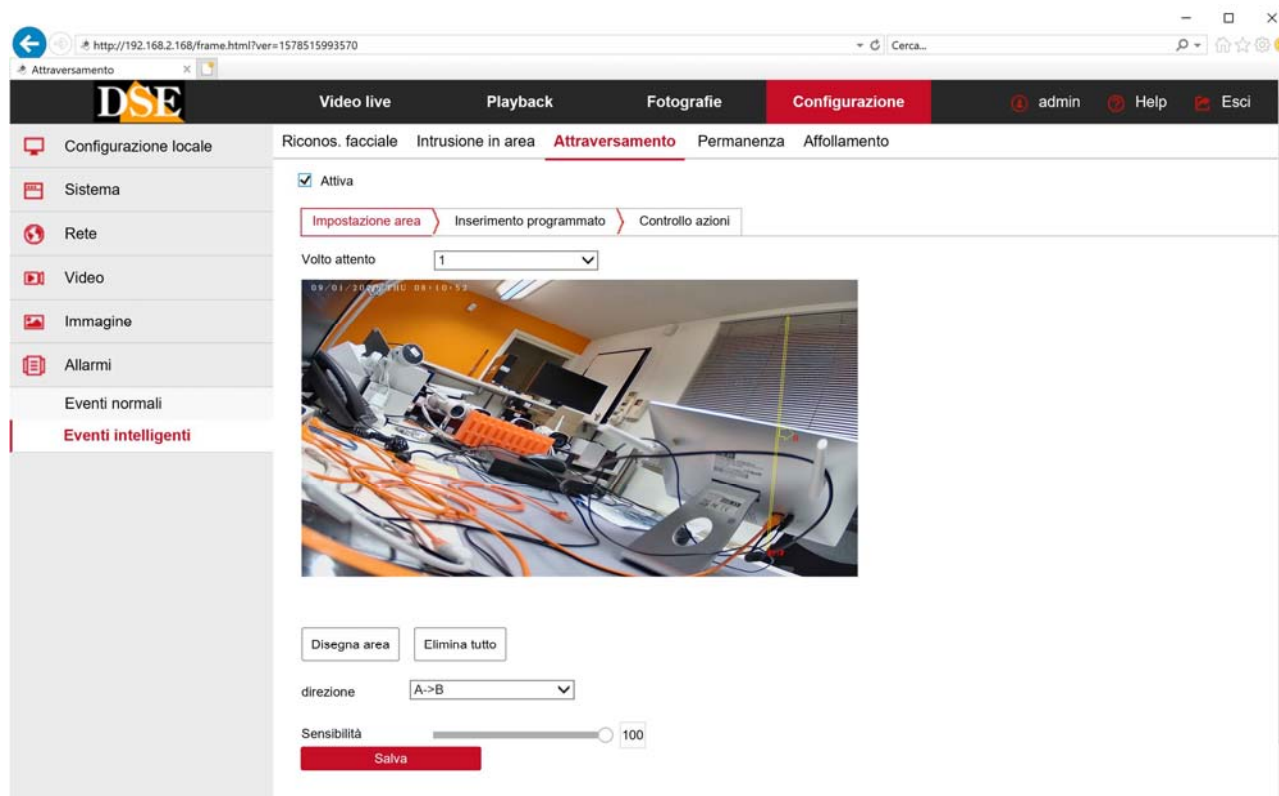WARNING ZONE - You can trace up to 4 detection areas (ZONE 1-2-3-4) in the image.

TIME THRESHOLD - The alarm is triggered if a human figure enters the area and remains there for at least the number of seconds you set in this box

SENSITIVITY - Makes the detection more or less sensitive

In the other tabs you can set the hourly activation and the actions to be performed, as for the other normal alarms (motion detection)

CROSSING

Cameras can detect if a person crosses a virtual line. This survey detects only a human person.

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WARNING AREA - You can trace up to 4 lines (1-2-3-4) of detection in the image.

DIRECTION - You can specify whether to trigger the alarm in each case or only if the crossing takes place in one direction or the other.

SENSITIVITY - Makes the detection more or less sensitive

STAY

Cameras can detect if a person lingers in an area for too long. This survey detects only a human person.

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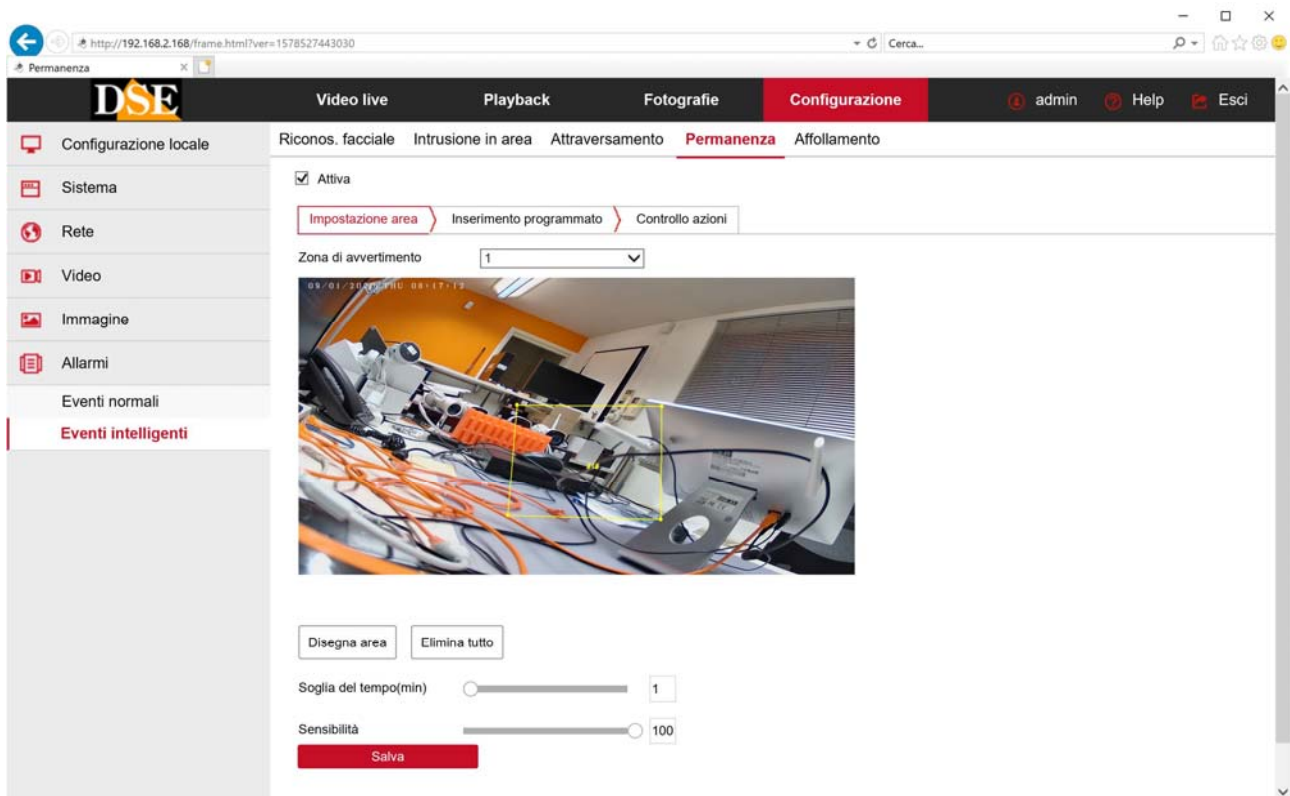
WARNING ZONE - You can trace up to 4 detection areas (1-2-3-4) in the image.

TIME THRESHOLD - The alarm is triggered if a human figure enters the area and remains there for at least the number of minutes you set in this box

SENSITIVITY - Makes the detection more or less sensitive

CROWDING

Cameras can detect if too many people enter an area. This survey detects only a human person.

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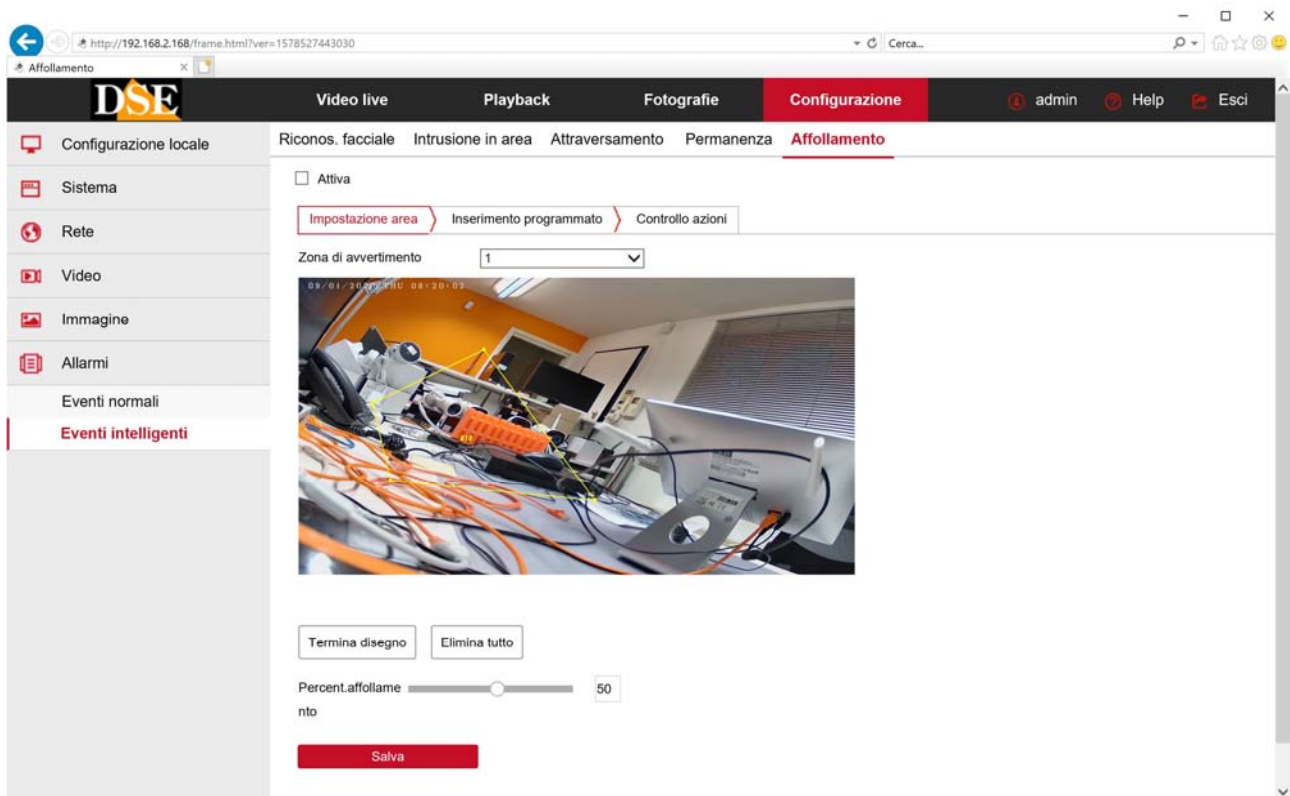
WARNING ZONE - You can trace up to 4 detection areas (1-2-3-4) in the image.

CROWD PERCENTAGE - The alarm is triggered if the crowding percentage in the area exceeds this threshold