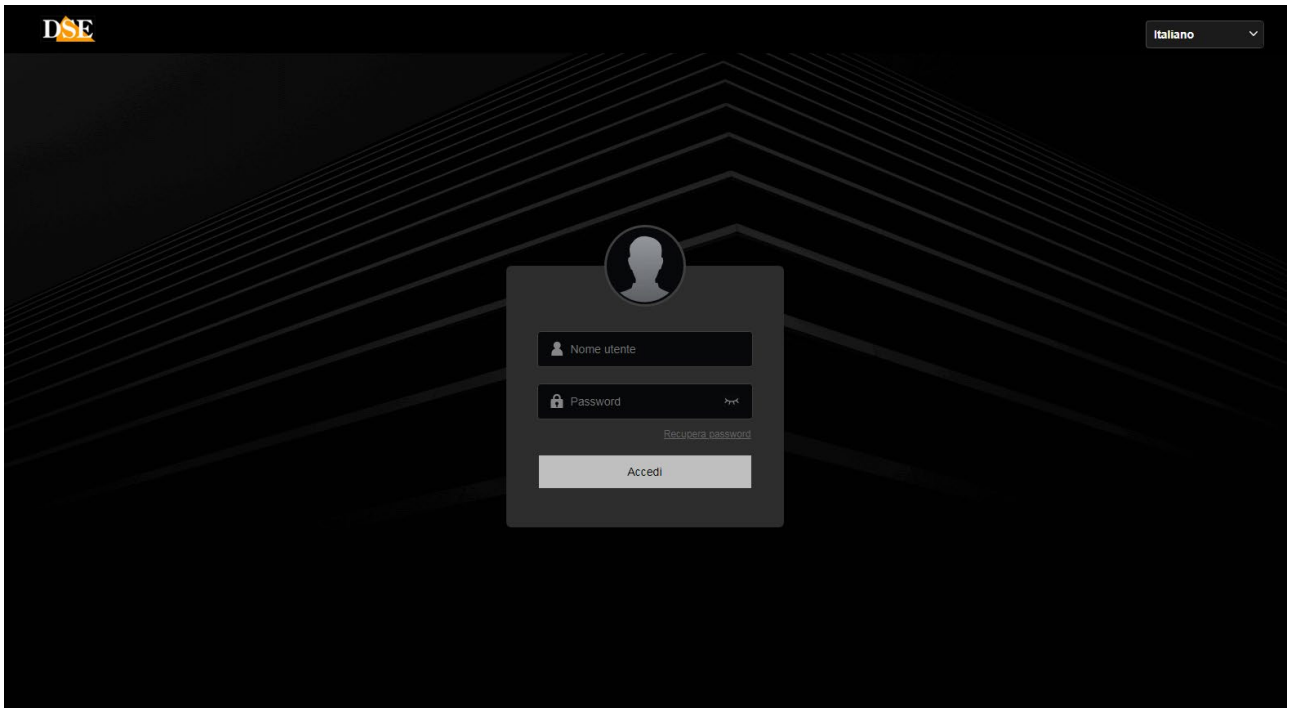
Configuration options

RK SERIES IP Cameras GUI

Version 6.0



Operation Manual
for the installer and for the user

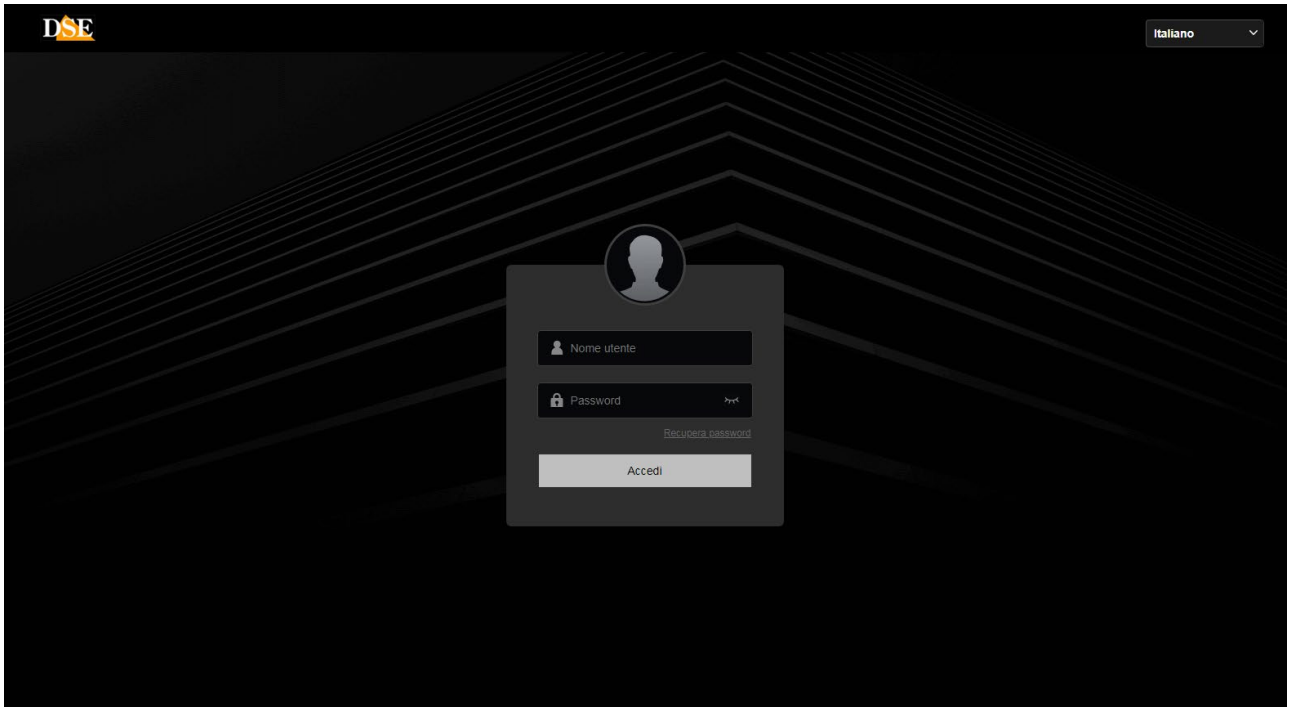
How to set up the camera with the browser

Introduction

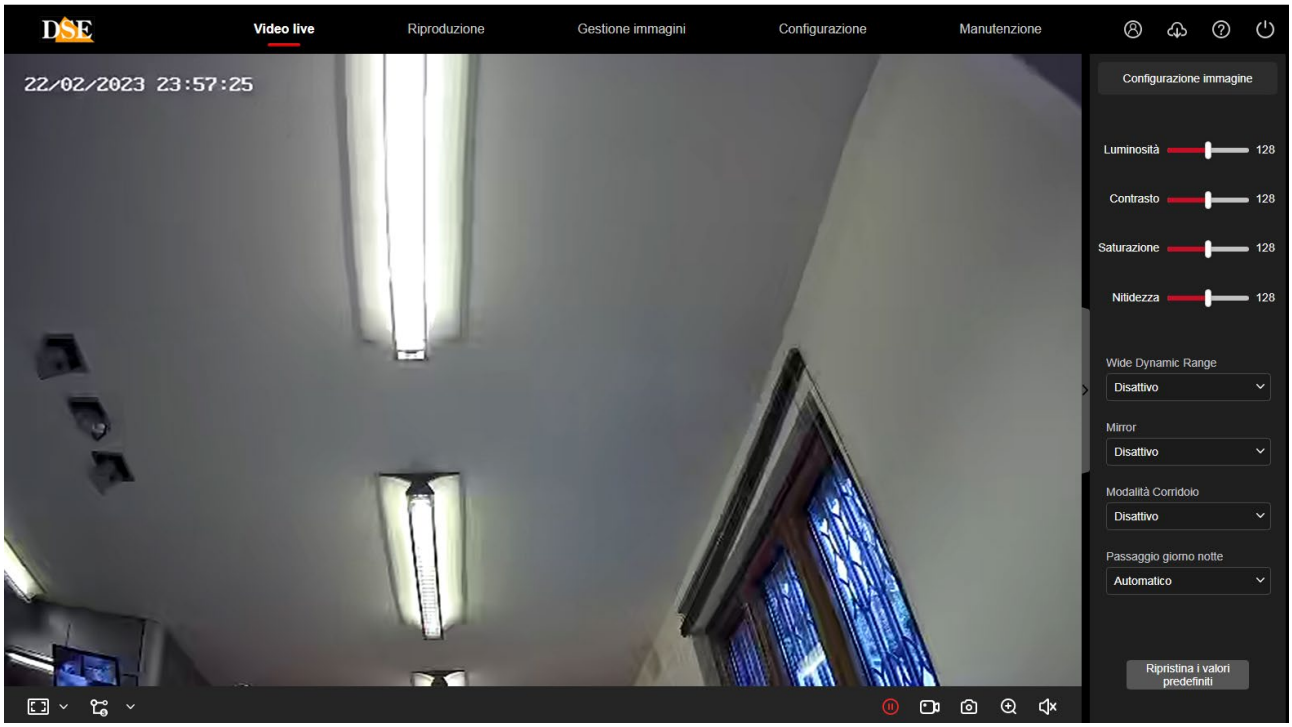
The RK Series cameras have numerous configurable operating options.
You can customize these settings by accessing the cameras with any
Internet browser, such as Google Chrome or Firefox.
This manual explains all configuration options.

Browser access

The camera installation manual explains how to access the cameras.
with the PC using the browser. RK cameras today support all common browsers,
while older models may only require Internet Explorer.
If you have never accessed your camera via browser before, it is a good idea
Please refer to the installation manual and follow the instructions to connect successfully.
In this manual we start from the login window where you enter your username and password to access.

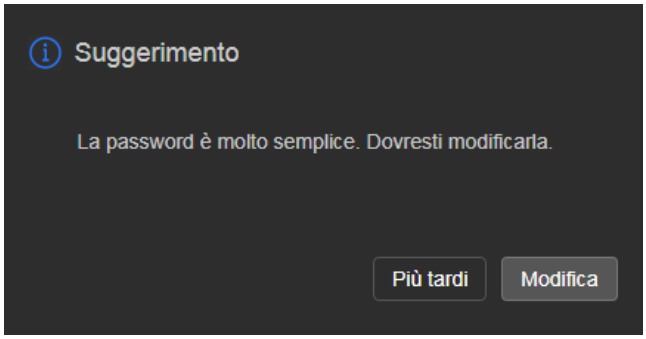


The factory login data for RK Series cameras are:
USERNAME: admin
PASSWORD: admin(firmware up to 2014)**123456**(firmware from 2015)
It is important to choose the**Italian language**to get the interface that is used in this manual. The LANGUAGE CHOICE is made in the login window using the box choice at the top right.
You access the camera control mask.



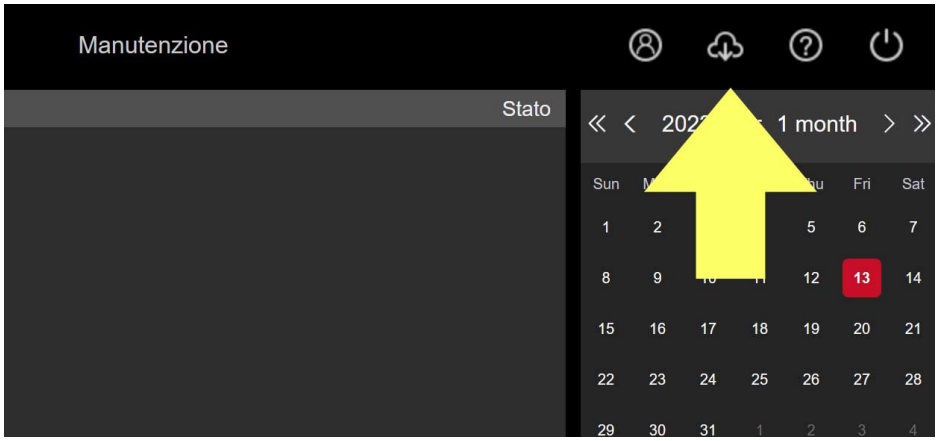
ATTENTION – It is possible to connect several clients at the same time up to a maximum of 15 clients per camera.

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



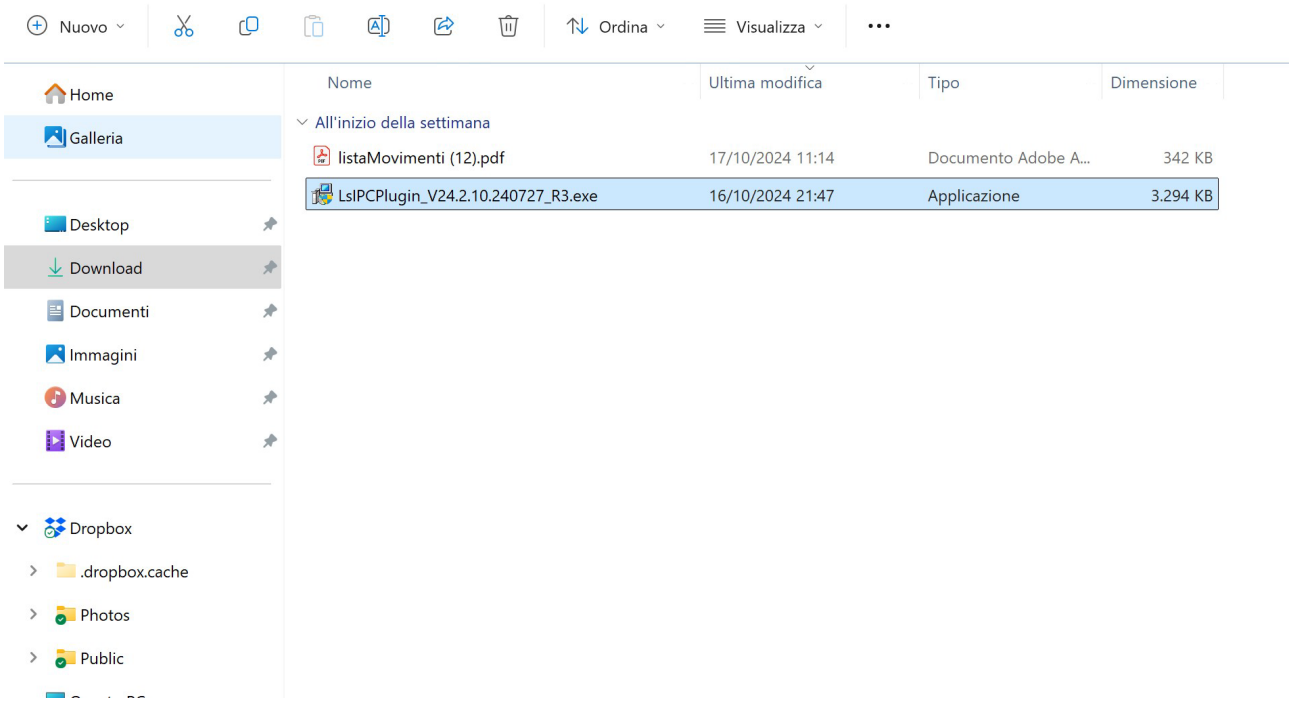
PLUGIN INSTALLATION

It is possible to connect to the camera with all browsers without installing any plugin and enjoy all live viewing and configuration functions. Only for some advanced functions, such as for example, being able to play recordings stored on the SD card and use two-way audio, you need to install a plugin add-on, common for all browsers, which is download by pressing the download button at the top right



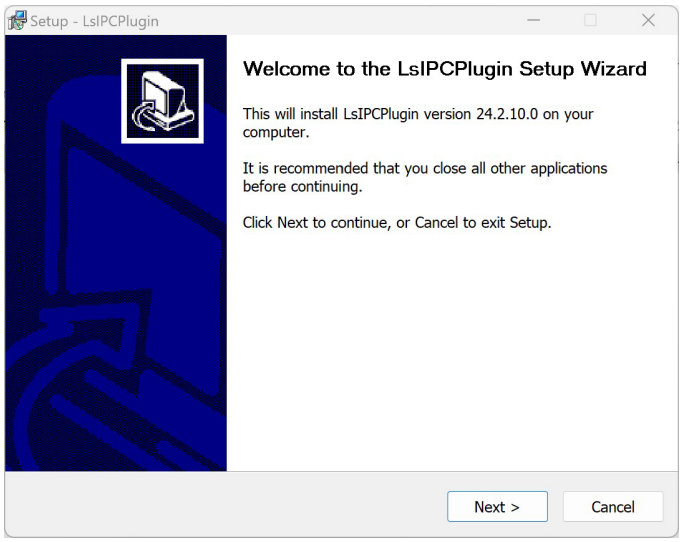
You need to download and install the plugin to be able to control all the functions of the app with your browser.
camera.

WARNING – The plugin is an executable file that is downloaded to the download folder and therefore can be recognized as a virus by many antivirus programs and even by the protection itself
browser and operating system antivirus. You may receive several messages warning you
of the dangerousness of the file, both during download and during subsequent installation. You must
of course allow download and installation because the file is absolutely safe.
Disable antivirus and agree to continue downloading and installing if any warnings appear.
They warn you of the presence of a dangerous file.
Once the download is complete you should find the executable file in the download folder

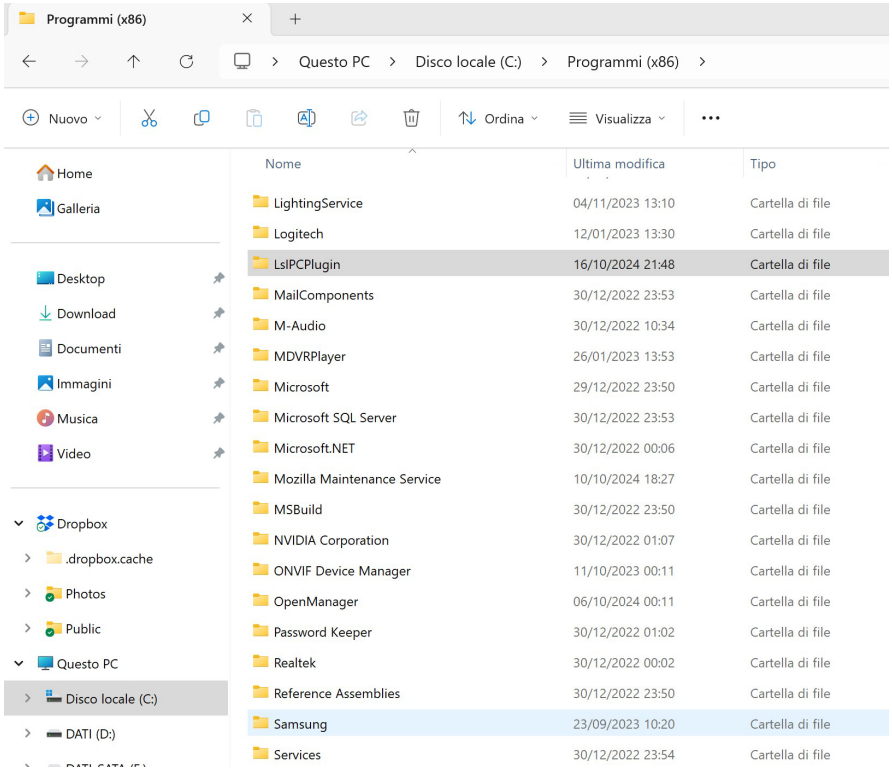


Now install the plugin. Before running the file disable antivirus and close all windows.

browser you are running.



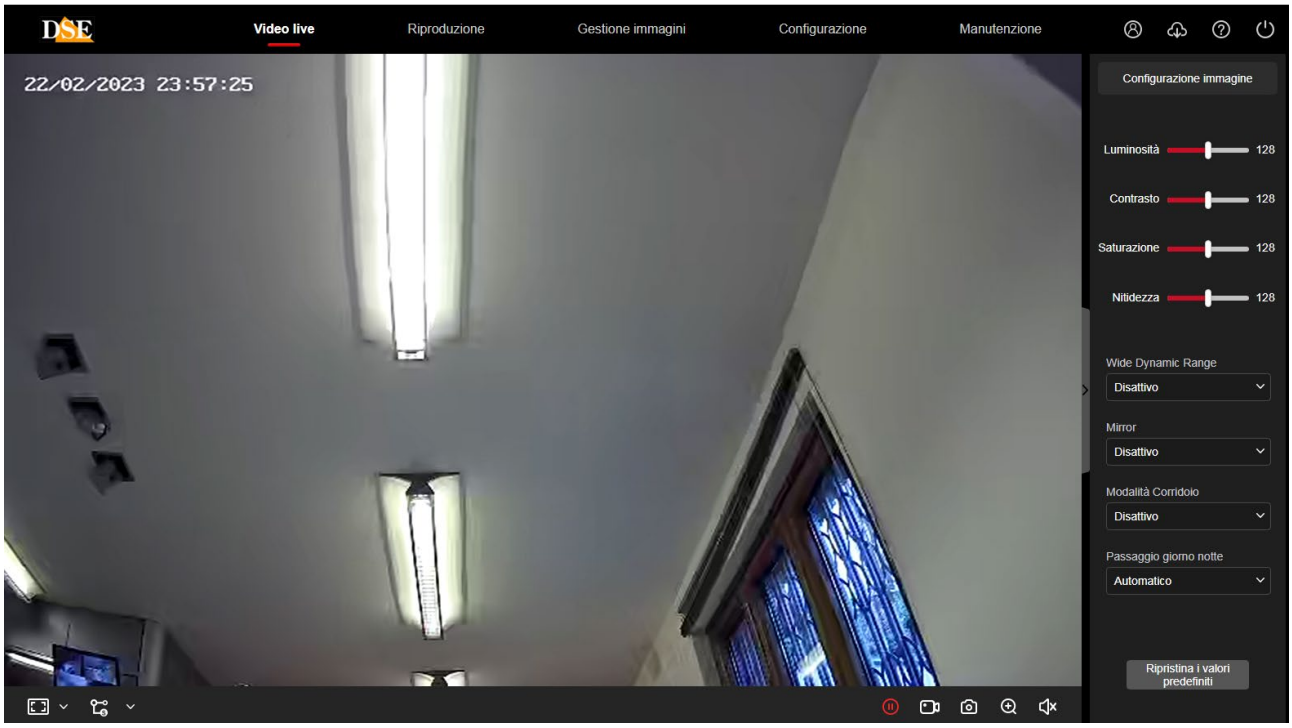
You will not have fully installed the plugin until you see the progress bar that shows the installation in progress and the final message of installation complete. When finished of the installation you will find a new program in the programs folder.



Now you have installed the plugin for connecting with browsers. By default this plugin will start automatically when your computer starts.

Live video

When the connection is started, the LIVE view of the camera opens automatically.
If you have other configuration windows open, press the button**LIVE VIDEO**at the top of left to return to live viewing.



Let's first look at the functions available in the command bar at the bottom of the browser.

The first button on the left allows you to choose the aspect ratio of the live view.
4:3–This button plays the image in a 4:3 frame, typical video resolution.
analog. It can be used to see the image correctly when the camera is
set to a 4:3 resolution such as VGA 640x480
16:9-This button plays 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 a 16:9 resolution such as HD 1280x720 or Full HD
1920x1080.
1:1–This button displays the camera on the screen in its original resolution format.
If this format were larger than the number of pixels available on the screen, the image
will only appear partially.

 - This option is the factory one and shows the video from the camera

resizing it so that it takes up all the available space in the window. Normally you
This is the preferable viewing mode because it adapts the view to the monitor you are using.
DOUBLE CLICK–Double clicking on the live image brings the view to full size.
screen without the surrounding GUI. Double-click again to exit.

MAIN STREAM/SUB STREAM/TRI STREAM–Each camera in this range can
manage 2 or even 3 different video streams, each with different resolution and space usage
band. With these buttons you choose whether to receive the main stream or the sub-stream
secondary or even the third stream. Sub stream and third stream are factory set
so as to occupy less bandwidth and are therefore more suitable if the client you are using has little
performance, such as a mobile device, or if the available bandwidth is modest.

At the bottom right there are some controls available to the user

 Start and pause live video viewing

 Starts and pauses live video recording. Pressing the RECORD button starts
save the video you are watching in real time on your PC. The word REC in red appears at the top
on the right in the image, to indicate that recording is in progress. Press the button again
to stop recording and save the file. The movie is saved in AVI format in the
native resolution of video streaming.
Please note that browser recording is intended for saving short clips and not for
24/7 continuous recording for which you need to use an NVR. The folder of
saving files is defined in configuration.

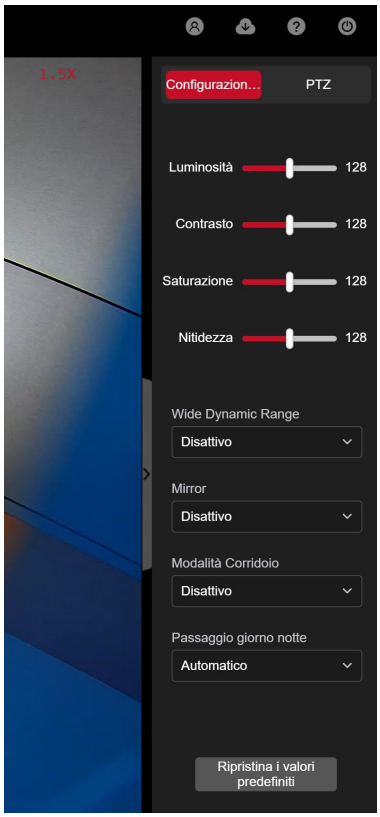
 Take and save a photo. Press the button**TAKE PHOTOS**the frame is saved on the PC
that you are viewing at that moment. The image is automatically saved in JPG format in the
native resolution of video streaming.

 Activates digital zoom, which allows you to draw boxes to enlarge
on the image. Right click to exit.

Next to the live image there is a control panel with 2 functions: Configuration image and PTZ.

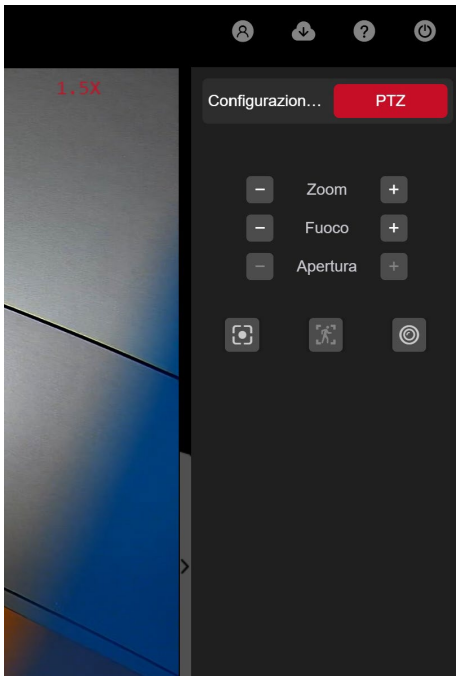
SIDE PANEL CONFIGURATION

The image configuration side panel allows you to adjust the main image parameters. adjust the camera image and see the results of the changes live. This is actually just a shortcut because all these settings are present in the configuration of the camera and we will detail them further later in the manual.



PTZ SIDE PANEL

The PTZ side panel is only present in cameras that have a motorized lens, or in fully motorized cameras, and allows you to control the camera motors.
ZOOM +/- Used to adjust the viewing angle of the motorized lens
FOCUS +/- Used to manually adjust the focus. This option may not be available in based on the autofocus settings defined in configuration.
APERTURE +/- Used to adjust the aperture of the lens shutter. This adjustment is not active in most motorized lenses.
ONE KEY FOCUS This is used to manually start the autofocus adjustment of the lens.
CAMERA INITIALIZATION This is used to initialize the autofocus function when Autofocus fails to focus correctly at a certain zoom level.



Fully motorized cameras have additional controls in this panel for the control of automatic movements. For these commands, refer to the specific manual on PTZ motorized cameras.

Reproduction

If the camera has an SD card slot you can insert a micro SD memory card for record. You can review the recordings in the PLAYBACK section. If you do not have full access In this section you need to install the plugin, as explained at the beginning of the manual.

1 – CALENDAR Choose the date you want to search for at the top right

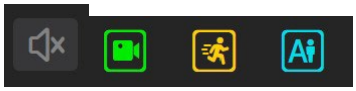
2 – START/END TIME Choose a time slot that interests you, setting the start and end time

3 – FILE TYPE Choose the type of video file you want to search. This depends on how you set camera recording to SD:

ALL searches for all recordings, TIME SCHEDULER searches for continuous recording scheduled, MOTION DETECTION searches for motion detected recordings while The remaining options refer to videos recorded following human detection of Intrusion in area and other various intelligent detections, such as Crossing, Dwelling, Crowding

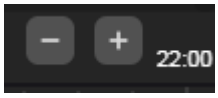
etc.

4 – Press the search button and if there are any recordings you will see the timeline at the bottom turn green (continuous recording) or yellow (motion detection recording) or blue (intelligent detection recording)



You can drag the timeline to review your favorite moment and use the play button to start playback. With the advance arrows you can switch to fast forward and return to normal.

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



These additional buttons are also available

 Activates digital zoom, which allows you to draw boxes to enlarge on the image. Right click to exit.

 Take and save a photo. Press the button**TAKE PHOTOS**the frame is saved on the PC that you are viewing at that moment. The image is automatically saved in JPG format in the native resolution of video streaming.

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

 Enable Audio. Enables audio playback, if present in the recording.

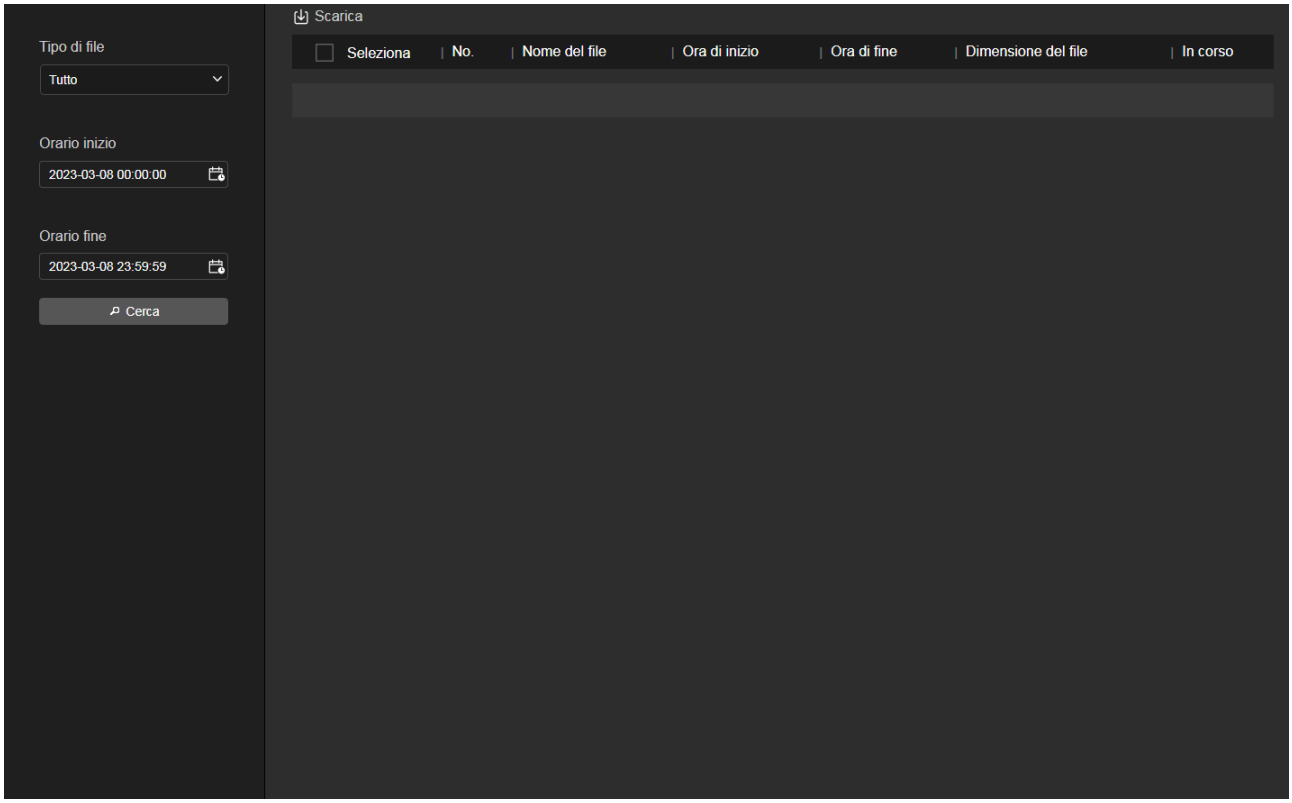
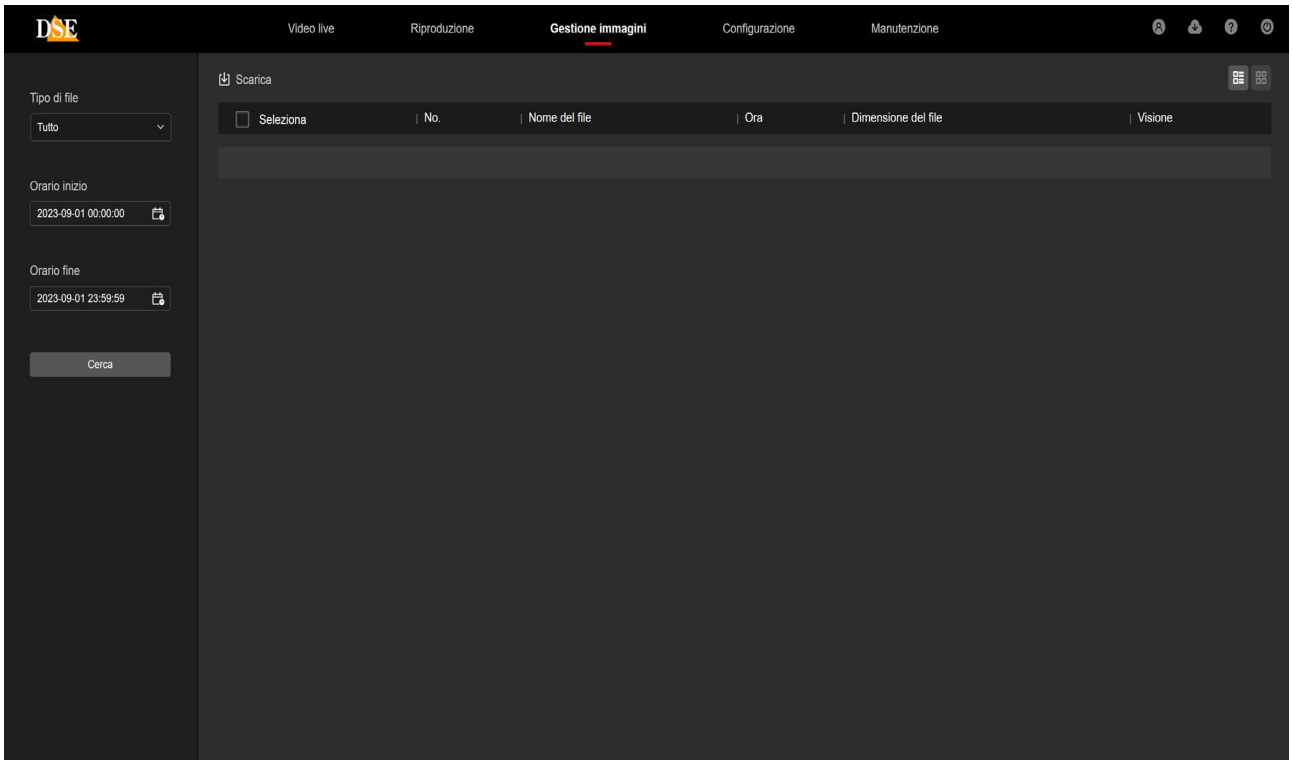

Tipo di file
Tutto
Orario inizio
2023-03-08 00:00:00
Orario fine
2023-03-08 23:59:59
Cerca
Scarica
Seleziona
No.
Nome del file
Ora di inizio
Ora di fine
Dimensione del file
In corso

Image Management

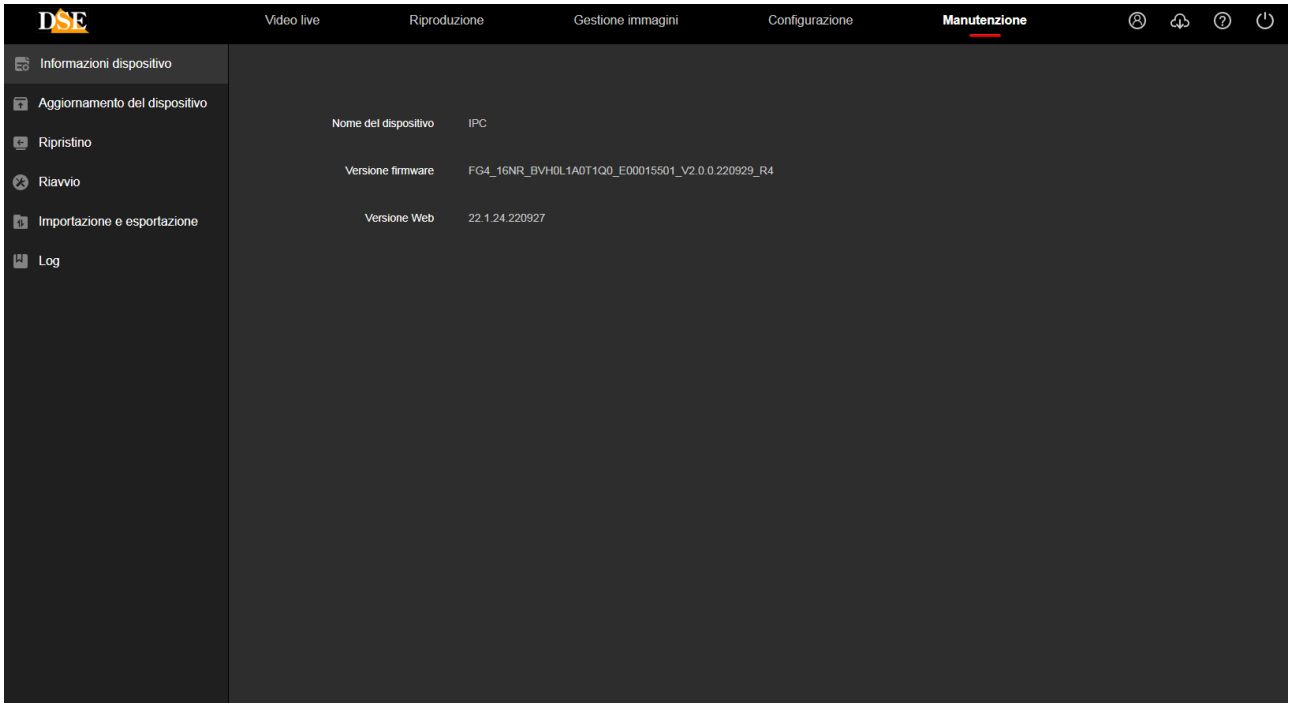
If the camera has an SD card slot you can also save photos. You can review the photos saved in the IMAGE MANAGEMENT section



You can search for images saved in the camera's memory in the same way as before. described in the previous chapter for videos.

Maintenance

In this section, update and reset operations are performed

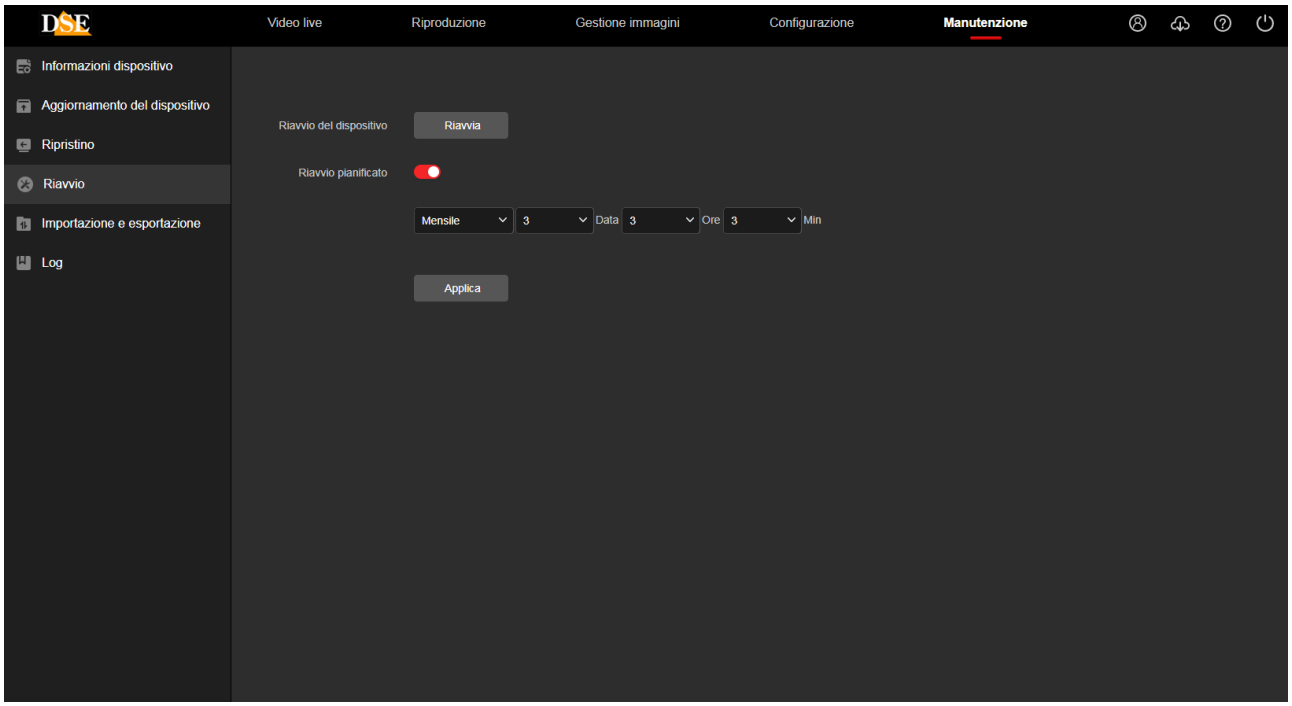


DEVICE INFORMATION–This window shows the camera data and
especially the internal firmware version. In this section you can also change the
camera identification name.

DEVICE UPDATE–Allows you to search for the update file
camera firmware and upload it to the camera with the UPDATE button. This
This operation must be carried out only under instructions from our technical office. Please remember that
Loading non-original firmware onto your device may render it unusable and void your warranty.

RESTORATION–Clears all user configurations and returns the camera to factory settings.
factory. You can do a full reset or preserve your network settings.

RESTART THE DEVICE–Press the button to perform a reboot
of the equipment. SCHEDULED RESTART – It is possible to schedule a periodic restart
of the camera on a daily, weekly or monthly basis.

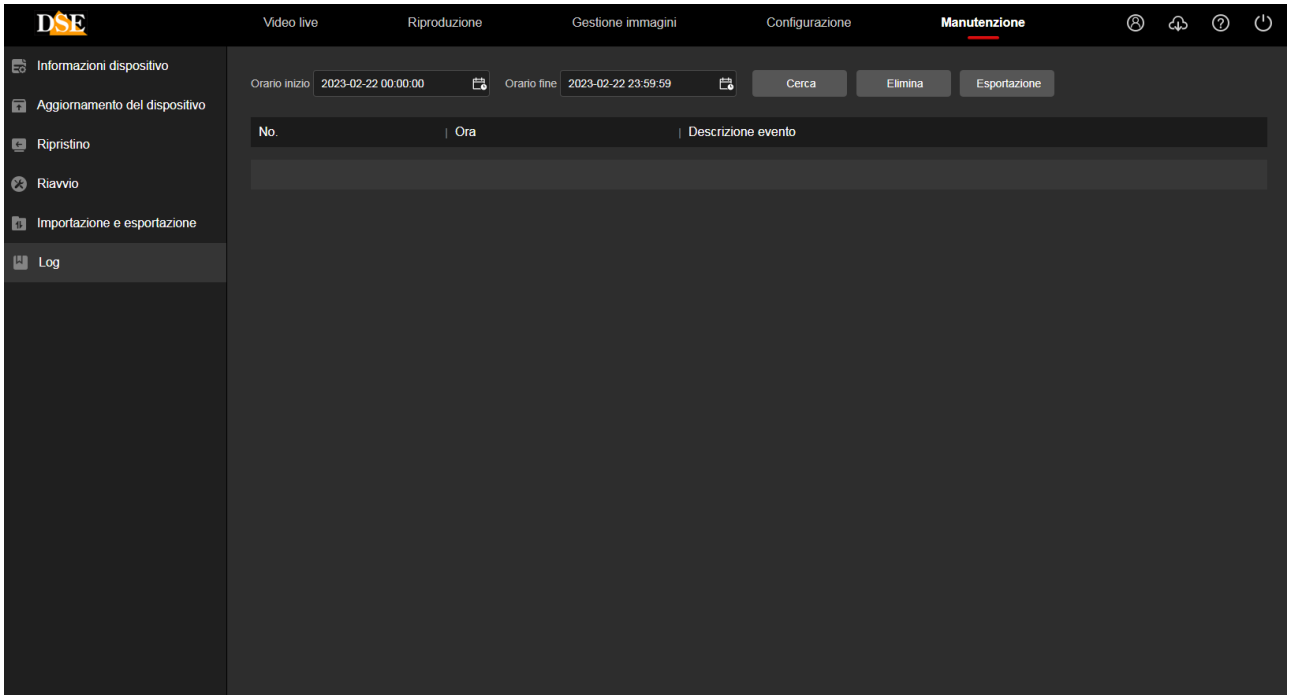


IMPORT AND EXPORT

In this section you can export the entire camera configuration to a file that is saved on your local PC. If you have previously saved a configuration you can reload it in the camera with IMPORT button

LOG

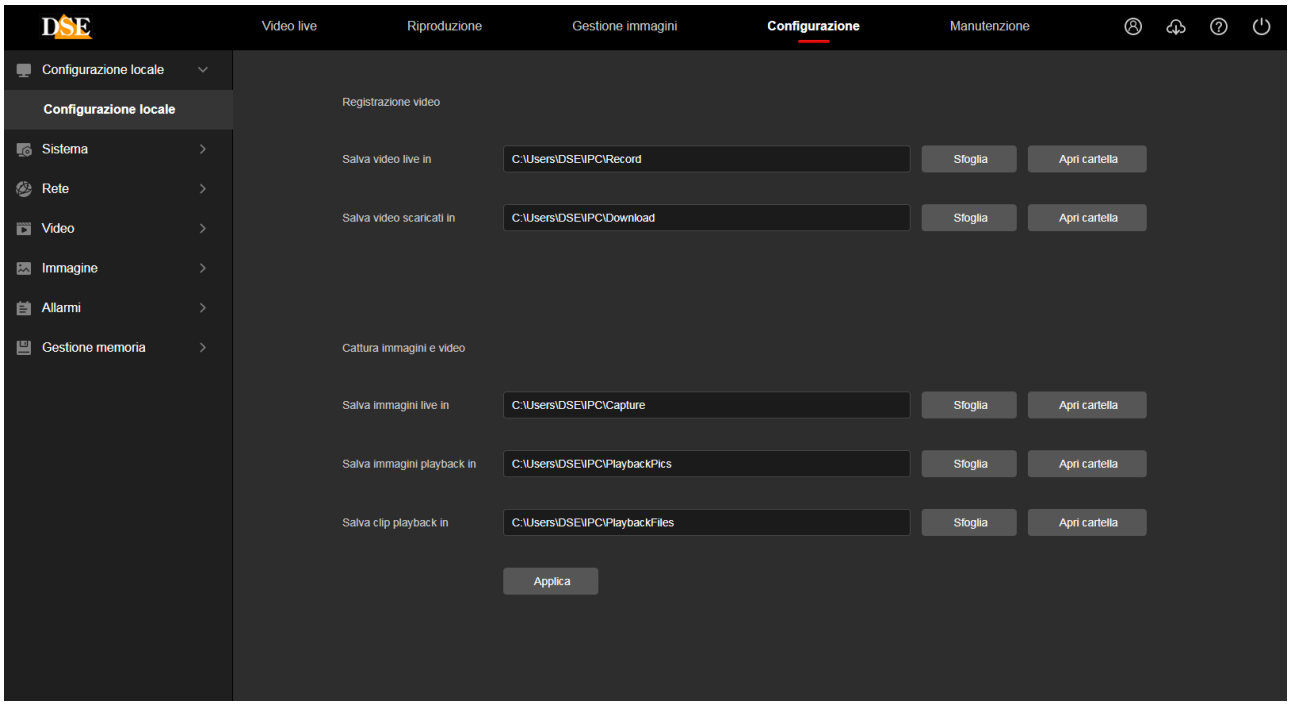
In this window you can search for events recorded in the camera's memory on time base.



It is possible to export events in TXT format.

Configuration

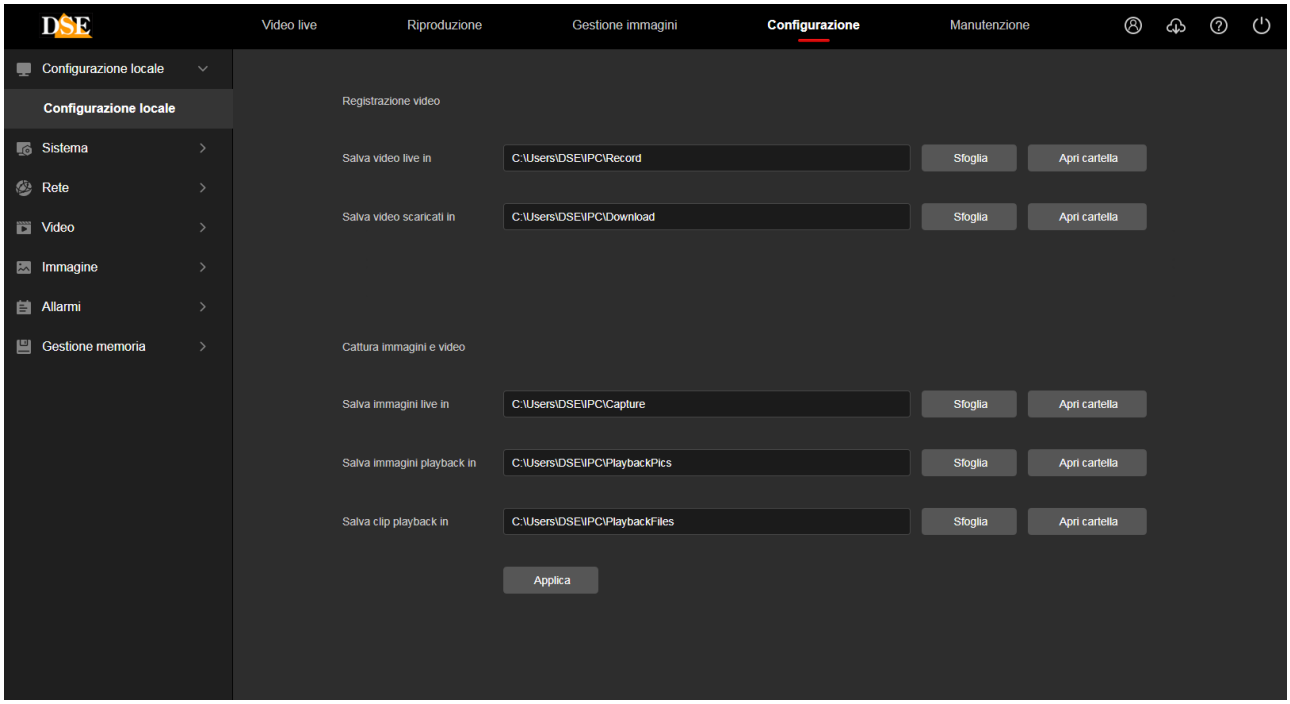
All the camera options configuration pages are collected in the section CONFIGURATION.
Below in this chapter we will analyze one by one all the options found in these folders. The options available to you may vary depending on the features and functions specifications of individual models.



LOCAL CONFIGURATION

In this section you set the save folders that the browser uses to save files.

on the local computer



SAVE LIVE VIDEO IN–Choose the folder to save the live recorded video files with the browser

SAVE DOWNLOADED VIDEOS IN–Choose in which folder to save the downloaded video files from memory in the camera.

SAVE LIVE IMAGES IN–Choose in which folder to save the photos taken live with the browser

SAVE PLAYBACK IMAGES IN–Choose in which folder to save the photos taken during the playback reproduction

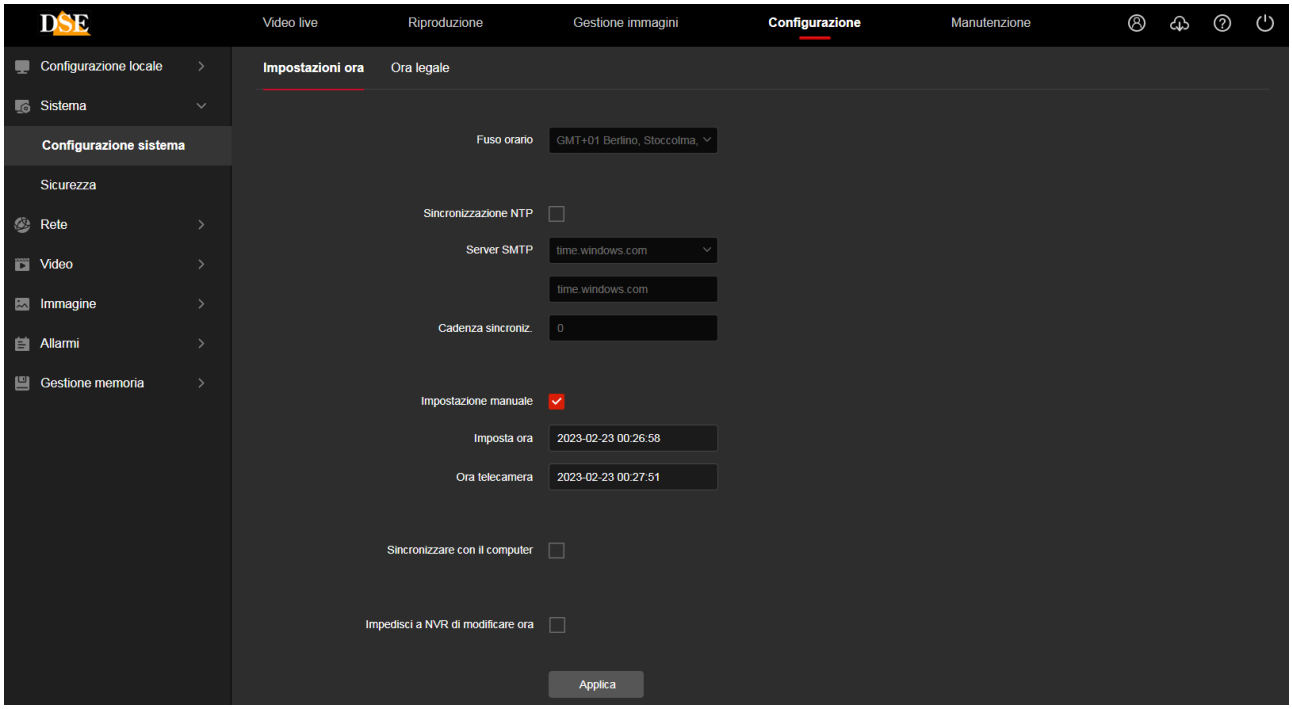
SAVE CLIP PLAYBACK IN-Choose in which folder to save the videos recorded during the playback reproduction

ATTENTION

If you encounter any malfunction in setting up these folders, please check that you have run the browser as administrator.

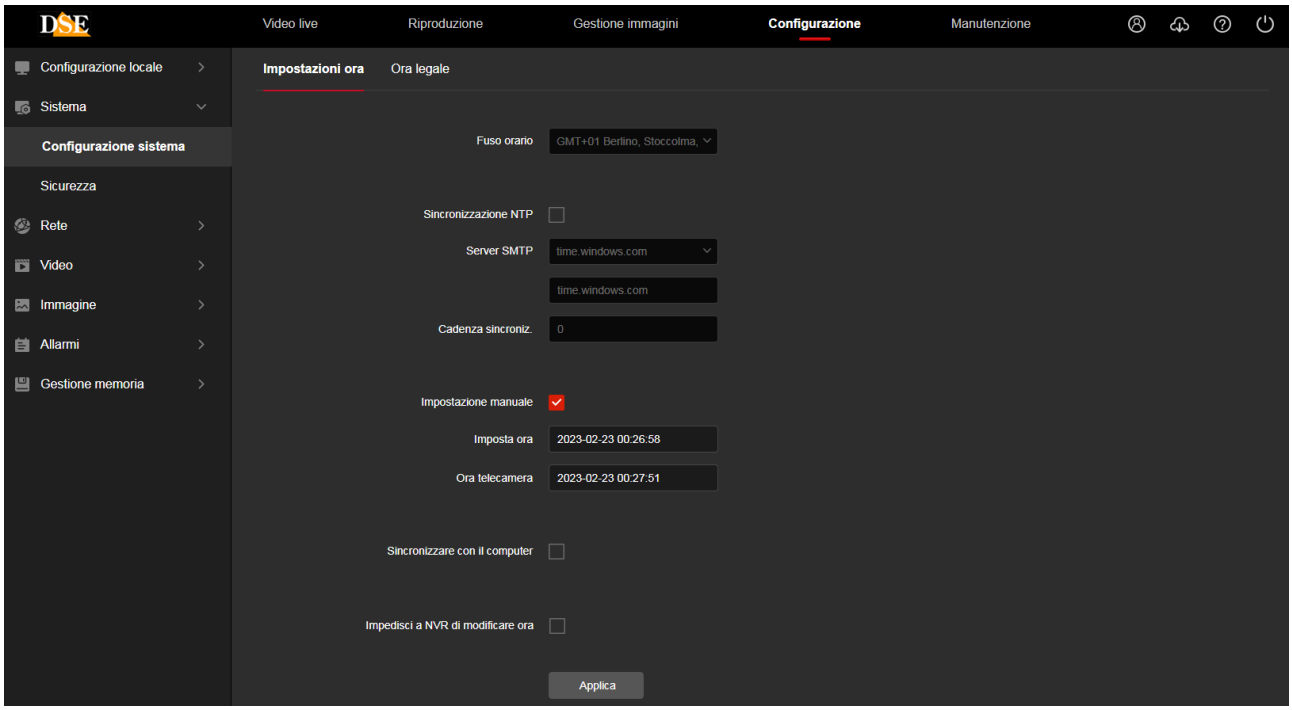
SYSTEM

This section of the configuration contains general system options. It contains 2 subsections.



TIME SETTINGS

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



The cameras support 3 types of time setting: Auto sync from Server
NTP via web, Manual setting, Synchronization with computer. You need to choose one based on
to the following instructions.

JET LAG–Select the reference time zone. For Italy GMT+1.

NOW CAMERA–View the current date and time stored in the camera

NTP SYNCHRONIZATION–By selecting this option you can make the
The camera automatically synchronizes the time and date via the Internet with an NTP (Network Time Protocol) server.
Time Protocol) chosen from those available in the list. This is a very valid option because
allows you to keep the time always correct. For synchronization to take place, you need to
that the network to which the camera is connected has Internet access and that in
network configurations, the gateway (usually the router address xxxx.1) and the server are present
DNS (Google 8.8.8.8 is recommended). For the time to synchronize correctly it is also
It is important to set Daylight Saving Time (DST) and your time zone as described below. These are available
various NTP servers, among the most used, it is possible to choose CUSTOMIZE and
set a different NTP server. NTP synchronization cannot be used if the camera
does not have direct access to the Internet network, for example when connected to the POE ports of a
NVR.

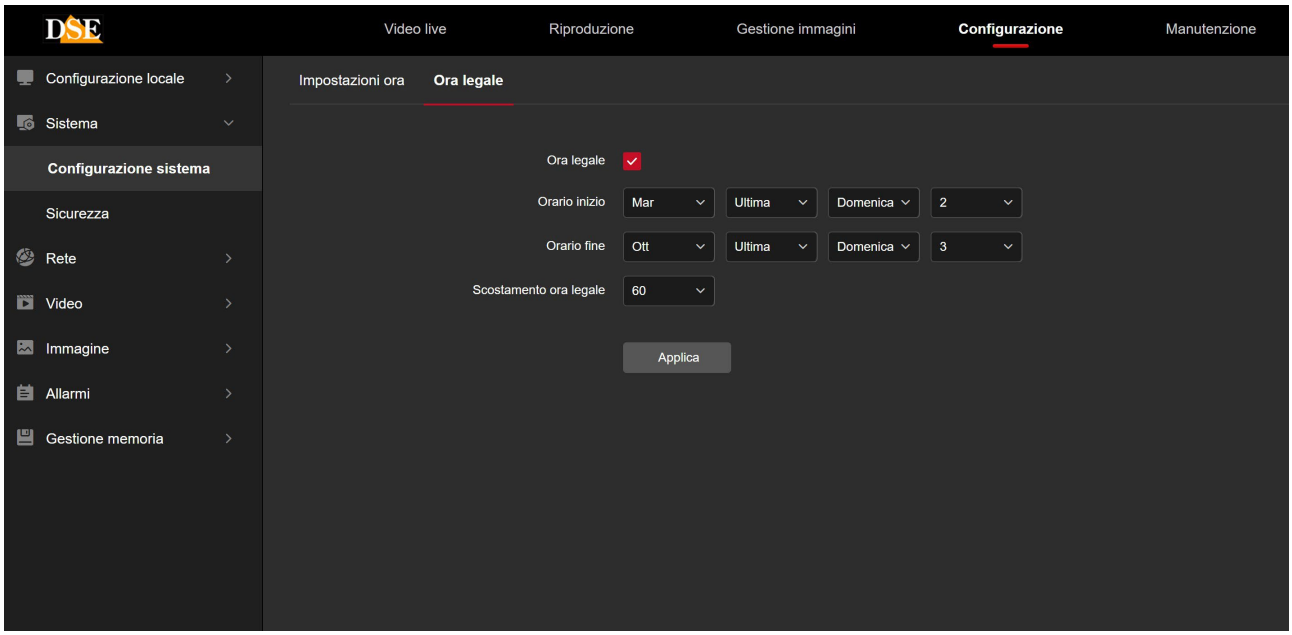
MANUAL SETTING–By selecting this option you can set the time and date
manually and transfer them to the camera by pressing SAVE. However, please note that the cameras
IPs do not have an internal battery and are not able to preserve the date and time if they are
disconnected from the network. For this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

SYNC WITH PC TIME–By selecting this option the camera synchronizes automatically set the date and time with your computer. Also, if you use this option, in case of blackout the camera will automatically update the time by querying an NVR on the network. This is the recommended time adjustment setting if you have planned an NVR in your system because will keep all cameras synced with NVR time

STOP NVR FROM MODIFYING NOW–NVRs are able to change the time of the cameras remotely to synchronize it with your own. This function is usually very convenient for automatically updating all the cameras in the system together and not having to set each camera individually. With this option you can however prevent the time change by NVR, if for some reason you want to prevent this synchronization.

DAYLIGHT SAVING TIME SETTINGS

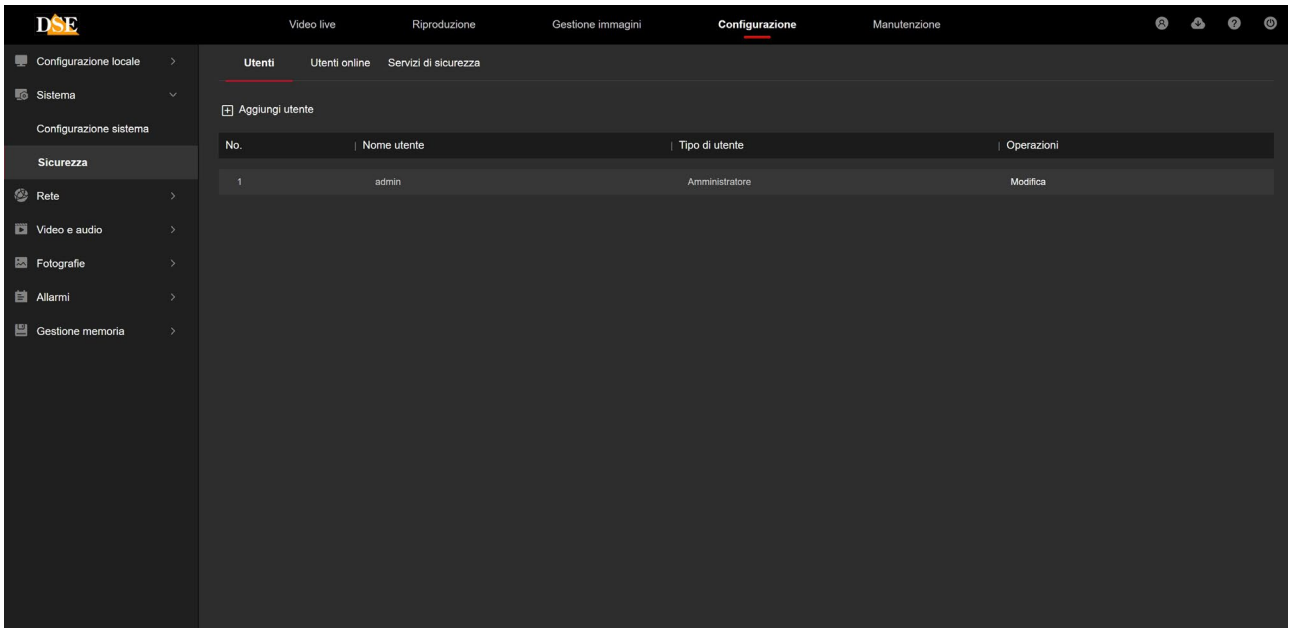
In this section you can set the automatic switch to daylight saving time. It is It is important to set this section correctly for various functions to work. settings for Italy are shown in the figure



SAFETY

In this section you can configure the camera access passwords and set functions of safety

USERS



Each camera can recognize up to 16 different users.

You can add new users using 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 settings

USER–Access to LIVE viewing and PTZ control only, access to other functions disabled.

ONLINE USERS

This window shows all users who are currently remotely accessing the camera.

that time. The list includes IP address and connection start.

SECURITY SERVICES

Here you can set the camera to block after a programmable number of attempts.

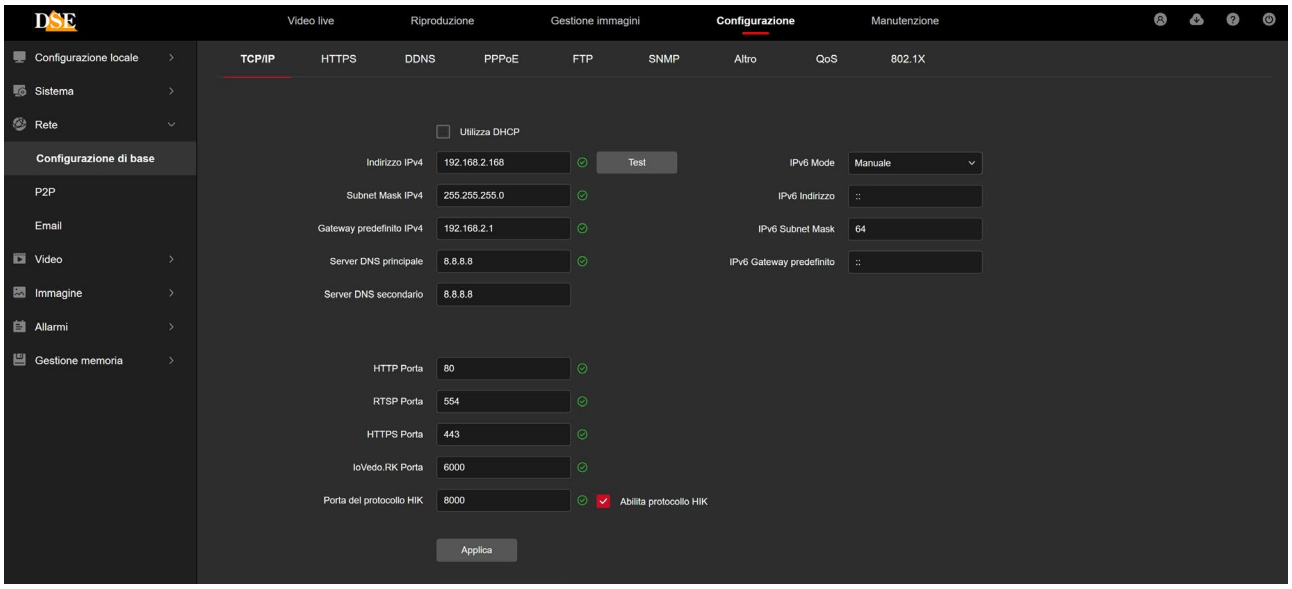
Login with incorrect password.

NET

This section is composed of several sections that concern the network interface of the camera

TCP/IP

Here you set the basic parameters for network communication.



Typically these parameters are programmed during installation with the IPtool.RK program
In this window you can modify them if necessary, taking care to do so in a way
aware that changing these settings normally leads to having to adjust
even client devices to maintain the connection.
The cameras support both manual IP address assignment and IP address assignment.
automatically by a DHCP server on the network. The latter is certainly the most convenient, but in
This type of network is not used in IP CCTV systems because it may cause the network to change over time.
of the camera address.
IP ADDRESS/SUBNETMASK/GATEWAY: These are the classic parameters that allow the
peripheral to communicate with its network. Normally these parameters are assigned
during installation with IPTool.RK software as illustrated in the installation manual. If
data is entered manually the camera must share the first 3 numbers
of the IP address with the rest of the network (e.g. 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, of
it regulates a router and is almost always number 1 on the network (e.g. 192.168.0.1)
DNS–This is the DNS server address that allows the camera to interpret the addresses of the websites.
web. If this address is not valid the camera cannot contact websites such as
example our P2P server or the NTP server for time.

You can enter the DNS server address of your Internet Service Provider (ISP) or other DNS servers. online like Google's (8.8.8.8).

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

BRINGS

Here you can change, if necessary, the communication ports that the camera uses in network dialogue.

HTTP PORT-This is the port used by the camera to connect to browsers. The port 80 by default is the one normally used by browsers if you do not specify a different port. If change this port you will need to indicate the new port in the address bar of the browser at every connection. For example, to connect to the address 192.168.2.120 on port 72 should be called http://192.168.2.120:72

RTSP PORT: This is the port used for video streaming with RTSP protocol to clients such as VLC, REALPLAYER etc. Factory: 554

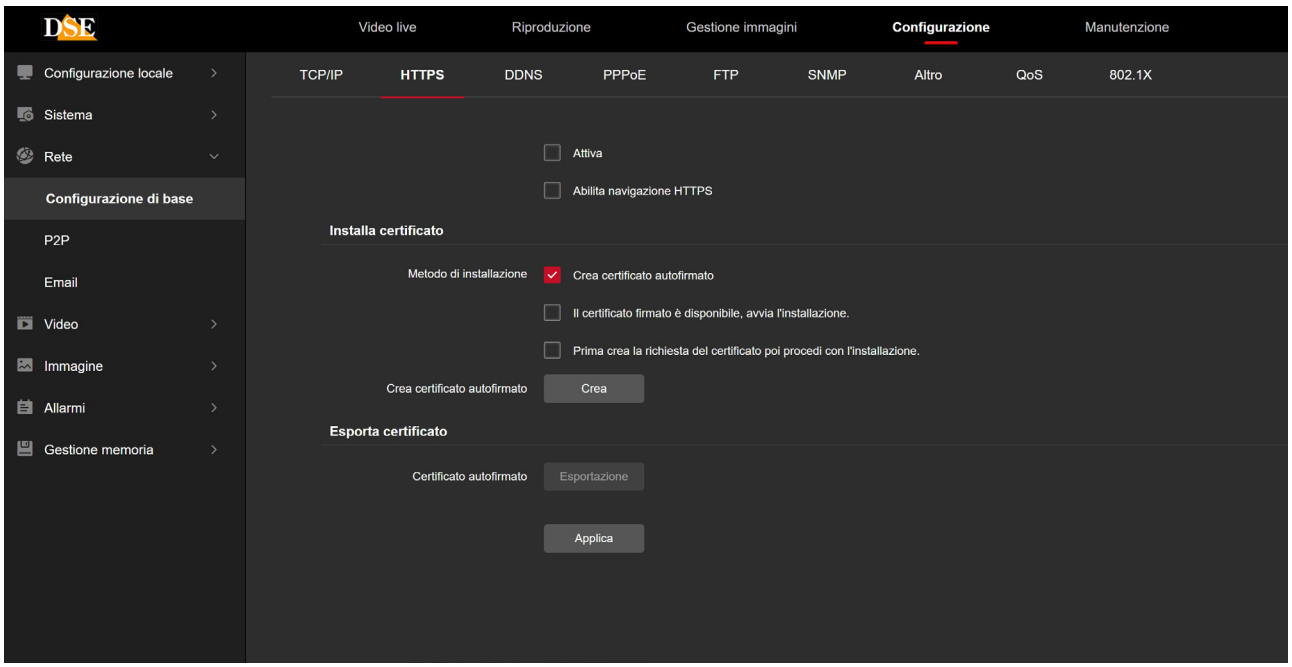
HTTPS PORT–This port is used in encrypted security communications with https protocol

P2P PORT IOVEDO.RK–The port used for dialogue with the mobile app. Factory setting is 6000, It is advisable not to modify it.

HIK PROTOCOL HOLDER–The camera also supports Hikvision native protocol for dialogue with this brand of NVR. Here you can enable the protocol and set the port.

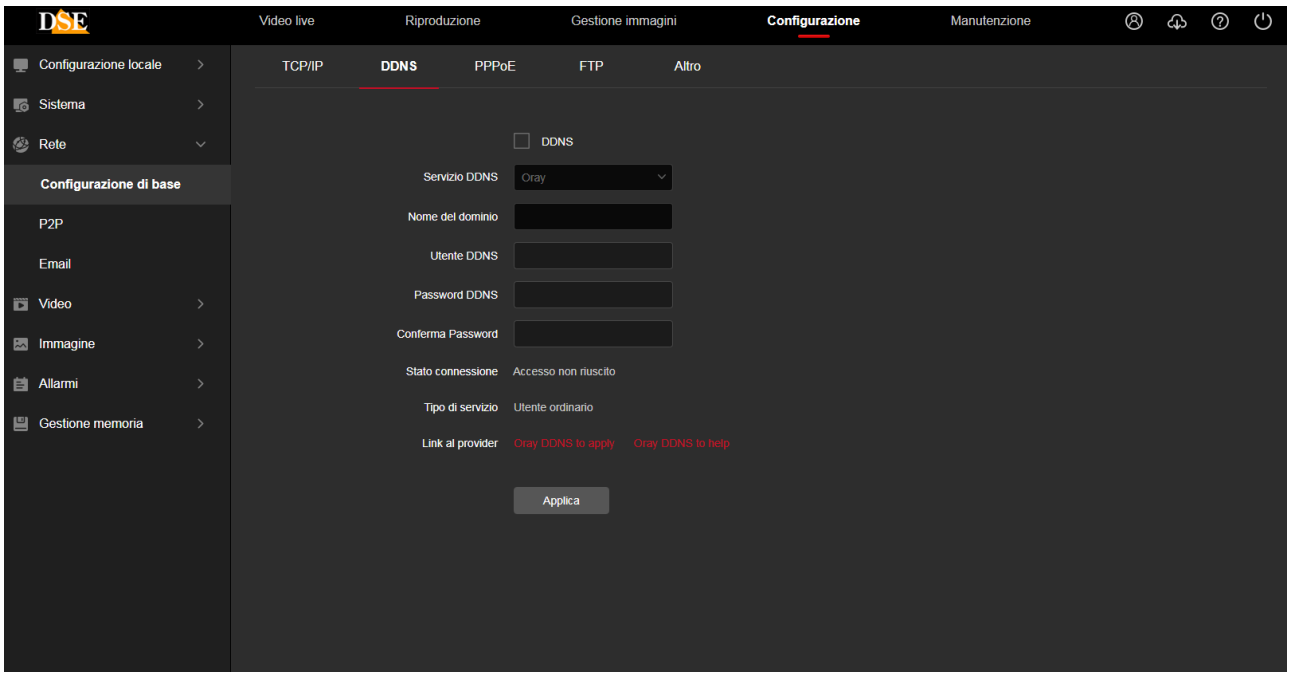
IPv6 settings are not normally used

HTTPS



The cameras support the https encrypted protocol. The https protocol is required in high security level applications. To use the https protocol the user must have a SSL certificate whose data is entered on this page. This function is reserved for personnel expert. It is not recommended to enable this feature without the appropriate knowledge because Incorrect setting of these parameters may make the camera unreachable.

DDNS



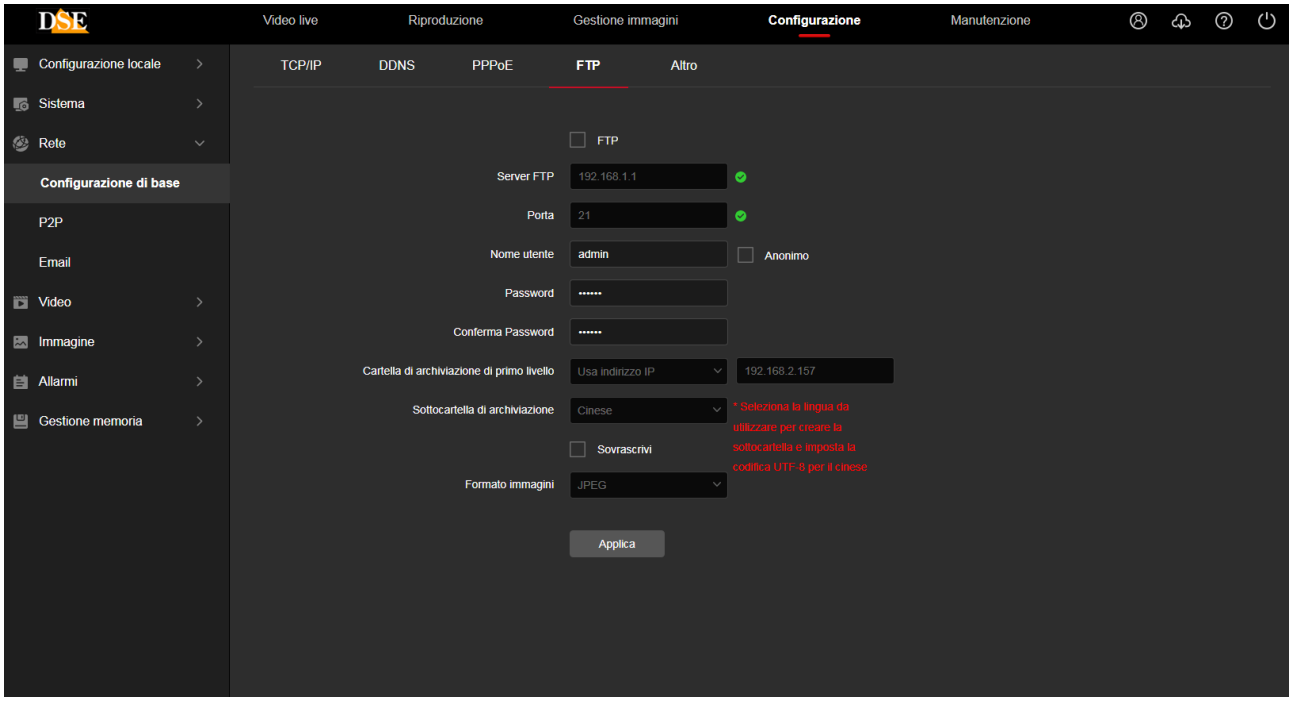
To connect to an IP camera via the Internet you usually use our P2P service,

which allows you to connect without a static IP and without configuring the router.
If for some reason you want to access via web, without using our P2P cloud, it would be
It would definitely be better if you had a fixed public IP address so that it is always known.
exactly the address to connect to from the web. If you can't get an IP from your provider
static, all cameras in the range support DDNS (Dynamic DNS) services which
allow you to continuously monitor the IP address of the device. These services, also
available online for free, they provide the user with a domain name to type in
browser. The DDNS provider redirects the communication to the IP address that the camera has in
that moment.
RK Series cameras support most popular DDNS services and are able to send to the provider
DDNS periodically updates the Internet IP address assigned to them.

The following parameters can be set:
ENABLE DDNS -Enable the service
DDNS SERVICE -DDNS Service Provider. Supported: Oray, No-IP, Dyn, Planet
Dynamic DNS and Planet Easy DDNS
DOMAIN NAME:personal domain name that is assigned by the DDNS provider to you
device
DDNS USER / PASSWORD:authentication data for access to the DDNS service provided by the
DDNS provider.

Please note that the use of DDNS is not necessary when using the IoVedo.RK P2P cloud server which
Usage is free as it is included with the camera, as illustrated in the installation manual.
Connecting to a P2P server, unlike DDNS, does not require port mapping.
router.

FTP



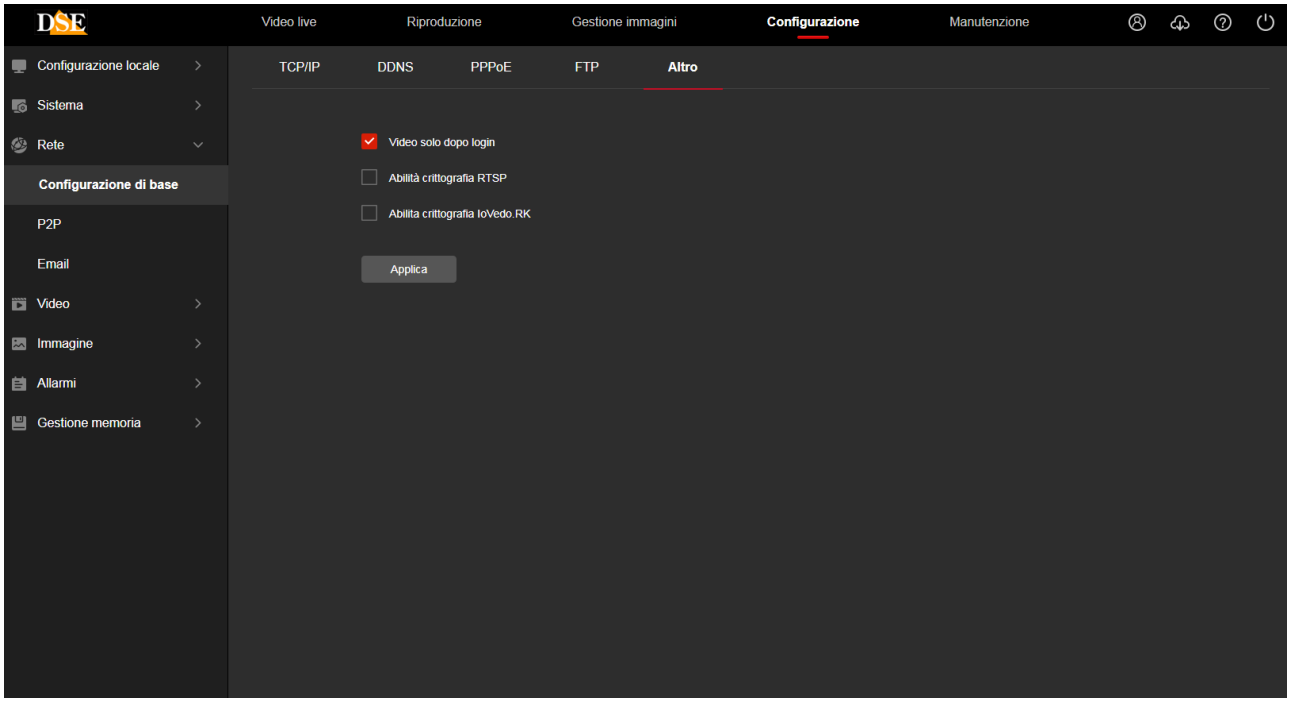
RK cameras can upload images or videos to a website via the protocol
FTP following an event generated by motion detection or intelligent detections.
FTP SERVER–FTP Server Address
BRINGS–FTP communication port (typically 21)
USERNAME/PASSWORD–FTP Server Login Credentials
FIRST LEVEL ARCHIVE FOLDER–Server folder where to upload files. You can choose
to automatically name the folder using the IP or the on-screen overlay of the
camera, or you can customize a name of your choice.
STORAGE SUBFOLDER–Inside the top level folder are
create more automatic subfolders to split files. Choose English language to name them.
OVERWRITE–Allows you to overwrite older files once the space is full
provision on ftp server
IMAGE FORMAT–Allows you to choose the format of the files to be uploaded via FTP. Normally
Only JPG is available
TEST–With the test button you can check whether the access to the FTP server is correct with
the set parameters.

SNMP

The cameras support SNMP (Simple Network Management Protocol) for networks
that use this device administration protocol. In this window you can enter the
data related to this protocol. Most networks do not use this protocol, in which

In this case you can ignore this feature and leave the protocol disabled to avoid consuming resources in vain.

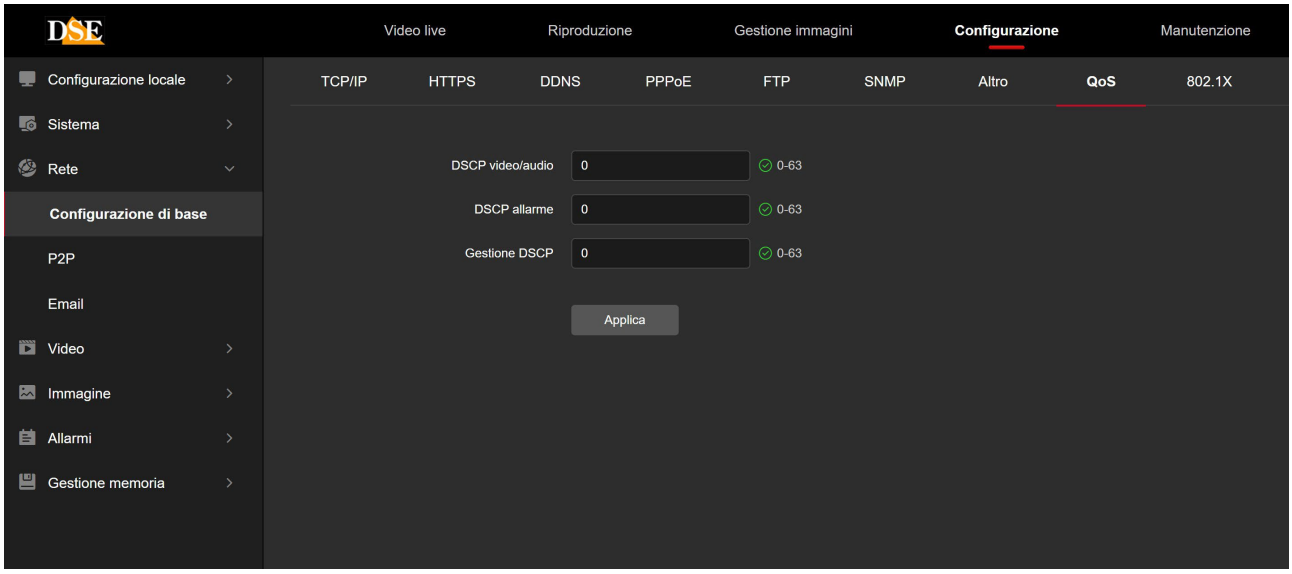
OTHER



VIDEO ONLY AFTER LOGIN-This setting refers to accessing the camera via RTSP with a client like VLC (see installation manual). If you disable this option the client will be able to receive video streaming without having to enter login credentials.
ENABLE P2P ENCRYPTION–For high-risk applications you can enable the encrypted communication of video streaming to clients (RTSP) and communication with the IoVedo.RK app.

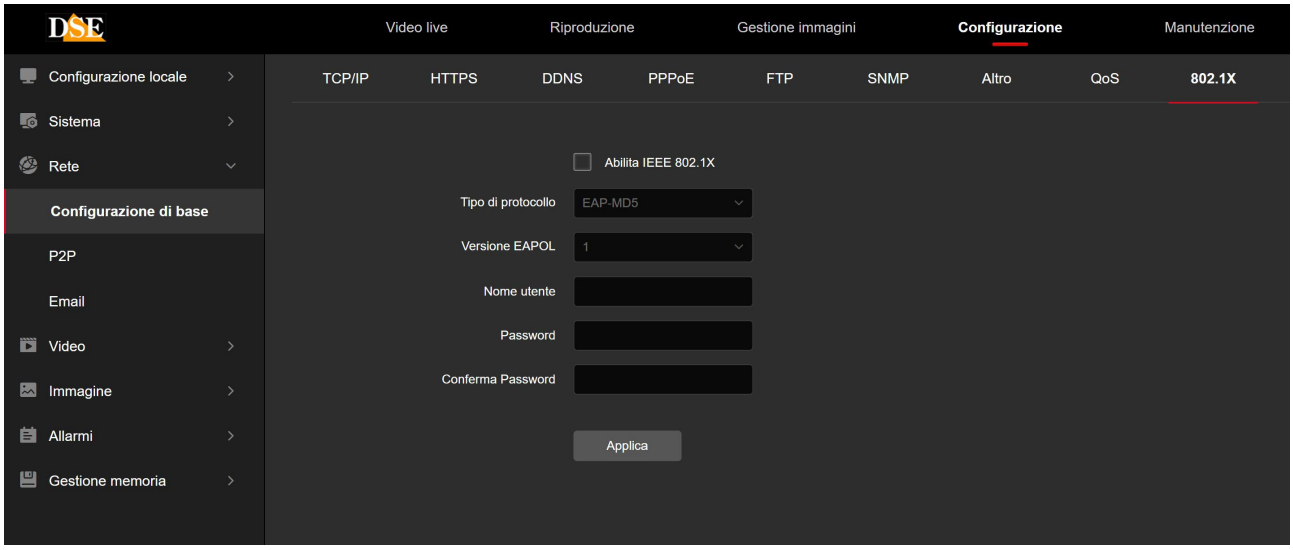
QOS

The cameras support the QOS (quality of service) network error control protocol.
This is a feature that is only useful for large systems with hundreds of cameras.
If this is not your case, keep all the parameters on the factory setting 0. The majority some networks do not use this protocol, in which case you can ignore this feature and leave the protocol disabled to avoid consuming resources unnecessarily.

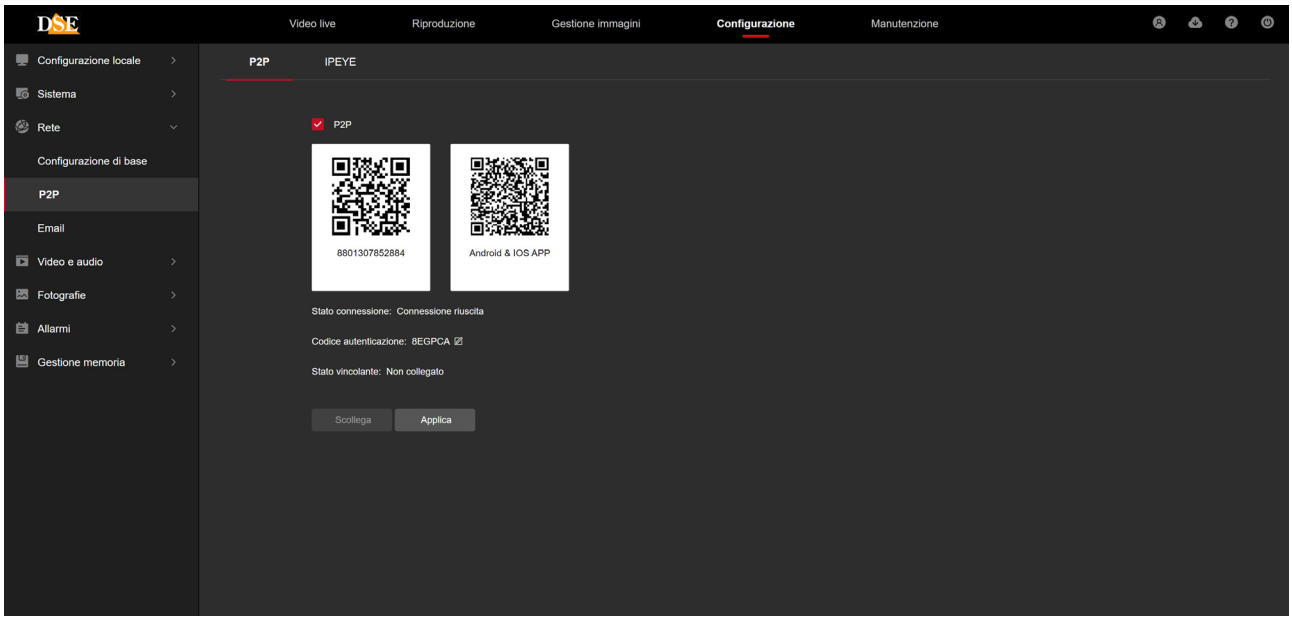


802.1X

The cameras support the 802.1x protocol which is used by some high security networks where the Connecting devices must authenticate themselves, eliminating the risk of unauthorized access.
Here you can enter the authentication protocol (EAP-MD5 and EAP-LEAP supported) and the version EAPOL. Most networks do not use this protocol, in which case you can ignore this function and leave the protocol disabled to avoid consuming resources unnecessarily.



P2P



The P2P function must be enabled if you want to access the camera via the web with our app or the our software, using our P2P cloud server as illustrated in the app manual IoVedo.RK for REMOTE ACCESS.

Remote access directly to the camera is usually used when you do not have an NVR. If you have an NVR in your system, it will be more convenient to upload only the NVR to the app.

This page displays 2 QR codes.

The first QR code on the left shows the 13-digit SERIAL NUMBER that identifies the camera and which is already registered on our server. You can also find it on the camera label and on the package. You can scan this QR code with the IoVedo.RK app to upload the equipment in the app.

The second QR code, on the right, allows you to download our IoVedo.RK application that you will use to make the connection.

There is a specific manual for using the IoVedo.RK app. Download the app manual IoVedo.RK to know how to use this P2P login data with the app.

In this window, in addition to the QR codes, there are some important indicators:

CONNECTION STATUS It is the connection status to our cloud server and should show Connection successful. Only with Connection successful can you proceed to use the app or software IoVedo.RK to access remotely. Otherwise, if you find Connection failed or Offline You need to review your network connection to your router or the TCP/IP settings of the camera to that the camera is not communicating properly with the Internet.

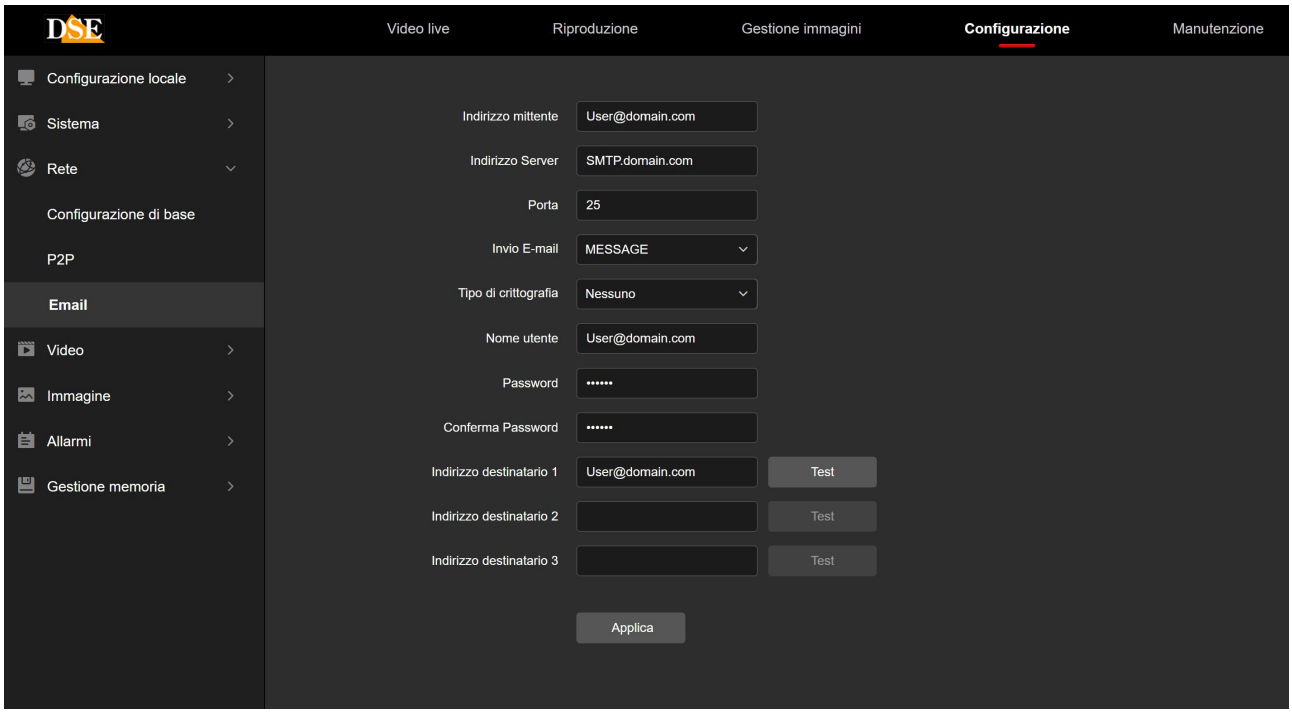
AUTHENTICATION CODE,also called Captcha Code is a confirmation code that you It is required when you load the camera into the app. It is also reported on the sticker of the camera and on the package. With the edit button you can edit this code and modify it as you wish. However, this modification is not recommended to avoid inconsistency with the

labels on the product.

BINDING STATE Indicates whether the camera has already been paired with an account in the cloud server of IoVedo.RK or if it is not yet linked to any account and is free to be associated.

In our cloud a device can only be associated with one account so if the camera is “Connected” in this field you will not be able to pair it with another account before have deleted it from the previous account.

E-MAIL



RK cameras can send alarm EMAILs following a motion-generated event detection, from intelligent detections or other technical situations and also attach a photo. To use email sending you need to have an SMTP provider to use for email and you need to know the correct connection data to access the server. You can use your server Internet provider or sign up for a free account, for example with libero.it or email.it

SENDER ADDRESS –the sender address that will appear in the email sent by the camera.

SMTP SERVER-Name of the SMTP server that is used for sending email.

BRINGS -Port used by SMTP server

SEND EMAIL–You can choose whether to send a single text message via email, or attach a JPEG photo.

TYPE OF ENCRYPTION–You can choose the one used by your provider's server

USERNAME/PASSWORD -If your SMTP server requires authentication to send emails, you can enter your username and password to access.

RECIPIENTS –You can send emails to 3 recipients.

With the button**TEST**you can try a submission to see if the data you entered is correct correct.

Remember that if the email sending test fails it is not the camera's fault, but it is because something went wrong in the communication with the server. Try other settings or other SMTP provider that you can subscribe to for free online.

EXAMPLE WITH LIBERO.IT

For example, to send emails you can sign up for an account with LIBERO.IT and use their server SMTP without encryption on port 25

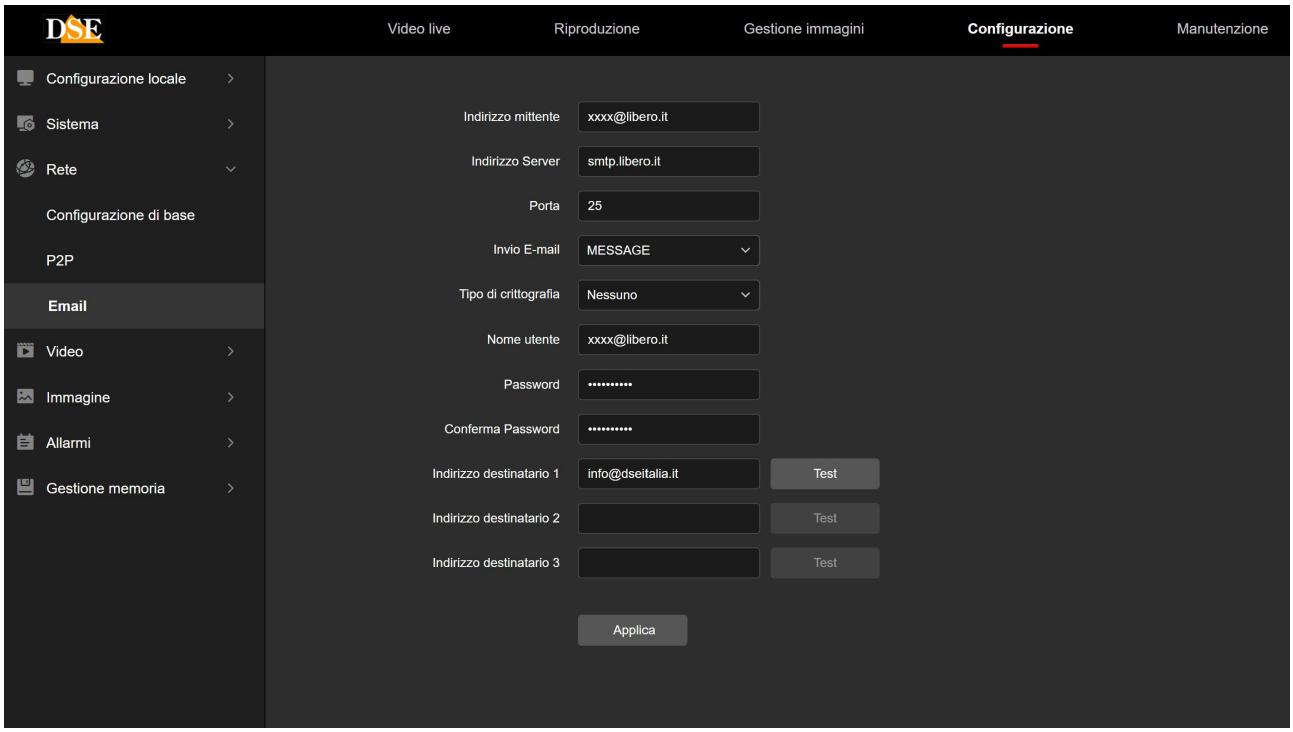
The settings are as follows

SMTP SERVER: smtp.libero.it

DOOR: 25

USER/PASSWORD: Those of your account

As in this example

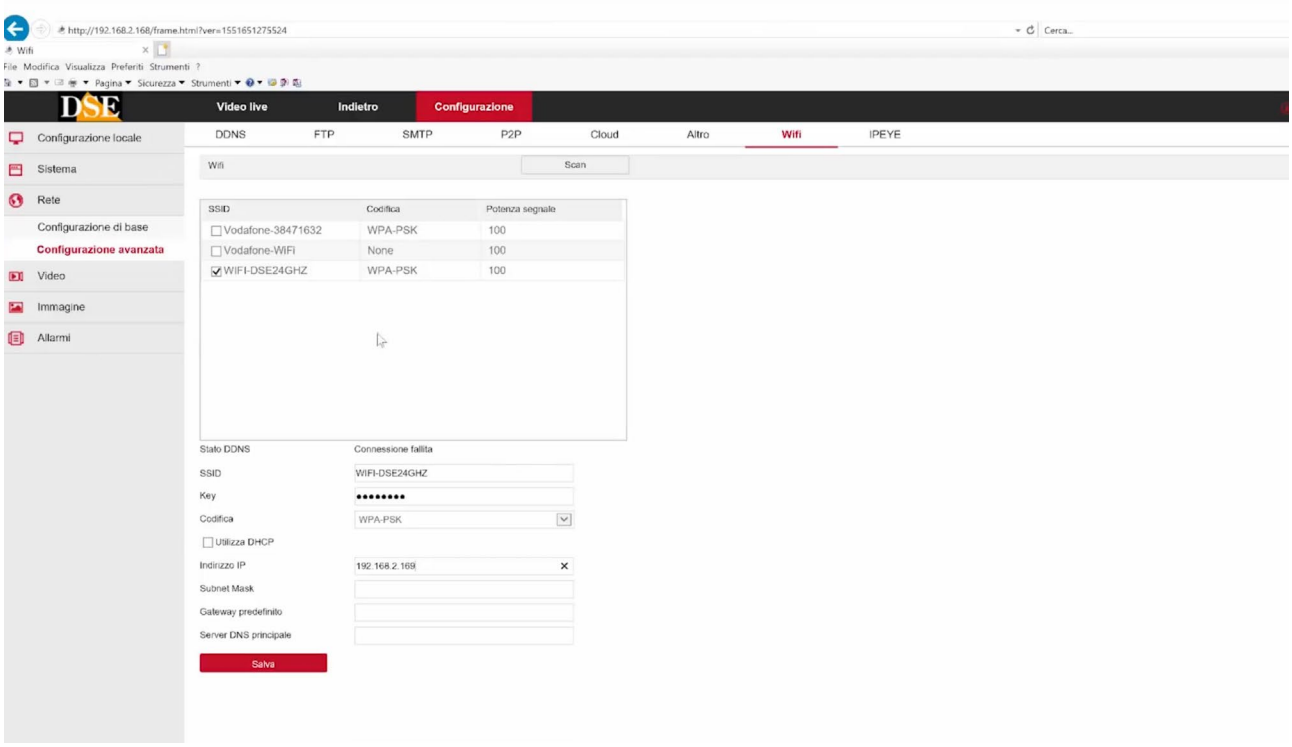


You can obviously use any SMTP server to send emails, but be careful with the their policies and any restrictions.

For example, if you want to use the popular**GMAIL**you can't just enter the data connection to the server in the camera, because access would be denied. First, if you haven't already, you need to enable two-step verification. But then, since the NVR can't To perform two-step verification, like many other equipment, you need to get a so-called “App Passwords” that you can generate in your device's security settings gmail account. Finally you need to use this password for apps in NVR settings and run the test which will finally be correct.

WIFI

If your camera is equipped with WiFi, among the network configuration tabs you will also find the wifi card that allows you to connect the camera to a wifi network to use it wirelessly.



SCAN–Press to search for all available wifi networks, which will appear at the end of the scan, in the table. If you select a network you will see its data appear in the entries below.

STATE–Indicates the connection status to the wifi network

SSID–Indicates the name of the wifi network you have selected and to which you can connect the camera

KEY–Enter the password to access the wifi network

CODIFICA–Indicates the encoding used by the wifi network which is already automatically presented based on to the scan performed

DHCP/IP–You can allow the camera to connect to the wifi network in DHCP, i.e. obtaining an automatic IP, or you can impose fixed network parameters. The latter option would be recommended in a CCTV system because it gives you the certainty that the wifi camera address is not will change over time. However, before entering manual connection data you must verify 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 the camera will have two different IP addresses in the network; one relating to the wired connection and one for the wifi connection. You can now disconnect the network cable and contact the camera on its new wifi address.

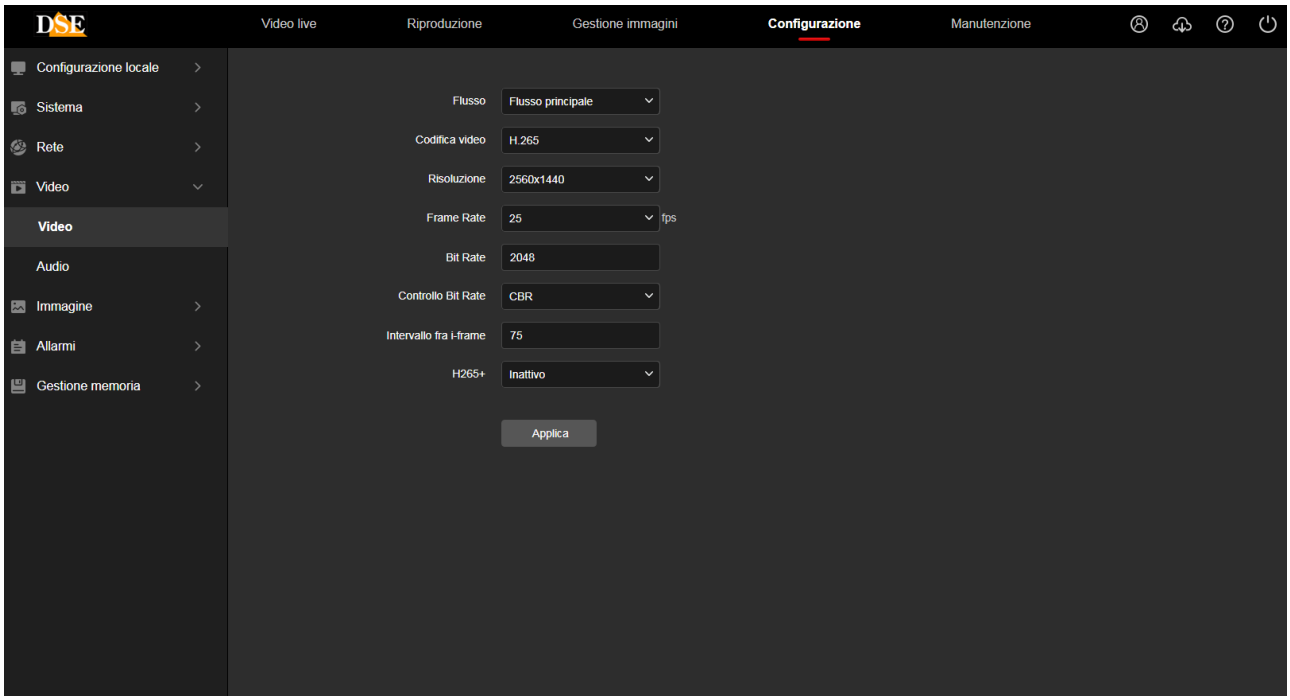
WARNING – On laptops with very small monitors or with enlarged viewing scale, it may not

the SAVE button at the bottom of the page should be visible. Change the resolution or scale of the monitor to adjust the view to the size of the window.

VIDEO

This section allows you to adjust the parameters of the video and audio streaming of the camera.

VIDEO



In this section you can set all the parameters that regulate the video streams of the camera and which determine their heaviness in terms of bandwidth requirements available. This is a fundamental regulation in the economy of an IP CCTV system and which is often mistakenly neglected resulting in heavy clients and long latencies (delays) between action and image).

On a local network, it is generally recommended to keep the factory settings. Video streaming it is better to keep it CBR, constant bandwidth, and set a maximum of 2000/3000 Kbps for 2-3MP cameras and 3000/4000 Kpbs for 5-8MP cameras. This way you get a good quality streaming but not too heavy and you can connect many cameras without introducing much latency.

FLOW-Each camera can generate up to 3 different video streams which will be possible choose from the client when connecting. This way you can adapt easily to the bandwidth available and the hardware resources of the client device. If for example we have access to the camera through a mobile connection with poor bandwidth availability, or we use an old PC with a slow processor, we will choose to receive a stream with low resolution and frame rate (secondary stream).

NVRs automatically choose the primary stream for recording and full-screen viewing.
screen and secondary stream for multi-view of multiple cameras.
In this first box choose which video streaming to configure (main, secondary and
(possible third flow)

CODIFICA–Here you can choose the video streaming compression: H265, H264, MJPEG.
Normally you will use the more modern and efficient H265 compression, which is supported by all our NVRs. You can switch to H264 or MJPEG if you need to connect the camera to clients that do not support H265, and instead use the older H264 or MJPEG formats, such as old
NVR.

RESOLUTION–Here you set the resolution of the selected video stream. Normally
the main video stream is set to the highest resolution the camera can handle,
while the second and third streaming on a lower value that takes up less bandwidth, such as example 1280x720 or 720x480.

FRAME RATE–Here you set the number of frames per second that make up the stream
video (max. 25 – min. 1). Consider that 25 fps corresponds to the so-called real-time, i.e.
television standard in which the human eye does not perceive individual frames, but a single uninterrupted sequence. It is usually also possible to reduce this parameter down to 12/15 f/sec without perceiving big differences in video fluidity and saving a lot of bandwidth. If you want
To make video streaming very light you can also set a low frame rate, from 1 to 5 ad
example, but you have to consider that in this case the image on the client will no longer show subjects in fluid motion, but jerky and this will be particularly evident on subjects in
fast movement, such as vehicles.

BITRATE–This represents the maximum bandwidth that the camera will occupy with its streaming.
video. As a rule, it is advisable not to exceed the value of 3000 Kbps for 2/3MP cameras and 5000 Kbps for 5/8MP cameras. Do not set too high values here as this may cause the
client device that will have to handle a very heavy flow. Consider that setting a bitrate
very high does not mean increasing the video quality but rather decreasing the efficiency of the compression.

BITRATE CONTROL-This section gives you the possibility to choose between two different modes of bandwidth management: 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 instead the camera changes the bit rate in the various conditions of operation in order to maintain a constant video quality. In the majority of
CCTV applications CBR management is preferable.

INTERVAL I FRAME-It is the interval between 2 consecutive Key-Frames in H.264 compression
H.265. The shorter the interval, the more accurate the time position of the
video but more bandwidth usage. Normally it is recommended not to change the setting

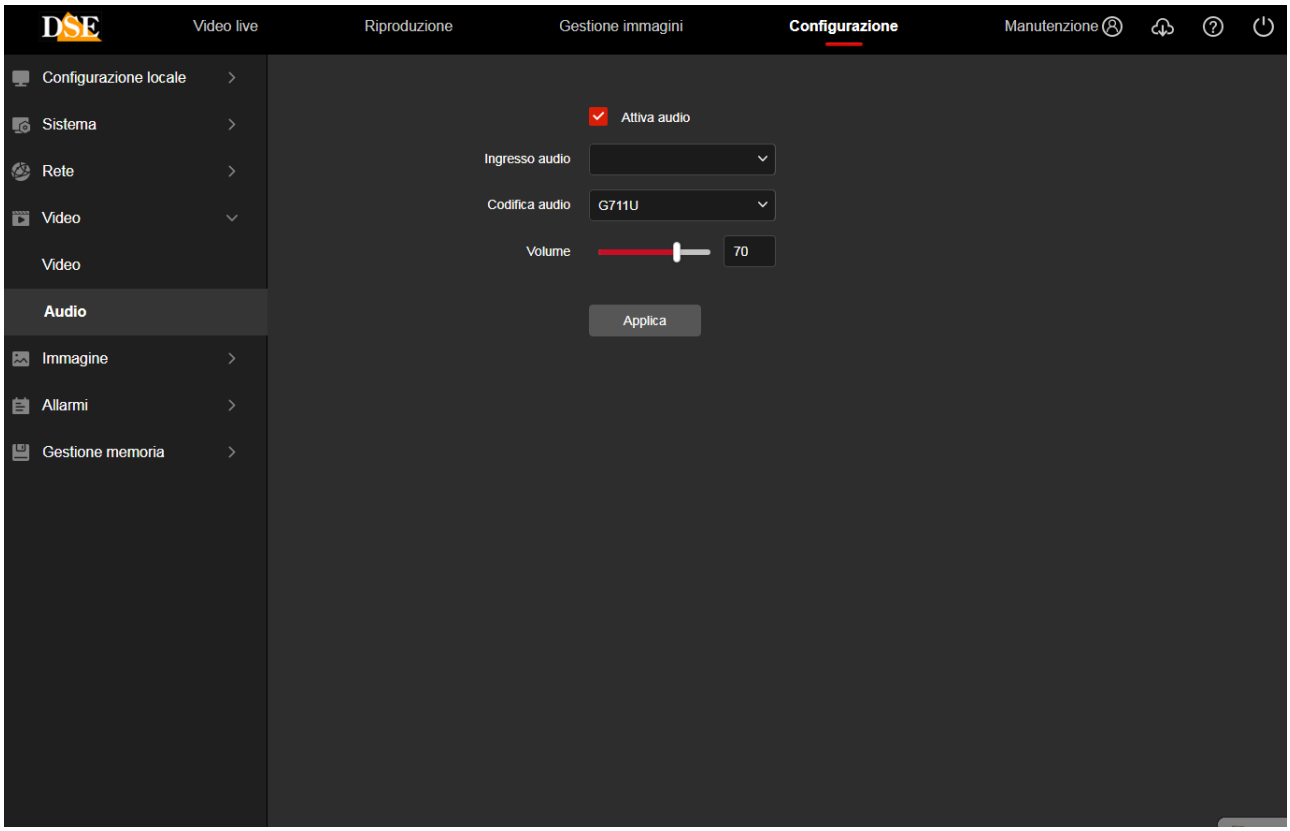
75 factory

H265+–This is a further improvement of H265 compression. You can enable it for save bandwidth and reduce latency, if the client supports this advanced compression. All Our NVRs support H265+ so you can enable this option, especially if your The system consists of many high-resolution cameras.

WATERMARK–If you want, you can overlay text on the video stream so that it is certified its origin. The text of the overlay is typed in the next box TEXT WATERMARK

AUDIO

Some RK series cameras support audio through a built-in microphone or a audio input for external microphone.



ENABLE AUDIO–Includes audio in video streaming

AUDIO INPUT–Select the audio source to use from those available in the camera (built-in microphone or external audio input)

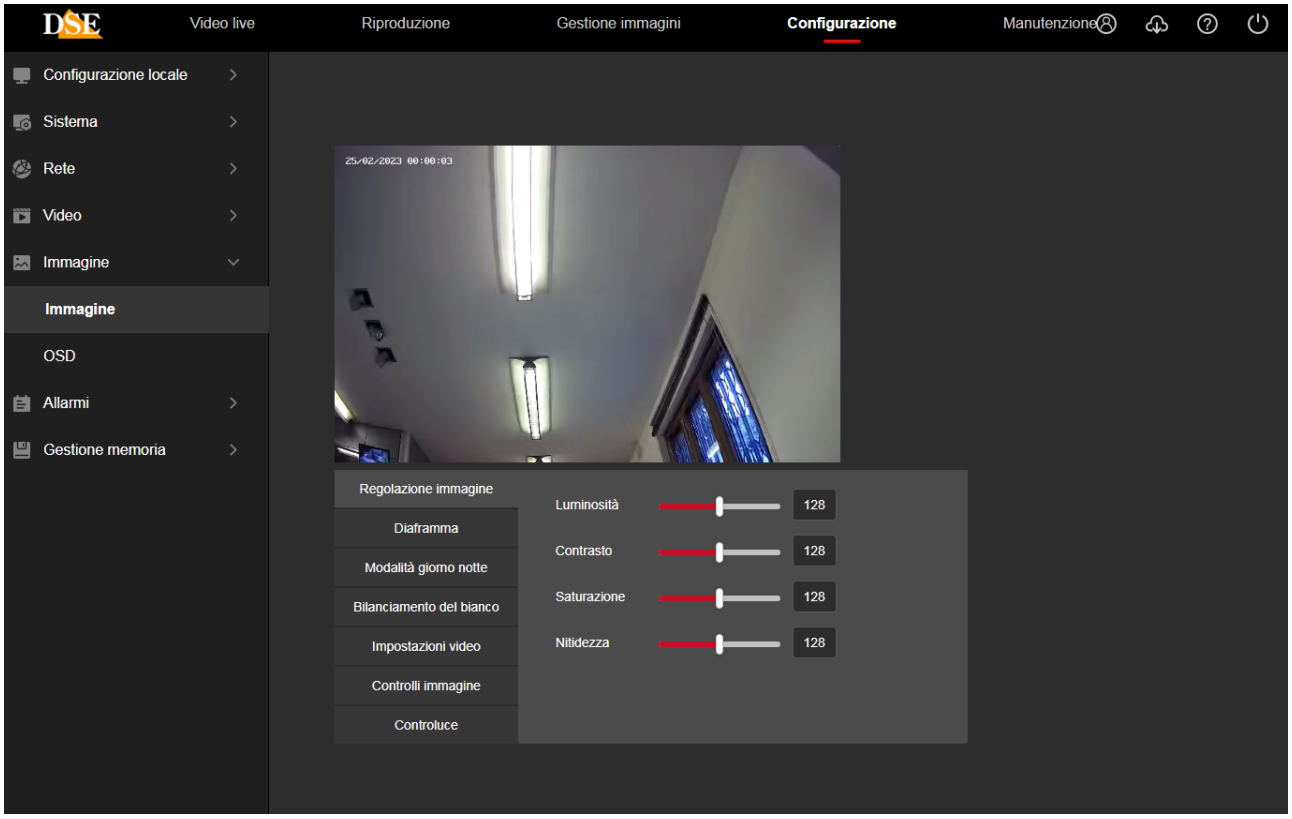
AUDIO CODING–Here you choose the audio compression to use: G711A, G711U or AAC. You can select the one that gives you the best audio output on the client

VOLUME–Adjusts the gain of the audio input and consequently the volume of the audio signal.

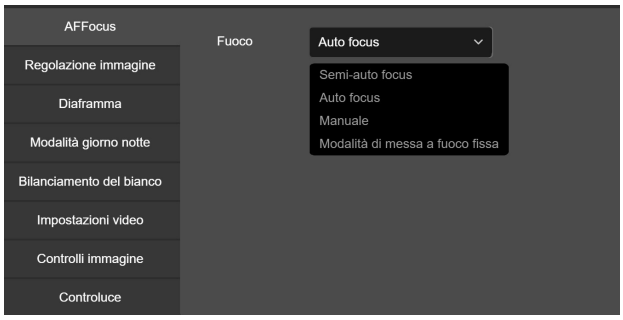
IMAGE/PHOTO

This section allows you to adjust the image quality of the camera. The available items in this section can vary significantly. depending on the camera model.

IMAGE



AUTOFOCUS



This window is only present in cameras with a motorized lens. You can Set the autofocus operating mode by choosing from these options:

SEMI-AUTOFOCUS–The camera autofocuses, however it is possible also intervene in the PTZ panel of the live view with the fire buttons to adjust manually focus. Manual focus replaces autofocus until it is changed the lens zoom level.

AUTOFOCUS-The camera autofocuses and cannot focus
manual adjustment
MANUAL–The camera only accepts manual focus adjustment, with the PTZ panel in the live view. Autofocus is disabled.
FIXED FOCUS–The camera fixes the current focus and does not allow any modification, neither automatic nor manual.

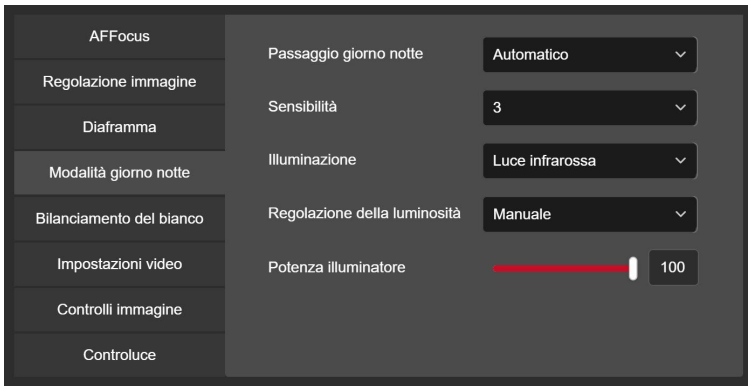
IMAGE ADJUSTMENT

Contains BRIGHTNESS / CONTRAST / SATURATION / SHARPNESS adjustments – They regulate directly the camera image allowing you to compensate for any non-standard situations optimal. You can see the effects of the adjustments in the preview.

SHUTTER DIAPHRAGM

In this window you define the behavior of the electronic shutter (diaphragm). In some Some models have AUTOMATIC mode, others only manual adjustment.
You can set aperture speeds from 1 second up to 1/100000 sec. In model function. Normally the factory setting is retained.
There is also an ANTI-FLICKER adjustment which automatically manages the diaphragm to avoid the waves that occur when shooting a screen.

DAY NIGHT MODE



Almost all RK cameras include illuminators that allow the camera to shoot even at night in complete darkness. Most cameras have LEDs infrared, which emits a light not visible to the human eye and allows shooting in B/W. Some cameras instead use white LEDs that illuminate with visible light, like a spotlight. Other cameras are equipped with Dual Light LEDs, capable of emitting both infrared and white, depending on the configuration and situation.

The cameras have a day mode, with shooting without illuminators and a night mode, with illuminators. In this section you can adjust the parameters of these two modes.

DAY/NIGHT PASSAGE–Defines the basis on which the camera switches from day mode to night mode. The following options are available:

AUTOMATIC - This is normally the recommended option where the camera switches automatically into night and day mode based on its internal brightness sensor.

COLOR – You can force the camera to always be in day mode, if you want to always shoot using natural light when you have sufficient night lighting. In this mode the illuminators never turn on and the camera always shoots in color, using the available ambient brightness. You may want to consider this setting especially in Starlight cameras, with a sensor very sensitive to low light, but considering that with This setting will never be possible to shoot in absolute darkness.

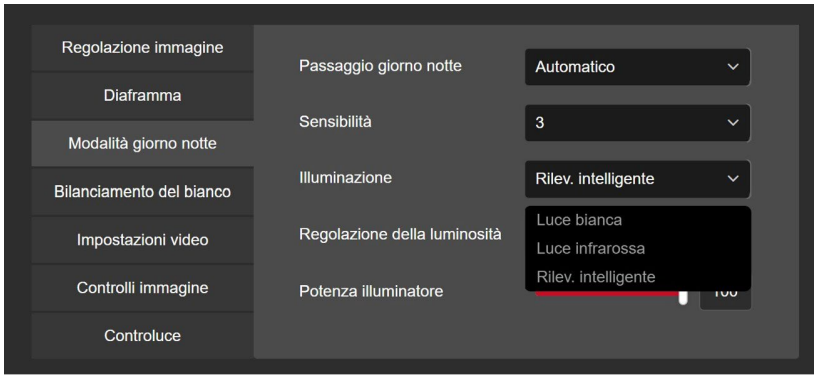
BLACK AND WHITE – This option forces the camera to always shoot in night mode, with the lights are always on, even during the day. This means that the camera will record always in B/W, if with IR illuminators, or always in color if with white illuminators. This option is limited to particular applications.

TIME BASE – This option allows you to switch from day mode to night mode on hourly basis, without considering the actual ambient brightness, effectively excluding the sensor camera brightness. This option is rarely used and is limited to specific applications.

SENSITIVITY–The higher the sensitivity of the brightness sensor, the greater the transition earlier night mode.

LIGHTING–You can choose the type of LED lighting to use in night mode,

choosing between these options:
INFRARED LIGHT - IR light is invisible to the human eye, so the environment remains dark, but the camera shoots in B/W. This is the most commonly used lighting in security cameras.
WARM WHITE LIGHT - Some cameras have white light LEDs that illuminate the area like a lighthouse and allow the camera to shoot in color at night.
INTELLIGENT DETECTION - Some cameras are equipped with dual LEDs, which can illuminate both infrared and white light. In these cameras you can also choose this option intelligent thanks to which the camera normally illuminates infrared and turns on the light white only when it detects a human presence. You can set a duration time of white lighting following an intrusion from 10 to 600 seconds. This setting intelligent is the most used in cameras equipped with dual LEDs and deterrent cameras because the environment remains dark with natural light and lights up in case of intrusion allowing the color footage of the intruder and generating a deterrent effect.



LIGHTING POWER–In some lighting modes you can adjust the power of IR illuminator illumination. This adjustment is not available for white LEDs.
It is advisable to reduce the power of the IR illuminators when the camera records at short distances. and too much LED power can lead to an overexposed and bleached subject.

WHITE BALANCE

In this window you define the white balance so as to make the color white. realistic in all lighting situations. Several automatic options may be available, from

try based on the ambient light source and also a manual adjustment that offers the ability to set the white tone manually with sliders for each color.

VIDEO SETTINGS

Here you can change the appearance of the image,
MIRROR - allows you to flip the image vertically or horizontally or both. It is a useful option if the camera is mounted in an unconventional way, such as upside down.
CORRIDOR - displays the image rotated so that the long side is vertical instead of horizontal. This is a useful option if you are shooting long, narrow areas, such as corridors, and requires that the camera is mounted rotated 90 or 270° from its natural position.
VIDEO FORMAT – Adjust the device to the local frequency. In Italy select 50Hz

IMAGE CONTROLS

In this section there are some digital functions to compensate for difficult shooting situations. Available options vary by model.
WDR (Wide Dynamic Range) - allows you to improve the vision when there are in the image areas with different brightness, for example in the case of an outdoor shot in a portico
NOISE REDUCTION – Allows you to reduce the noise of the video signal when there are noises disturbance phenomena such as in color shooting at low brightness
ABERRATION REDUCTION – Reduces image distortions introduced by very sharp lenses wide angle

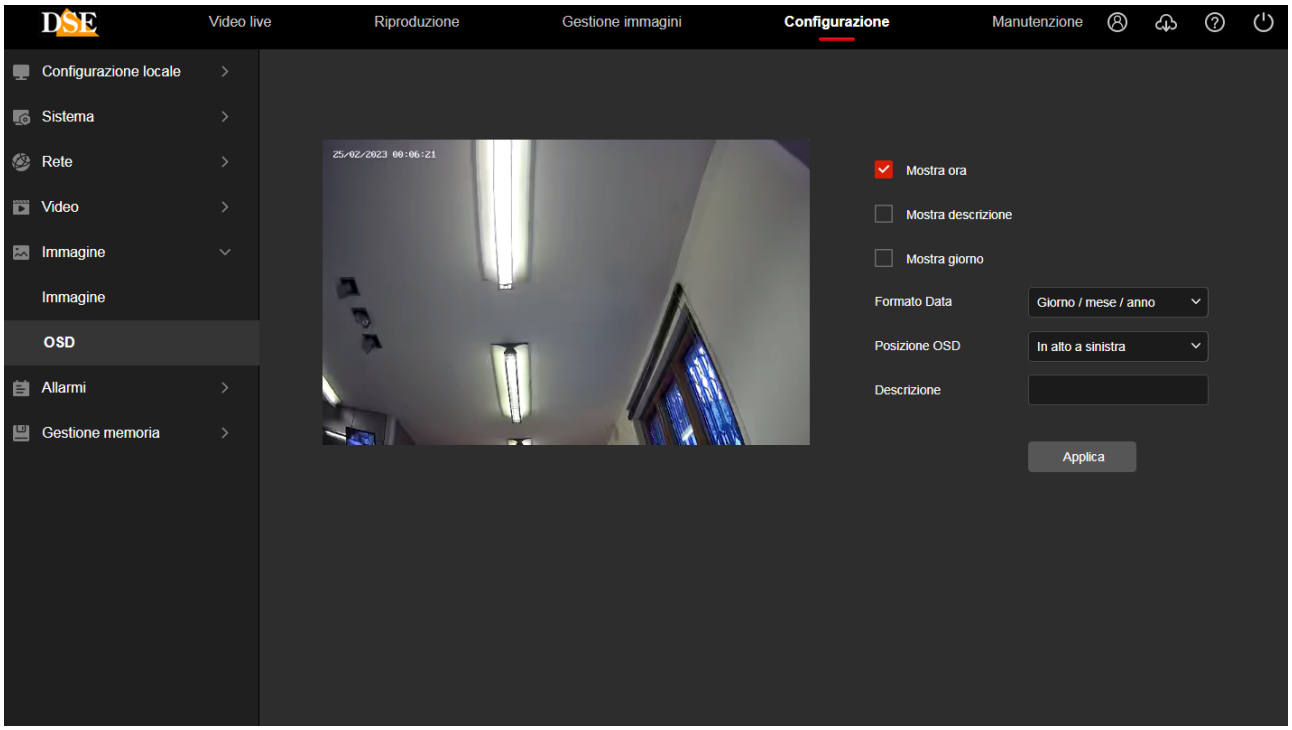
FOG LIGHTING – Improves visibility in fog as much as possible.

BACKLIGHT

BACKLIGHT – This function, also called BLC, is used to improve the visibility of a dark subject on a light background. You can set the position of the subject in the shot.

ANTI-GLARE – This function artificially darkens strong light sources, such as the headlights of a car, to prevent them from blinding the camera.

OSD SETTINGS



It is possible to define which information should appear over the image. Yes

They can enter the date and time with the name of the day and also a description of their choice, such as camera name, to be typed in the DESCRIPTION box.

You can choose the date and time format and the position of the overlay: top or bottom.

left.

ALARMS

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

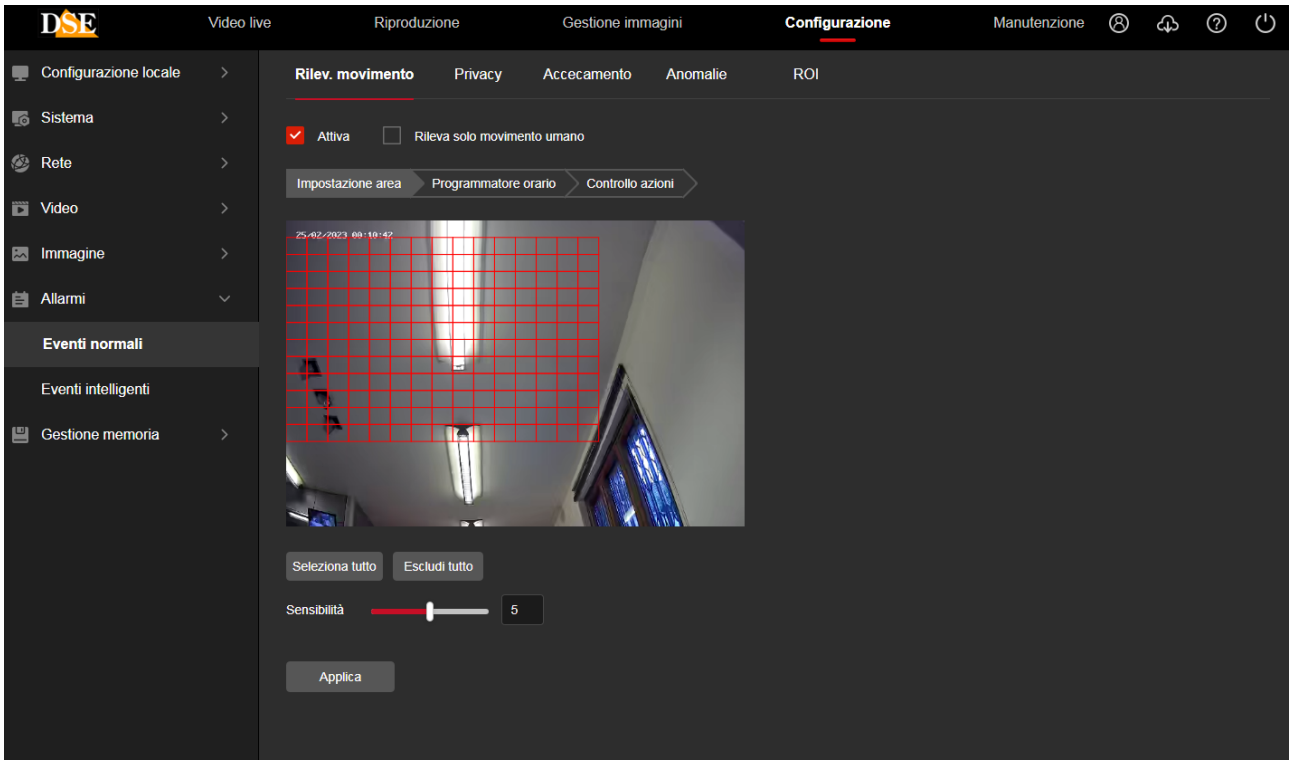
NORMAL EVENTS

These are traditional camera detections, which do not require video analysis. intelligent

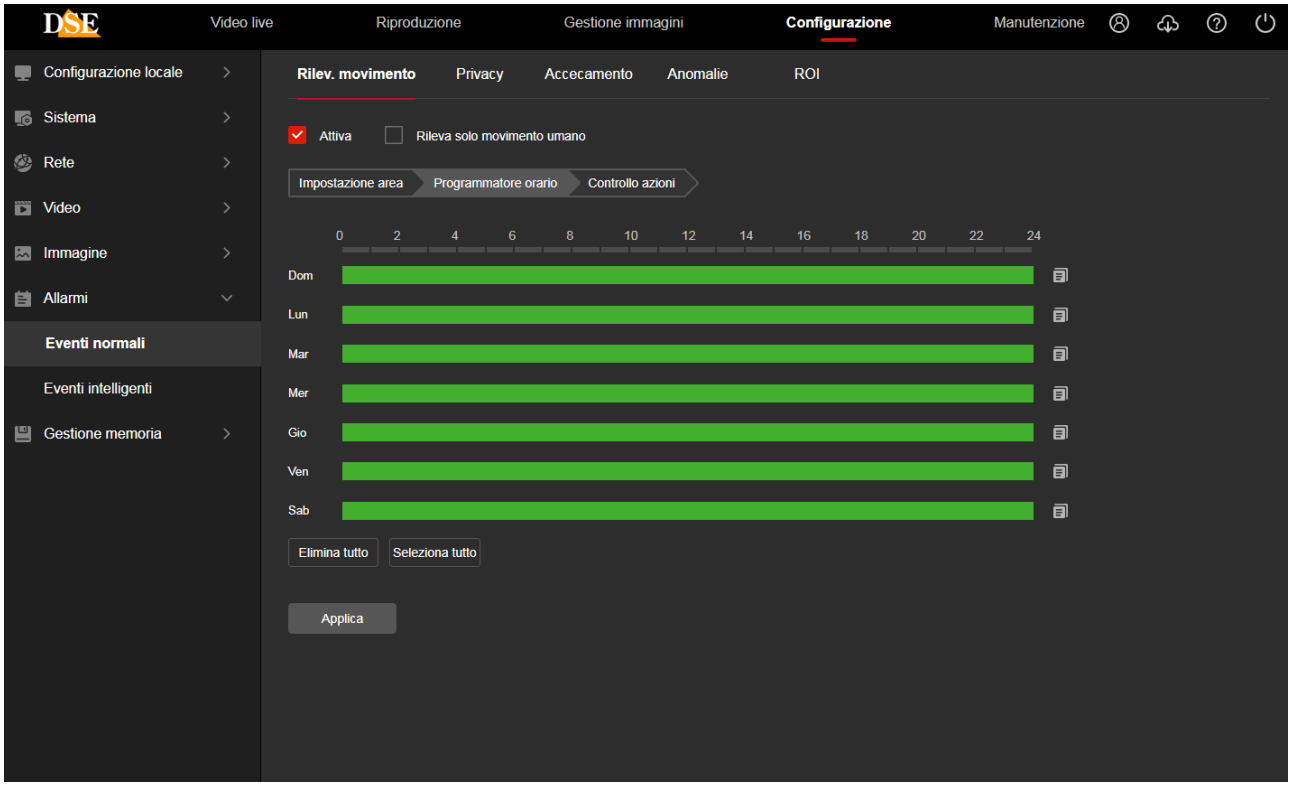
MOTION DETECTION

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

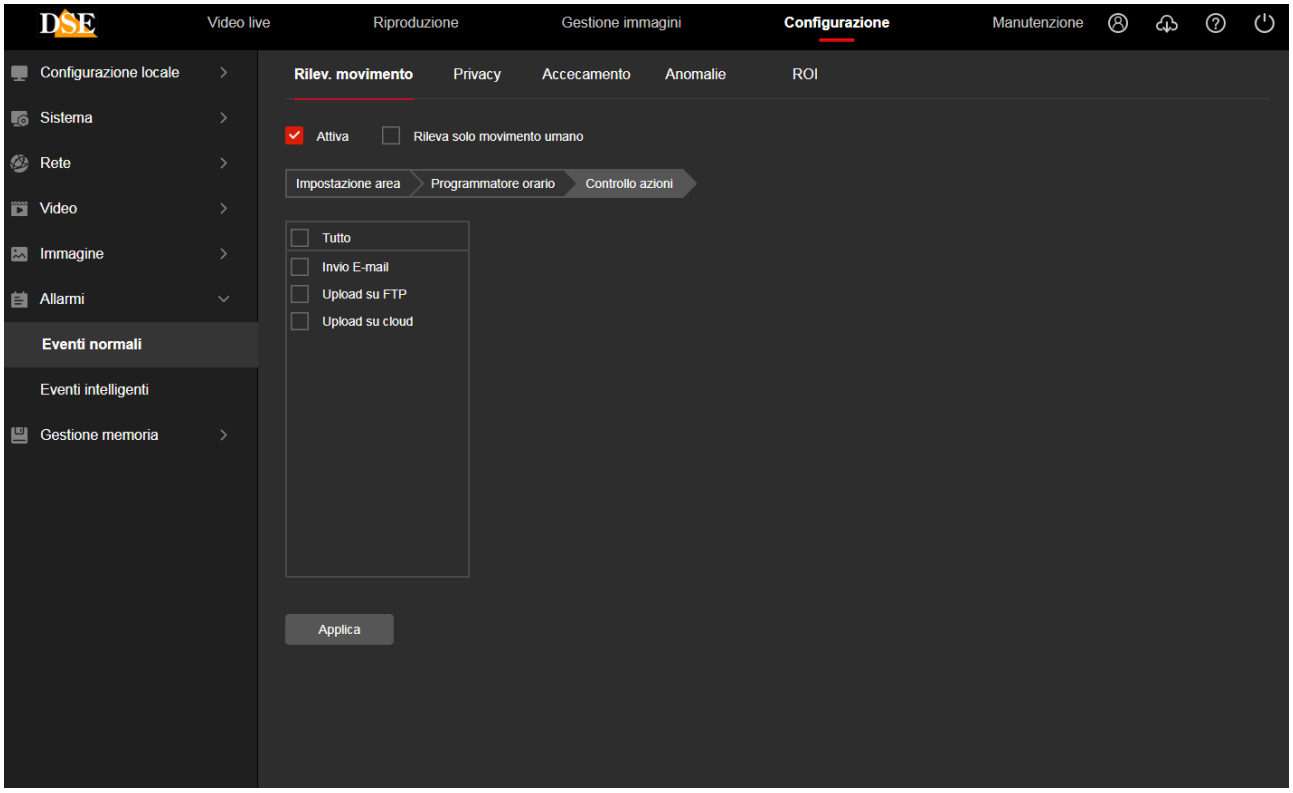
Motion detection setup is done in 3 windows: area setup, scheduler and action control.



AREA SETTING - In this first section you define, by dragging the mouse on the screen, the area in which the detection will be valid. In addition, the sensitivity of the detection is set in way to avoid untimely alarms (from 0 to 10). The “Detect human motion only” option allows you to use the intelligent human detection algorithm, normally used by intelligent detections, even in this traditional detection section.



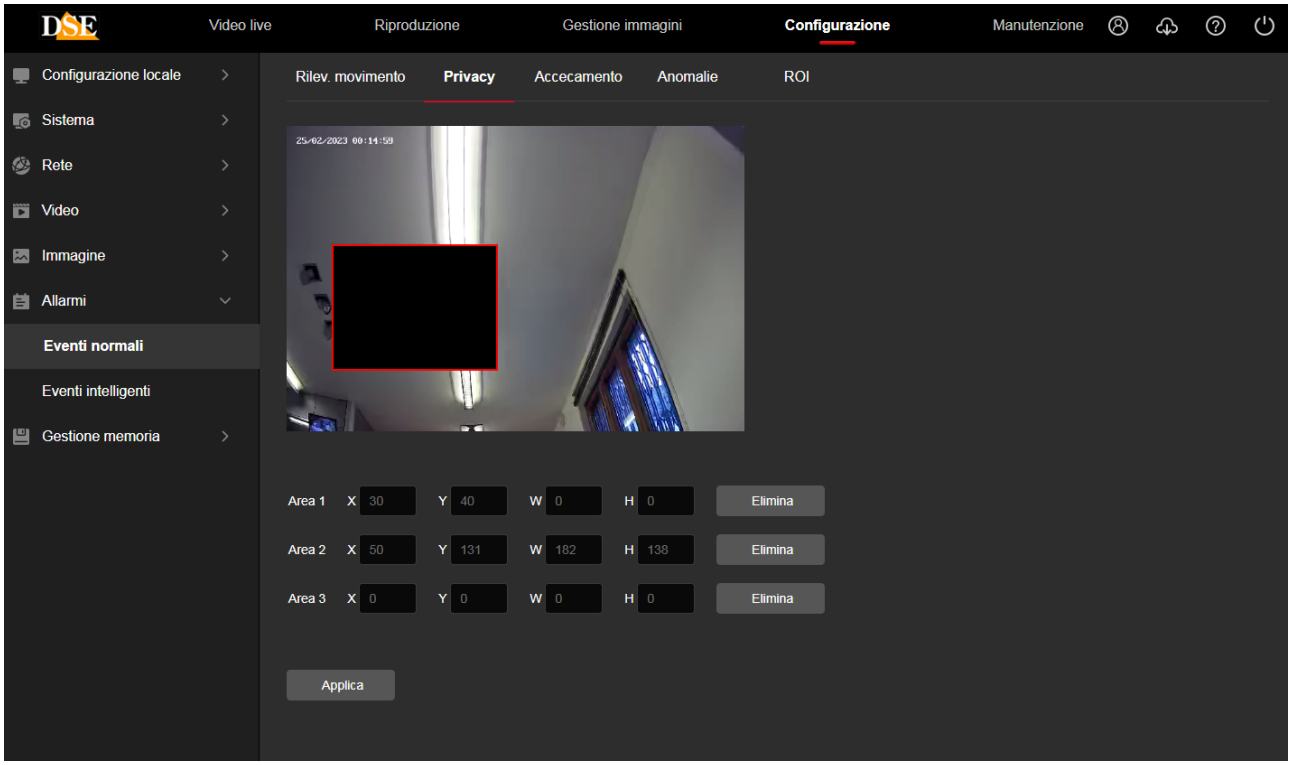
TIME SCHEDULER - In this second window regarding Motion Detection you can defines in which time slots of the week the motion should be activated.



ACTIONS CONTROL - In the last window of the motion regulation you can set the actions of alarm to be executed in case of motion alarm: Send alarm via email, Upload via FTP, Upload to the Google Cloud server and possibly others such as recording on SD card or the activation of alarm outputs, or the activation of deterrent devices, if the camera detects them has.

PRIVACY

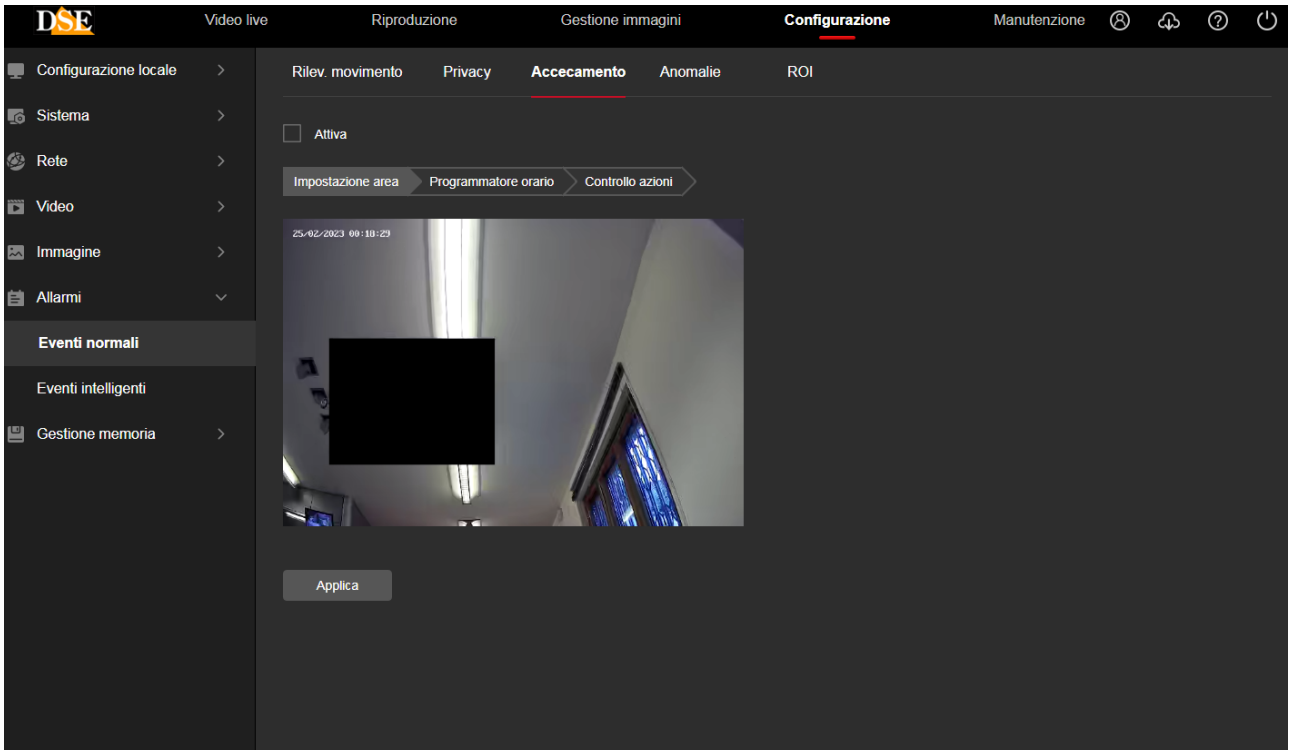
The RK series cameras allow you to mask areas of the image to protect specific needs. of privacy.



You can draw up to 3 privacy masks with the mouse.

BLINDING

Some RK series cameras allow you to report if the camera is being blinded by covering it. the field of view. This allows you to generate an alarm if the camera is the object of a sabotage.



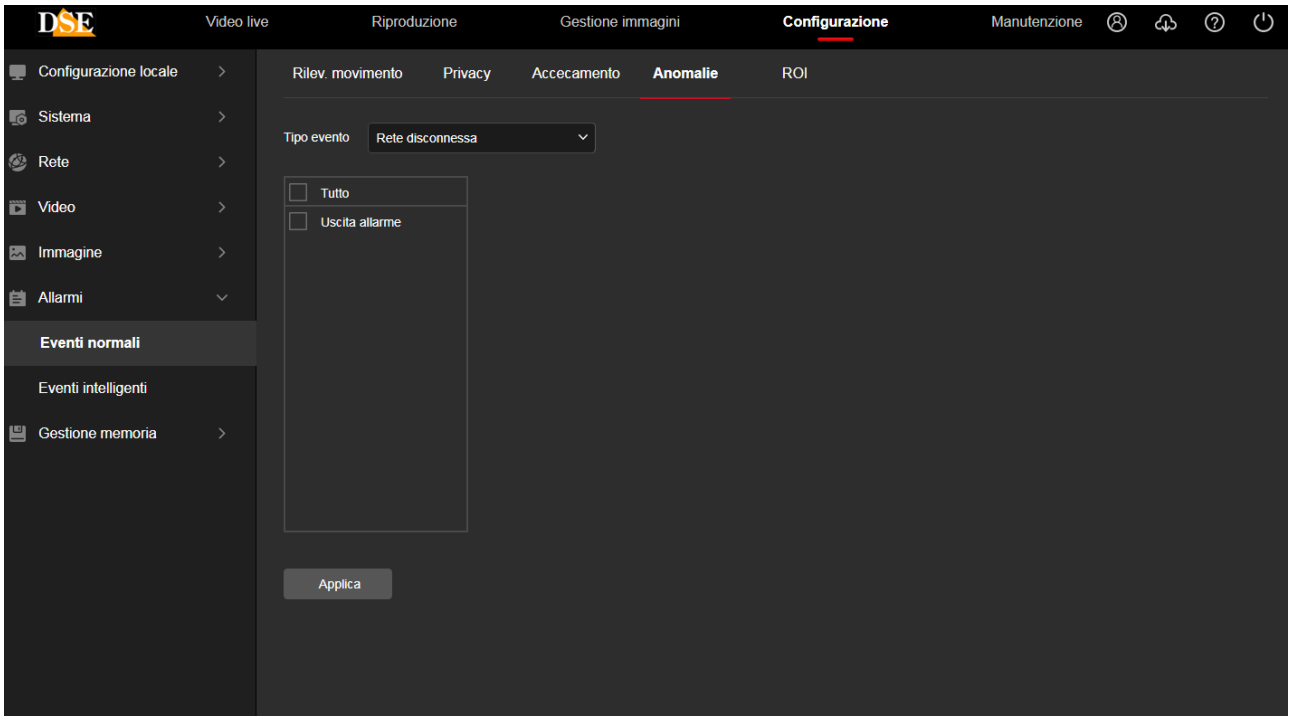
As in the motion detection described above, you can draw the area to be detected and set the sensitivity. In the Scheduled Insertion and Actions windows you can enable the detection in certain time slots and define alarm actions.

ALARM INPUTS

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

ANOMALIES

In this section you set the alarm actions to be performed in case of technical anomalies, such as network connection loss, an IP conflict detected on the network or disk full. Since many of these anomalies involve a problem of dialogue in the network alarm actions Only local ones on the camera are allowed.



ROI

Some RK cameras can handle: Region Of Interest (ROI) or Areas of Interest. These are of an advanced setting aimed at optimizing the use of video compression in the image.

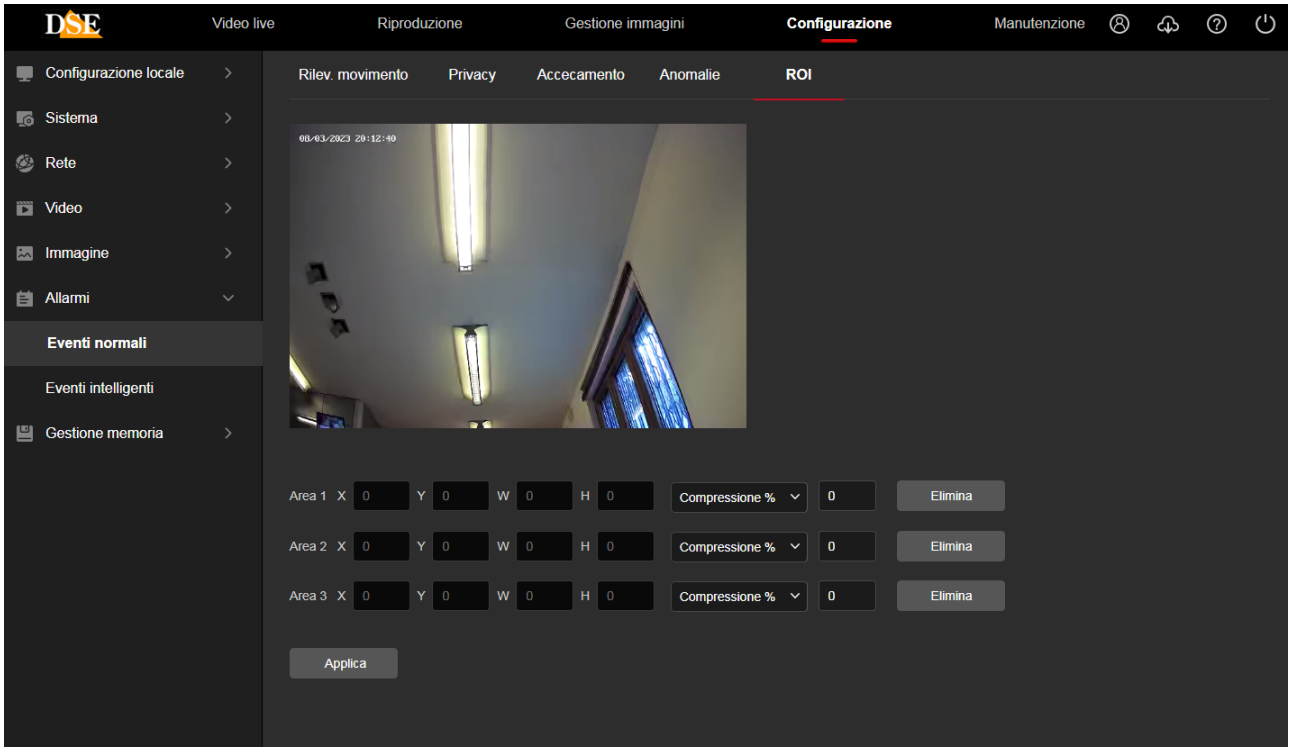
Under normal conditions the camera uses the same type of video compression throughout the image.

By setting ROIs you can define particularly important areas where you can request camera 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 insert a compression value that can go from 0 to 51. A higher value corresponds to greater compression, therefore lower video quality, but smaller weight.

If you are setting an area of particular importance it is a good idea to set a value of very low compression.

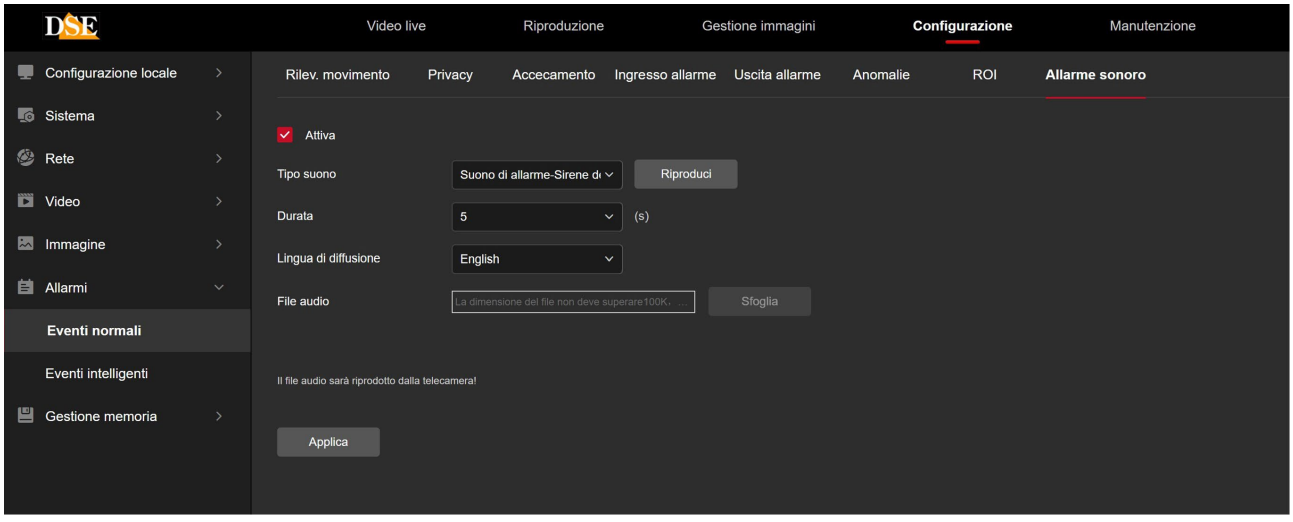
You can set an absolute or percentage compression value. The absolute value would be use with caution because it imposes constant compression and therefore the video bitrate could vary greatly based on movement in the image.



Regions Of Interest (ROI) are only effective with H264 and H265 compression.

SOUND ALARM

Some cameras have a built-in speaker and therefore have a configuration window of the sound alarm that the camera plays when it detects a intruder



SOUND TYPE – You can choose from several pre-recorded alarm sounds and warning messages in English. You can also choose the last option CUSTOMIZE to upload your own message custom. The camera plays this message if an intrusion is detected.

PLAY – Press this button to hear the message from the camera speaker

DURATION – Defines how long the camera will repeat the sound message in case of alarm

LANGUAGE OF DISTRIBUTION – You can use the standard messages in English or customize your own message by choosing the last option in the Sound Type box.

AUDIO FILE – If you have chosen to play a custom sound, here you can choose an audio file on your computer, which you will have previously registered, to upload it to the camera.

The camera only supports audio files in .G711u format and with a maximum size of 100K.

You can download from our site several pre-recorded sounds and warning messages in Italian, ready to use. load into the camera.

If you want to record your own personalized voice message you can do so using the voice recorder. windows that allows you to save audio files in m4a format. Once you have recorded the file you can convert to G711.u format with an online converter, such as:

https://www.innovaphone.com/it/servizi/supporto/convertitore-audio.html

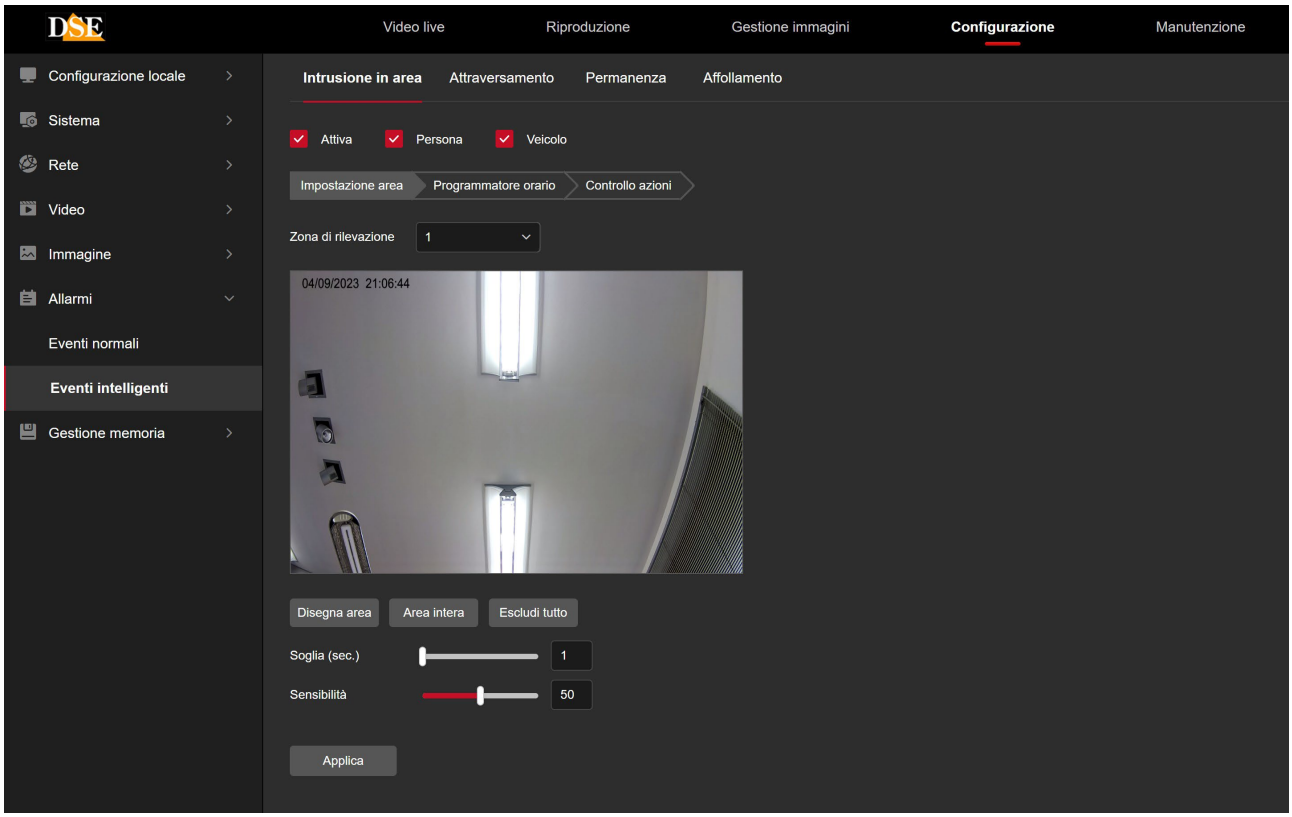
SMART EVENTS – VIDEO ANALYSIS

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

The availability of the various detection functions depends on the camera model purchased.

INTRUSION IN AREA

Thanks to the intrusion into the area, the cameras can detect whether a person and, in some versions, even a vehicle enters a defined area. This detection only detects one human person and/or a vehicle and ignores movements of vegetation, insects or other.



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

PERSON / VEHICLE – The detection algorithm is able to detect people or vehicles (in some cases cameras), you can enable one or both detections.

TIME THRESHOLD – The alarm goes off if a human figure or vehicle enters the area and remain for at least the number of seconds you set in this box

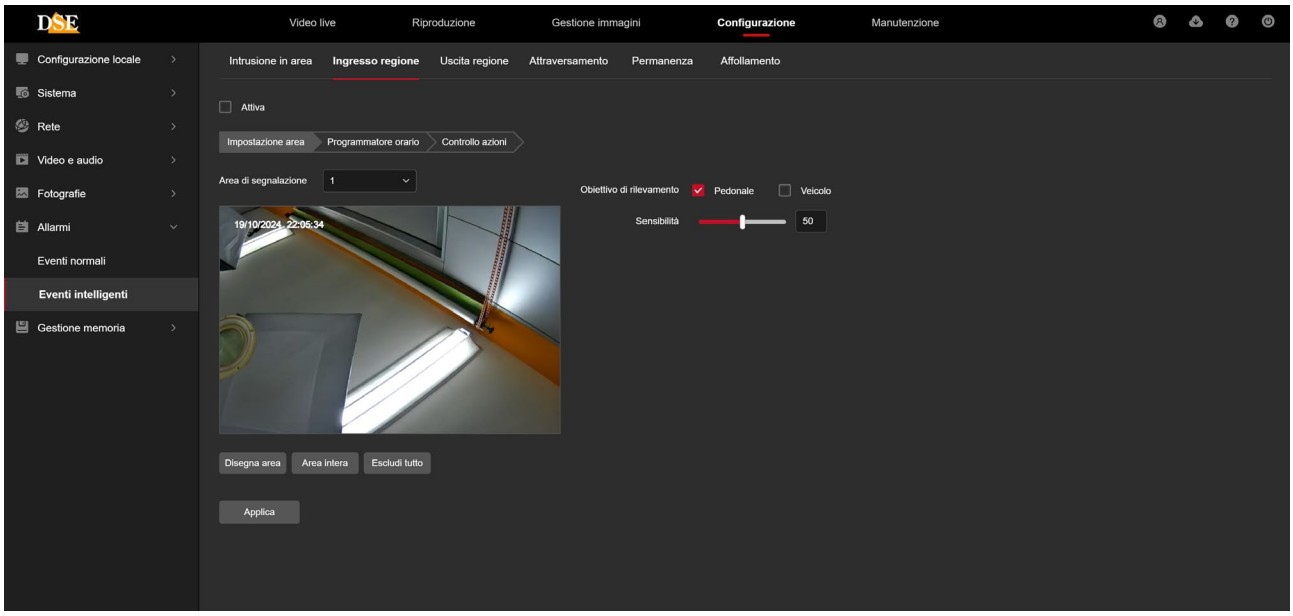
SENSITIVITY – Makes the detection more or less sensitive

In the other tabs you can set the activation time and the actions to be performed, as for the others

normal alarms described above (motion detection)

REGION ENTRY/EXIT

Region entry and exit detection is very similar to area intrusion detection.
previous, but it does not detect the simple movement of people or vehicles within an area, but rather
if an entry into the area or an exit from the area occurs. The detection is therefore not carried out on the entire
the selected area, but rather on the border of the area with the ability to distinguish whether the movement
It occurs from the outside to the inside (input) or vice versa (output).

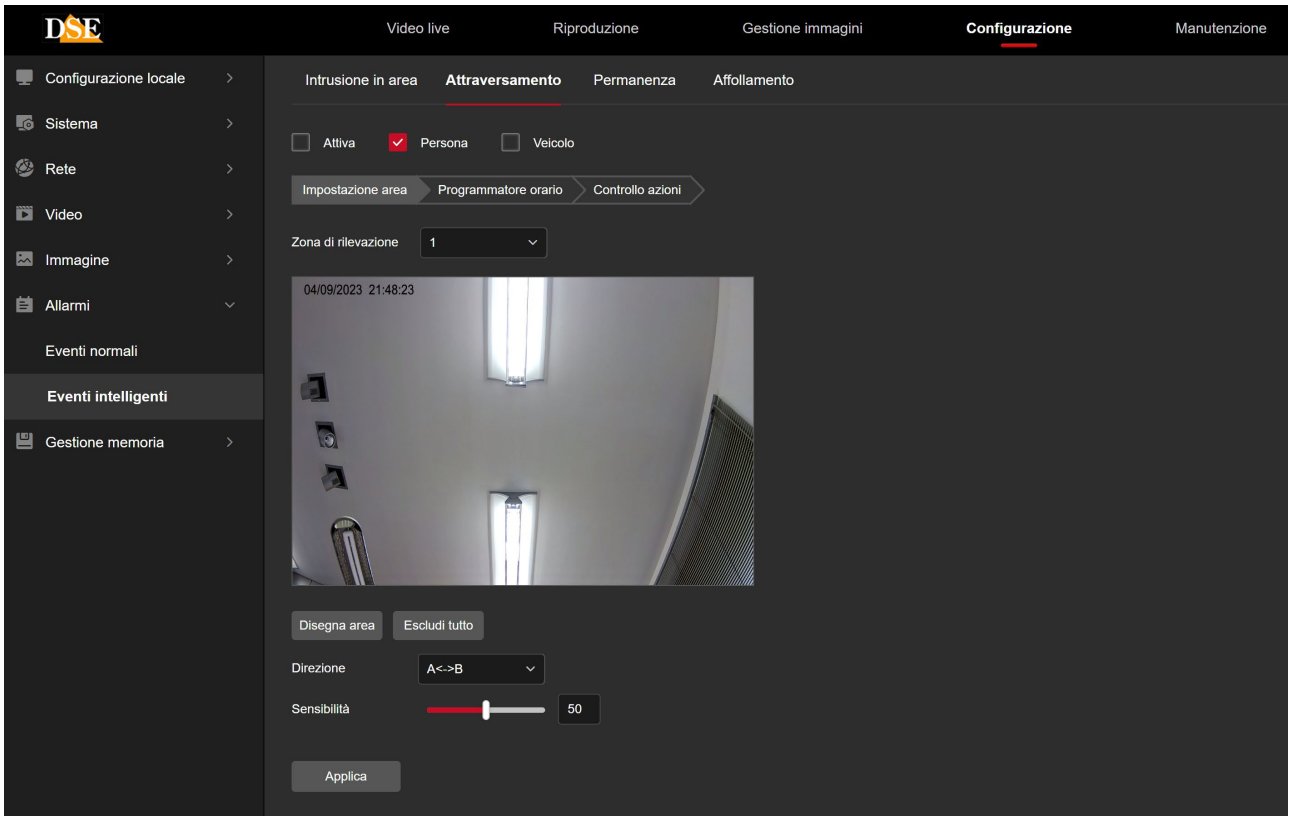


DETECTION AREA - You can trace up to 4 areas (ZONE 1-2-3-4) in the image
detection.
PERSON / VEHICLE – The detection algorithm is able to detect people or vehicles (in some cases
cameras), you can enable one or both detections.
SENSITIVITY – Makes the detection of entry and exit from the area more or less sensitive

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

CROSSING

Thanks to the crossing, the cameras can detect whether a person or, in some models, a
vehicle crosses a virtual line. This detection only detects a human and/or
a vehicle and ignores movement of vegetation, insects or other.



DETECTION AREA - You can draw up to 4 lines (AREA 1-2-3-4) in the image crossing.

PERSON / VEHICLE – The detection algorithm is able to detect people or vehicles (in some cases cameras), you can enable one or both detections.

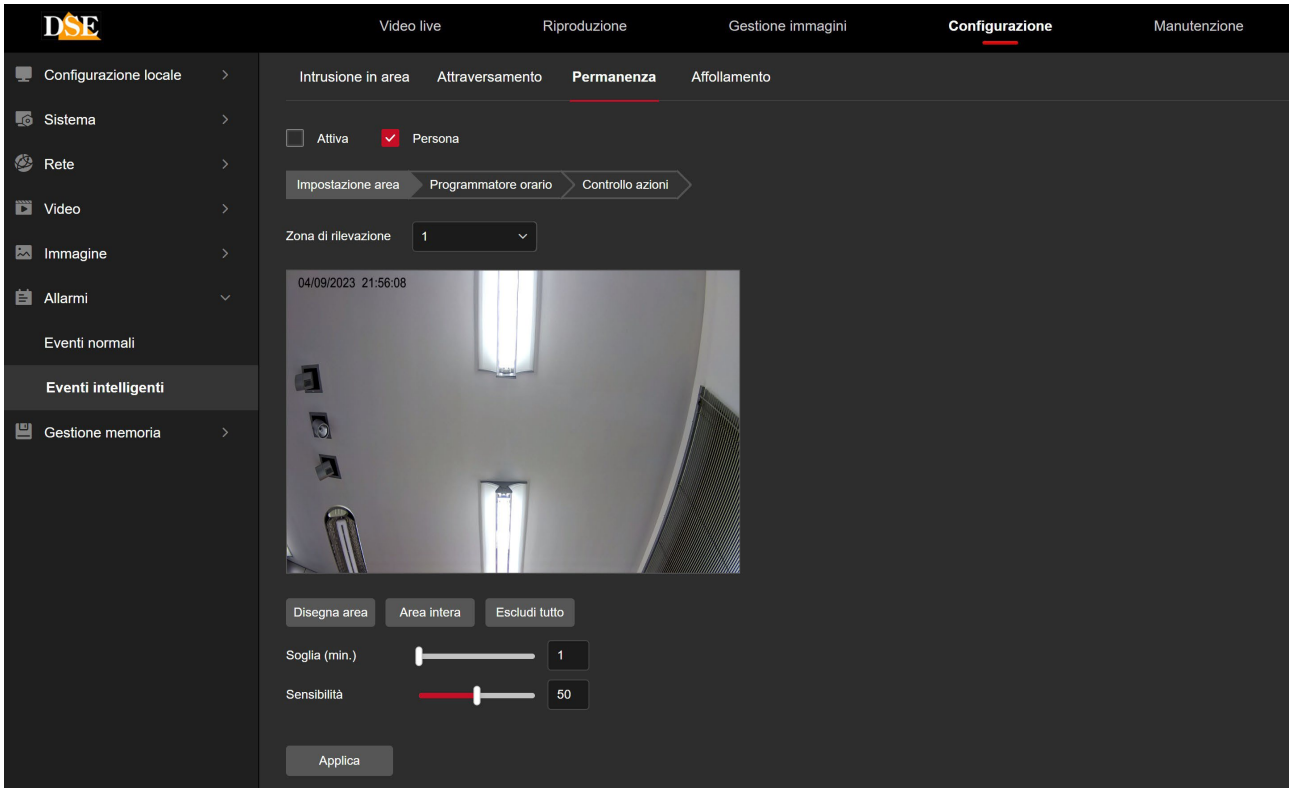
DIRECTION – The alarm goes off if a human figure or a vehicle crosses the line at a specific direction or in both directions.

SENSITIVITY – Makes the detection more or less sensitive

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

STAY

Thanks to the presence detection, the cameras can detect if a person remains in a defined area for too long. This detection only detects a human person and ignores movement of vegetation, insects or other.



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

PERSON – The detection algorithm is able to detect only people

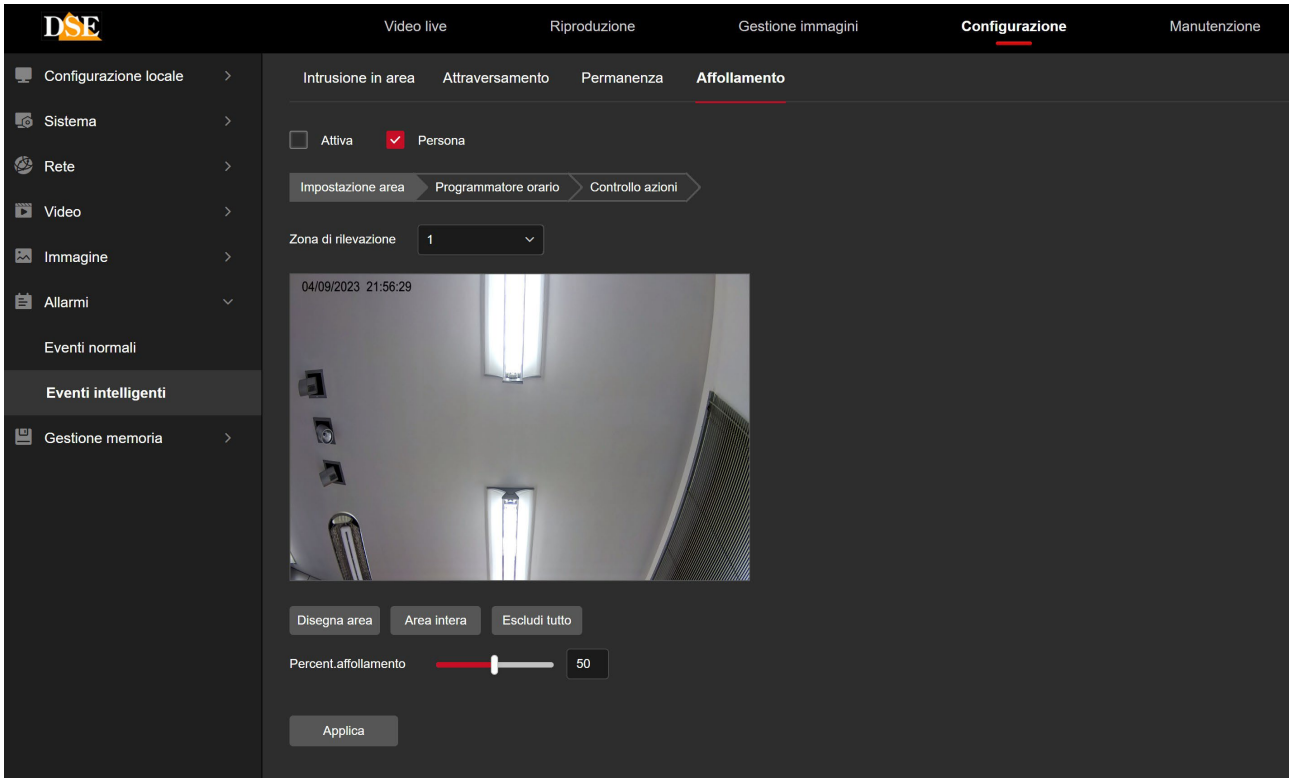
TIME THRESHOLD – The alarm goes off if a human figure enters the area and remains there for at least the number of minutes you set in this box

SENSITIVITY – Makes the detection more or less sensitive

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

CROWDING

Thanks to crowd detection, cameras can detect if too many people are crowding a certain area. This detection only detects a human person and ignores movements of vegetation, insects or other.



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

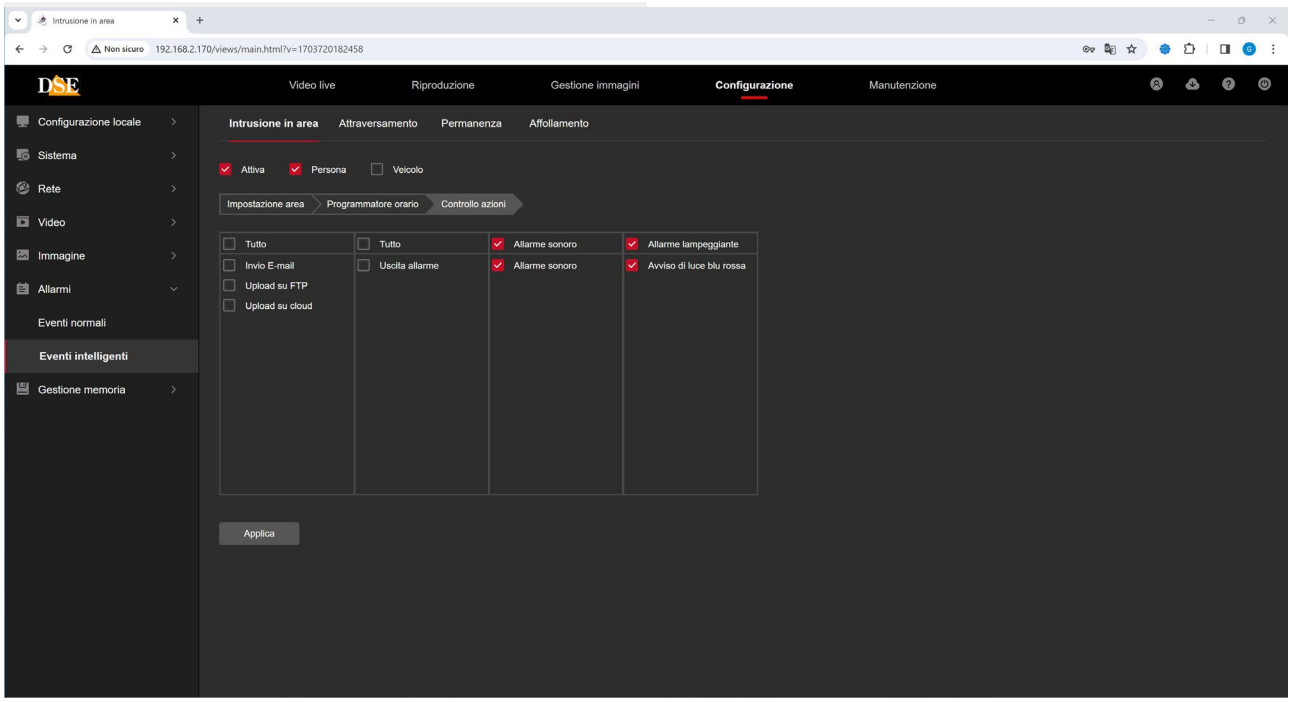
PERSON – The detection algorithm is able to detect only people

CROWDING PERCENTAGE – You can set the crowding percentage of the space necessary to trigger the alarm.

Each type of intelligent detection also has the TIME PROGRAMMER and ACTIONS CONTROL, where you can set the time activation and the actions to be performed, such as for the other normal alarms described above (motion detection).

DETERRENT CAMERAS ALARM ACTIONS

Deterrent cameras use the same intelligent detections just described, but have also of some specific alarm actions aimed at dissuading the intruder from continuing his action.

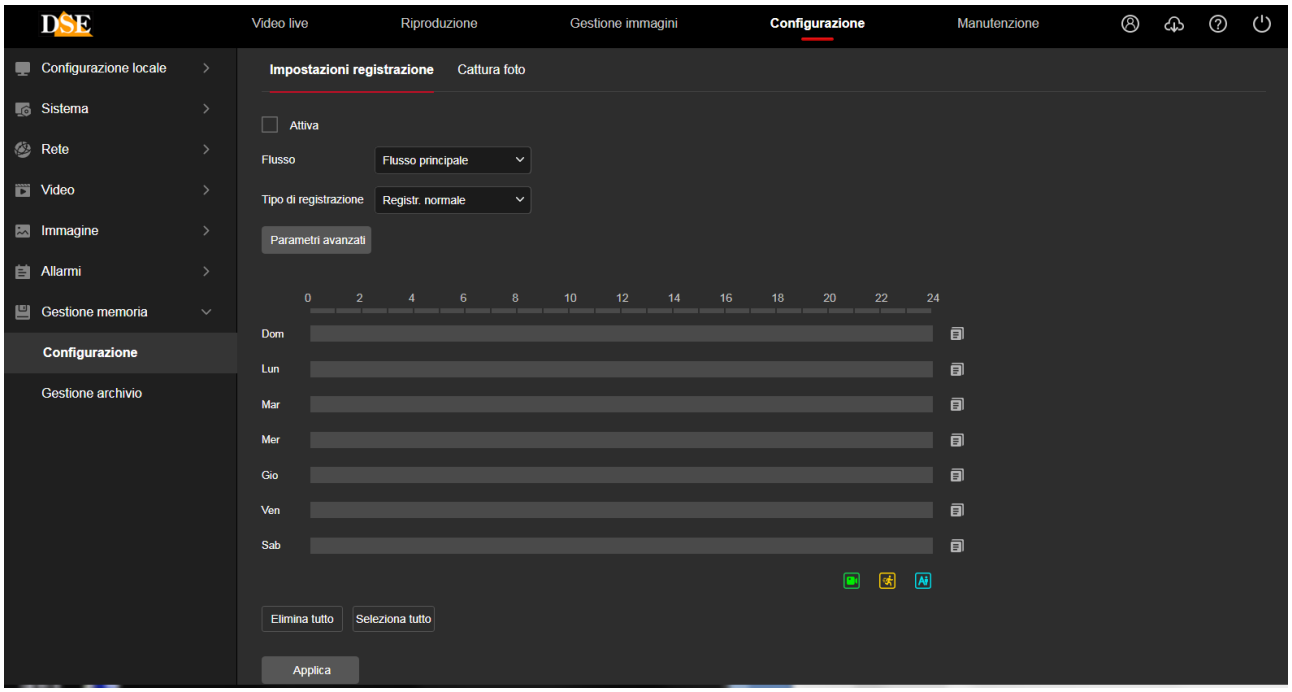


Among the alarm actions of the deterrent cameras you will also find the SOUND ALARM which allows to broadcast a recorded message through the speaker built into the camera and the BLUE/RED LIGHT WARNING which activates the red/blue flasher built into the camera. The sound alarm is set in the normal alarms section, as seen in precedence.

MEMORY MANAGEMENT

Cameras can save images to internal memory or to the cloud. In this section you will set up these self-recording features.

RECORDING SETTINGS

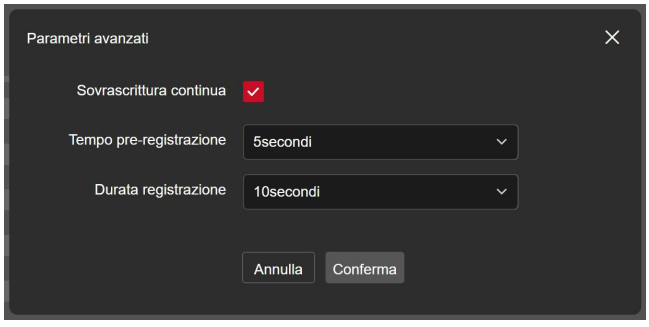


ACTIVATE – Activates the camera's autonomous recording

FLOW – You can decide whether to record the main stream in high resolution or the secondary which allows you greater storage capacity.

RECORDING TYPE – You can decide whether to use normal recording, then continue, or on motion detection or even only in case of intelligent detection

ADVANCED PARAMETERS – Choose overwrite if you want the camera to continue recording memory full by overwriting the oldest files. Alternatively you can choose Do Not Overwrite if you prefer the recording to stop. You can also choose the recording time and pre-registration in case of event registration.



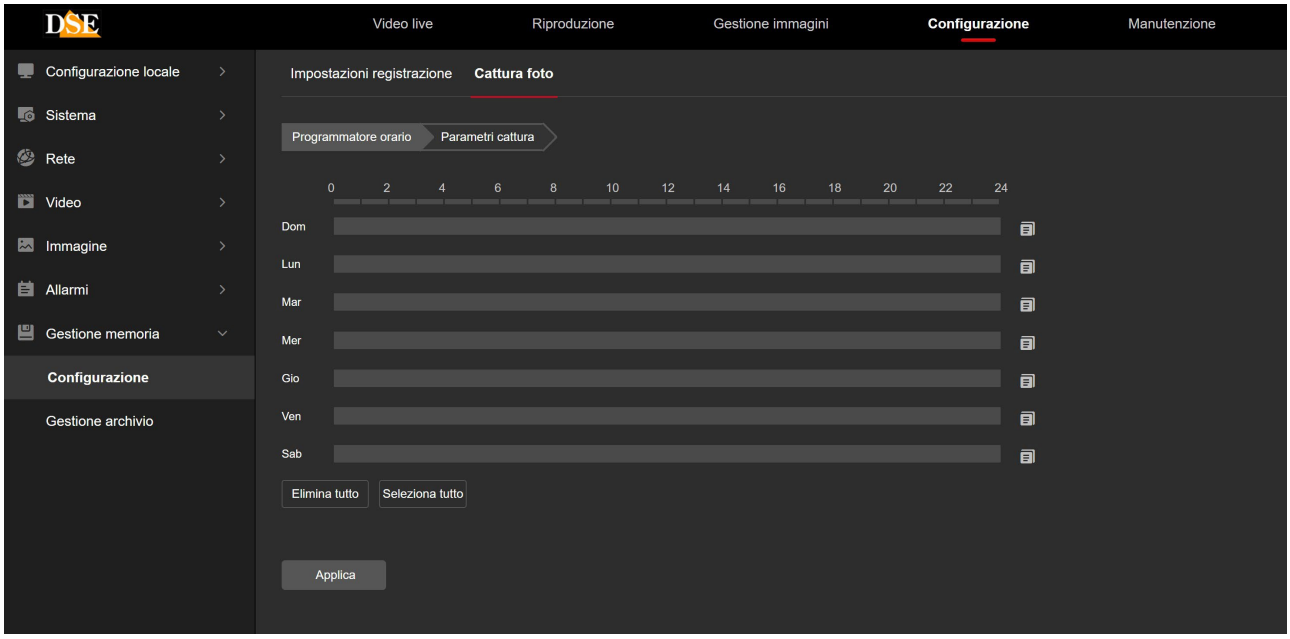
WEEK – For each day of the week you can set recording time slots in

continuous mode (green color), motion detection (yellow color) and intelligent detection (light blue color). You can define the time slots by dragging the mouse on the table, first choosing the type of recording you want to use in the top box.

CAPTURE PHOTO

In this section you can set photo capture following events or on a timed basis.

In the first Scheduler window you can color the time slots in which to enable capture some photos



In the second Capture Parameters window you can define when to capture photos

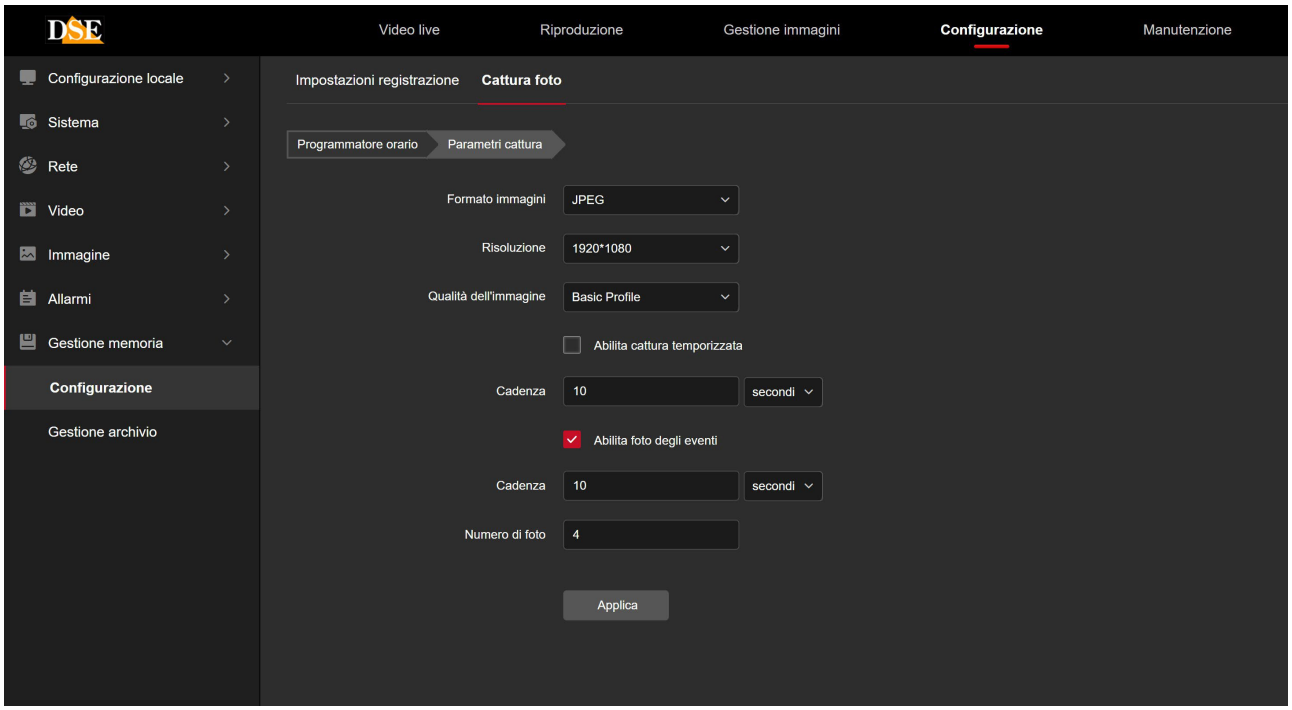


IMAGE FORMAT – Only JPEG available

RESOLUTION – Choose the resolution of the photos

IMAGE QUALITY – Choose the compression that determines the size of the files

ENABLE TIME lapse capture – If you enable this option the camera will capture a photo with a cadence that you will indicate in the box below with the possibility of inserting the cadence in seconds, minutes, hours or even days. Timed capture is useful for documenting the evolution of a scene in time.

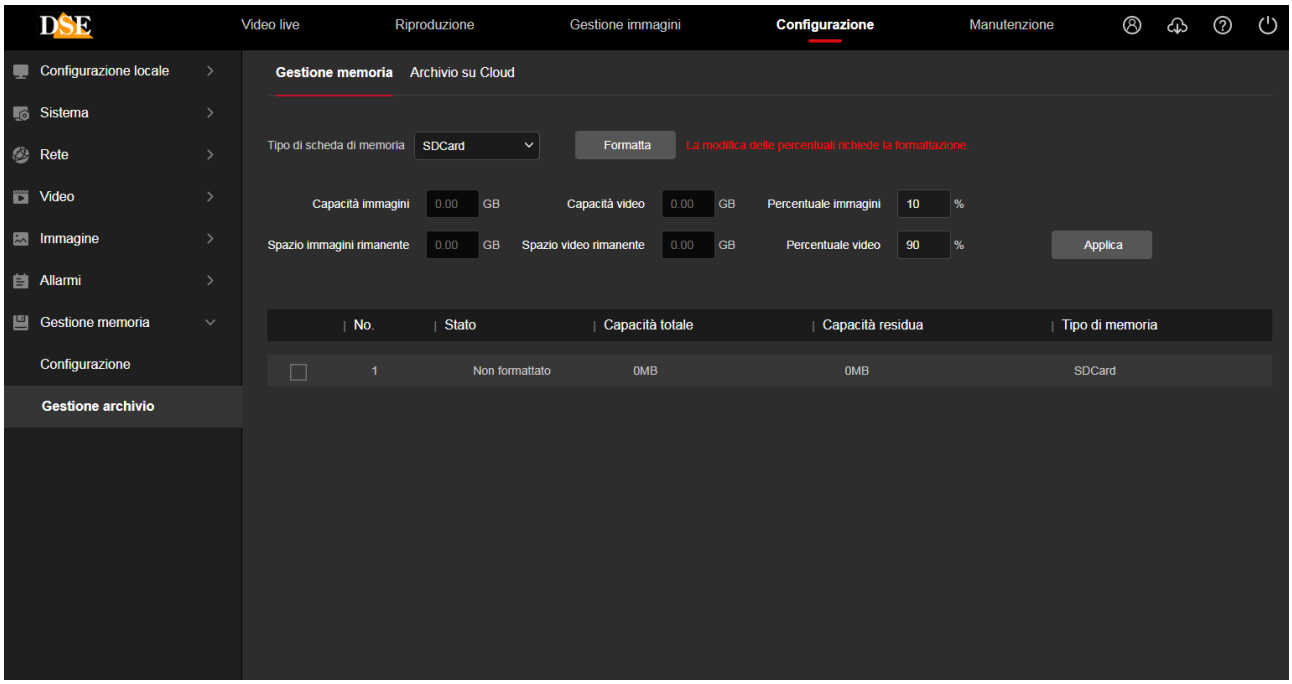
ENABLE EVENT PHOTOS – If you enable this option the camera will take photos following events. detection events. You can set the number of photos to take following an event and the cadence in seconds

MEMORY MANAGEMENT

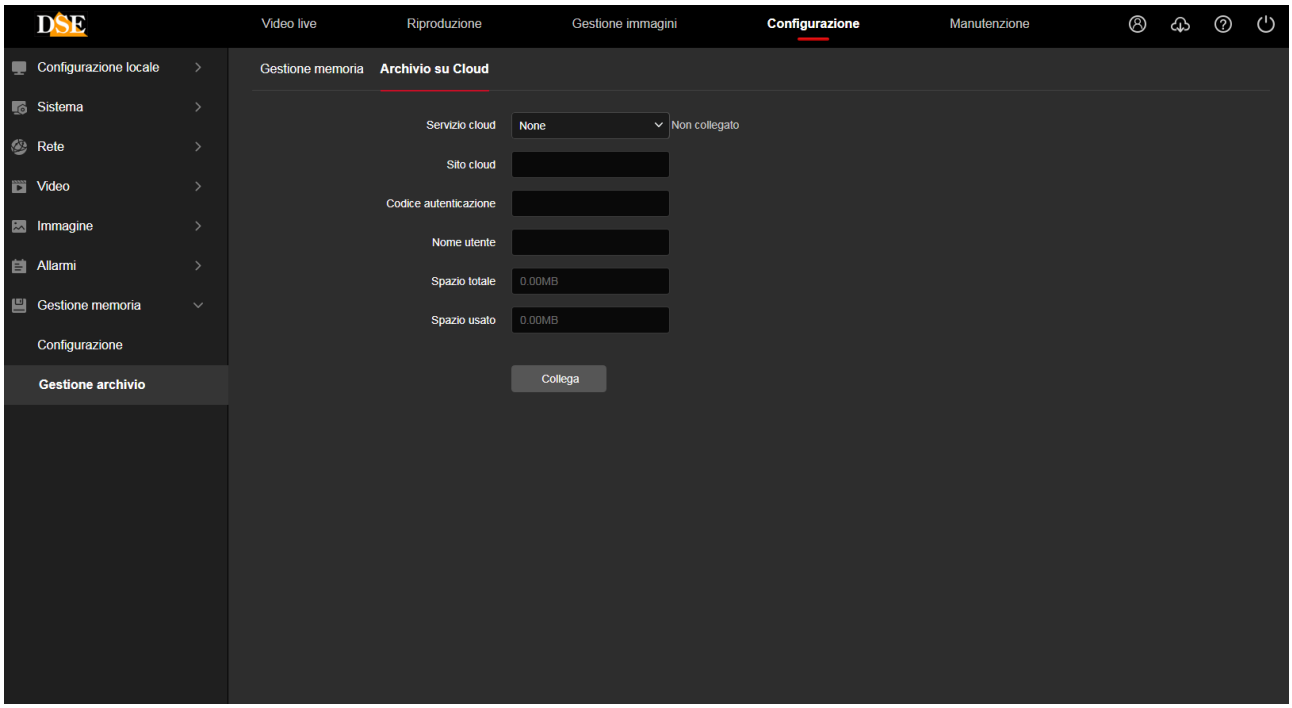
In this section you control the internal memory that the camera can record to. Some Some cameras have internal memory (EMMC), others have a slot where you can insert an SD card. In this window you can select the memory type (EMMC or SD card) and see its status and the capacity.

You can also format the memory, with the FORMAT button, which is essential to be able to start recording.

Before formatting the media you can set the percentage of memory space reserved for the video recording (factory 90%) and the one reserved for the photo archive (factory 10%)



CLOUD ARCHIVE



The RK series cameras allow you to save alarm images on external cloud servers.

CLOUD SERVICE – Cloud services on the Google platform (Google Cloud) are supported which you must purchase on the provider's website.

The camera is already registered on Google Cloud.

CLOUD SITE/CODE – These fields are automatically completed when you select the service

Google cloud, with the Google Cloud website address and the authentication code of the camera. Copy the address that appears in a browser and follow the instructions to register the cameras that are provided to you by the provider.
USERNAME – To be filled in according to the instructions of the cloud provider
TOTAL SPACE / USED – Monitor space usage on your cloud server.

Next to the Cloud Service box, the words NOT CONNECTED or CONNECTED appear if the connection is established successfully.