

# ARH CAM S1

PORTABLE SPEED ENFORCEMENT  
AND TRAFFIC MONITORING SYSTEM



USER MANUAL

# ARH CAM S1 USER MANUAL

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# INTRODUCTION

S1 is a mobile no-staff speed and traffic enforcement camera with on-board ANPR. It is capable of spotting a violator from 1200 meters (4000 feet) away and to return certified speed measurement result from 600 meters (2000 feet) away. The unique high-precision built-in laser technology reaches as far as no other speed monitoring camera on the market.

The S1 speed camera is extremely portable: setup takes less than two minutes. Afterwards, no human interaction is required: the camera measures speed and uploads every passing vehicle's data – or, depending on user-defined settings, just the violators – via a secured and encrypted channel. The uploaded results include license plate data, the vehicle's speed, exact location (via GPS) and time stamp as well as other selectable parameters. The result files are encrypted and cannot be altered.

This guide is going to show you the functions of the app and the methods of the use.

Structure of the Manual is the following:

- First, accessing to the camera and the operation of the device will be discussed.
- Next, a closer look will be taken at the menu overview.
- Moreover, the user will be guided through the sections of the features.
- Finally, usage of the tripod will be shown.

# SETUP ARH CAM S1

1. Connect external battery to ARH CAM S1.

## Hint

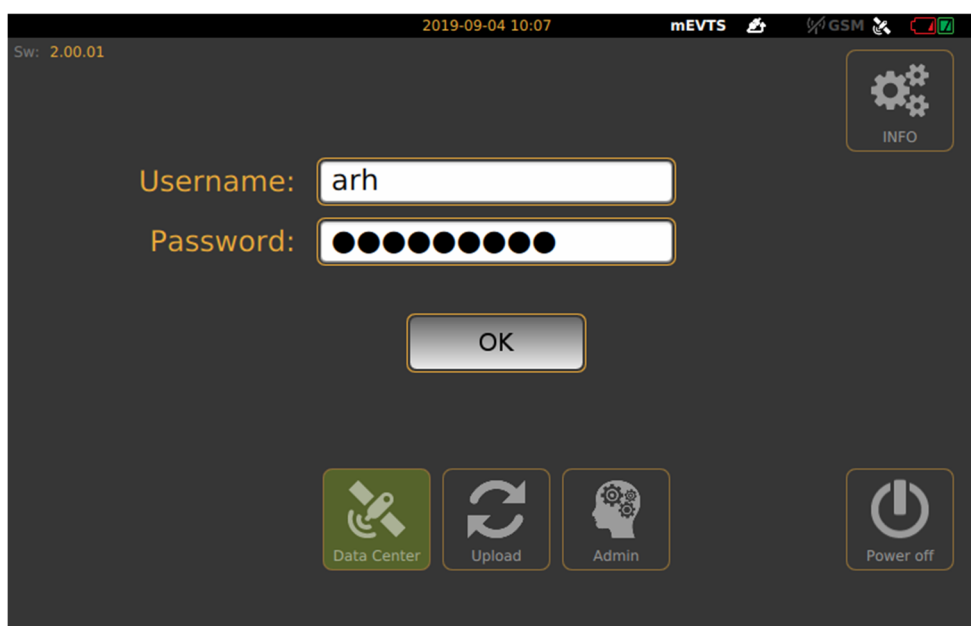
Power cable plug has a red straight sign to show the proper direction of connect to the camera. It must be on the top.

2. Turn on power on external battery.
3. Turn on the device by pressing and holding (approx. 1-2 seconds) the power switch of the device, located left to the display. If the power switch is on, the green LED on the button indicates it.

## Note

If external battery is discharged, green light is flashing on power switch of the camera.

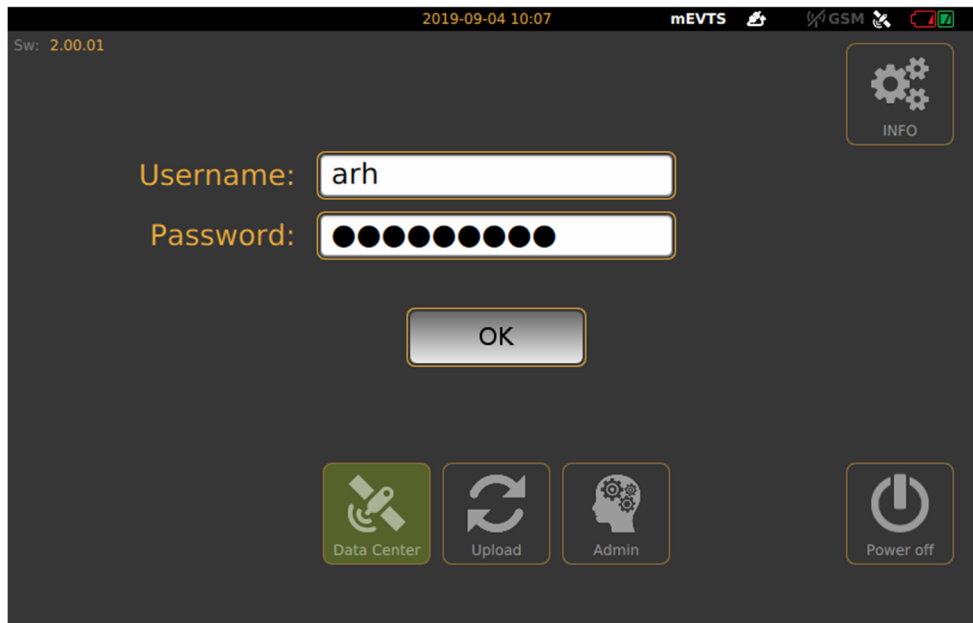
4. After turning the device on, it starts the installed software. During the start-up procedure the starting screen will appears with a progress bar, indicating the start.



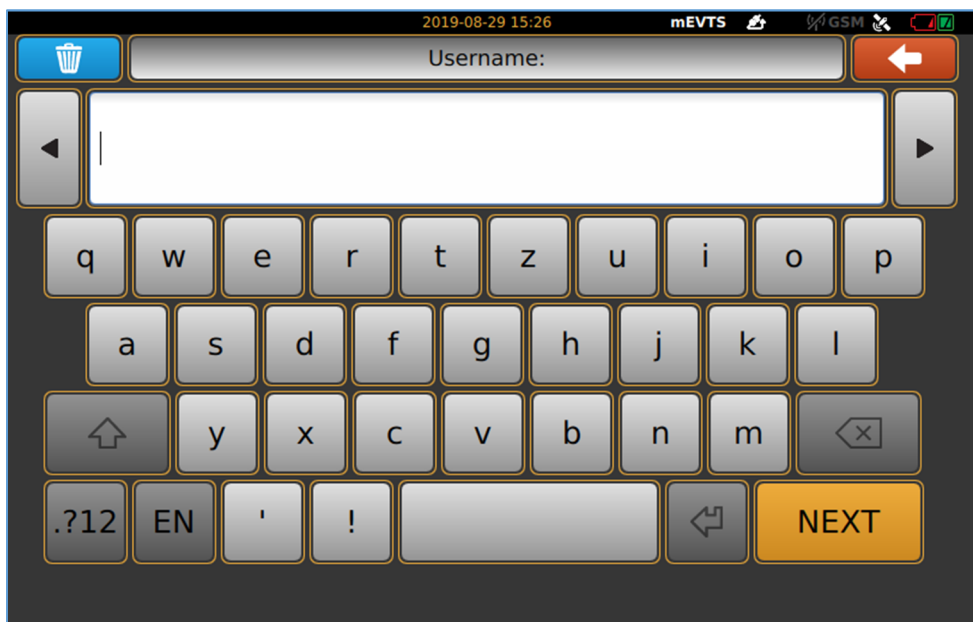


# LOGIN

After the start-up process, Login screen will appear.



On the Login screen, select "Data Center" icon, type in Username and Password (click in to the empty field, touch-screen keyboard will pop-up, enter necessary characters, then press "Next" button), press OK, "Main" screen will appear.

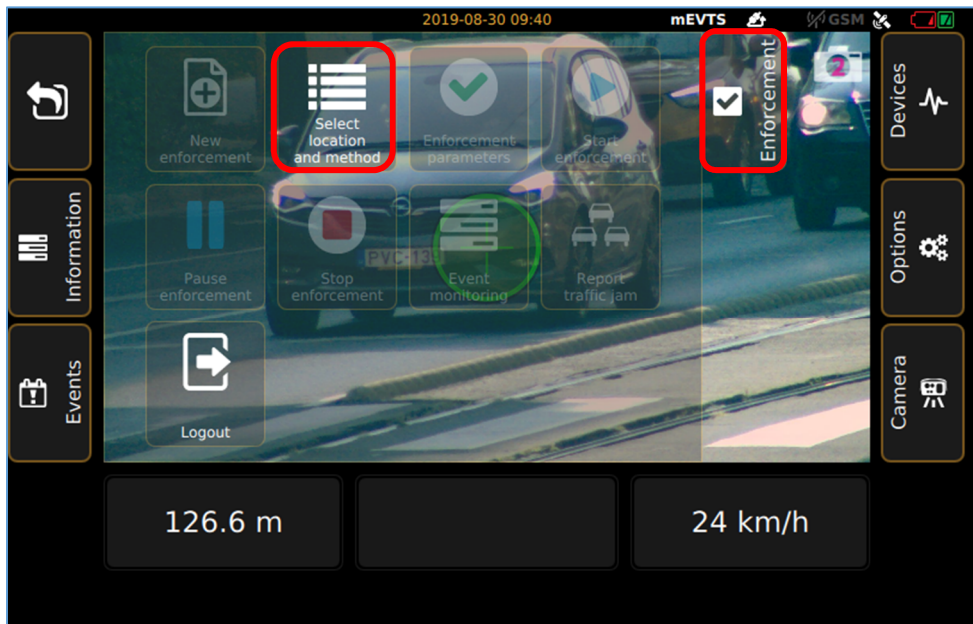


## Note

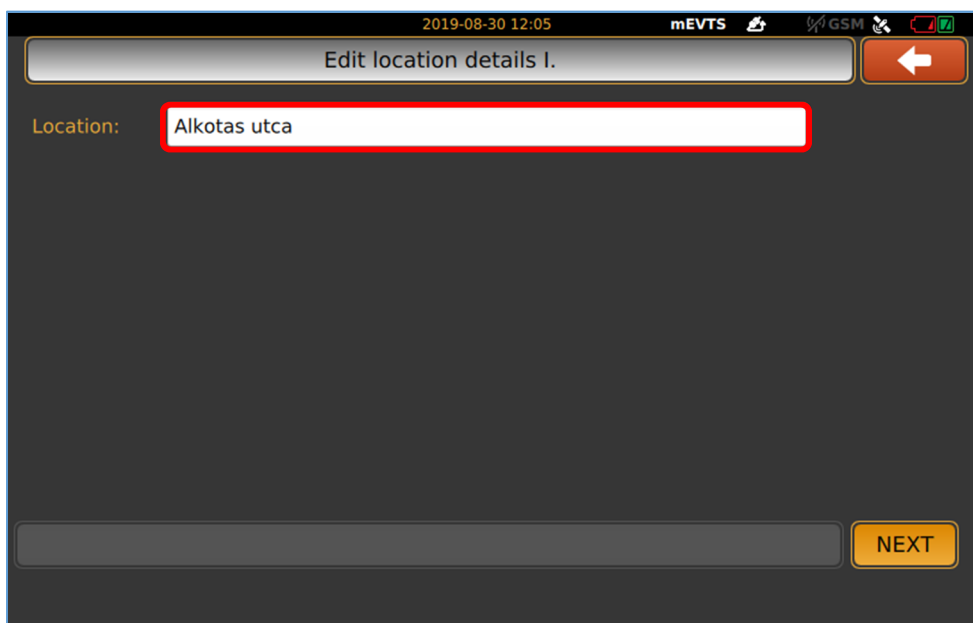
User do not have permission to access "Admin" icon on "Main" screen.

# SETUP ENFORCEMENT

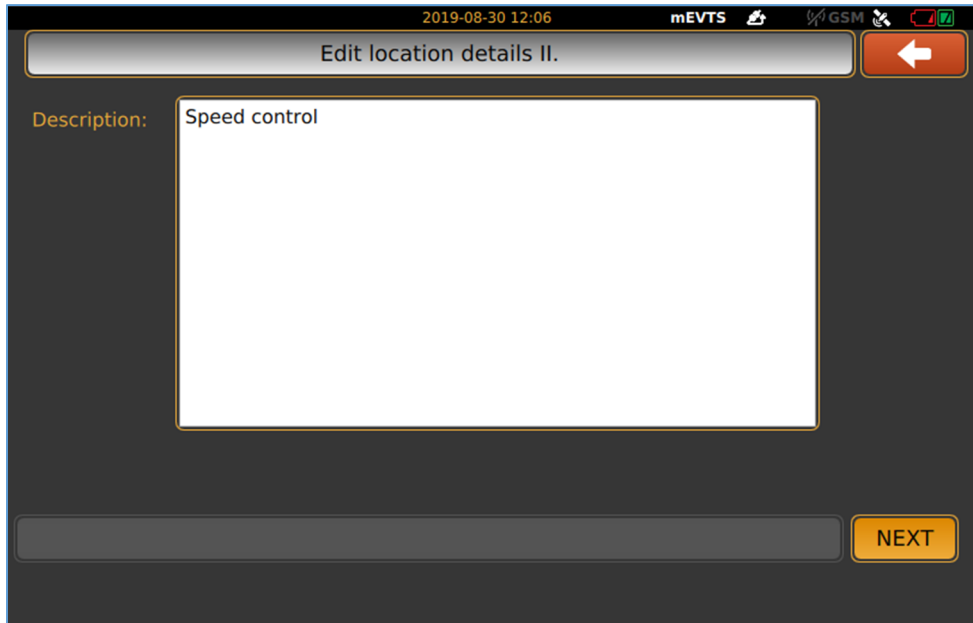
Position camera properly so as to the white or green circle with cross must be in the level of the number plates. Hereinafter we call it marker. On the "Main" screen, click on "Enforcement" floating menu, located on the upper left side of the screen. Enforcement" menu contains "Select location and method" icon, click on it.



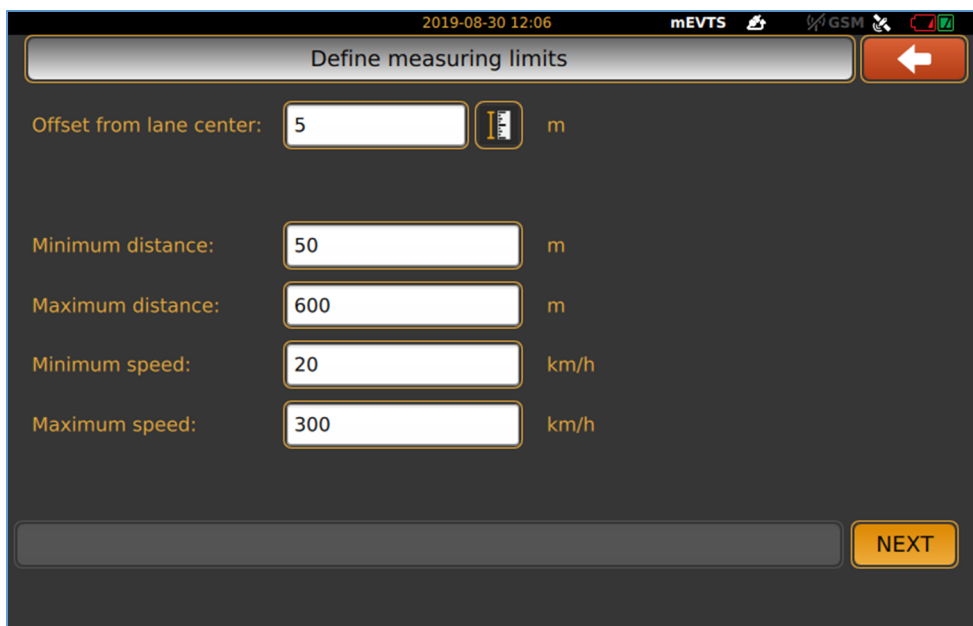
Submenu will appear, where location can be entered, then click on "Next" icon.



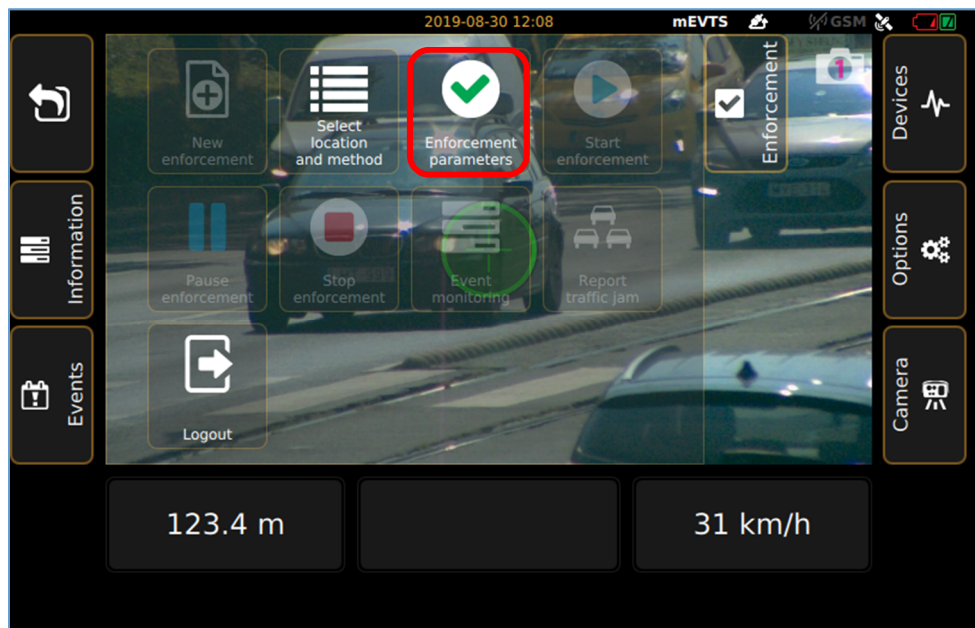
“Description” can be given to the measurement, after it is done, press “Next” icon.



In the “Define measuring limits” window, set measurement limits, then tap “Next” icon.



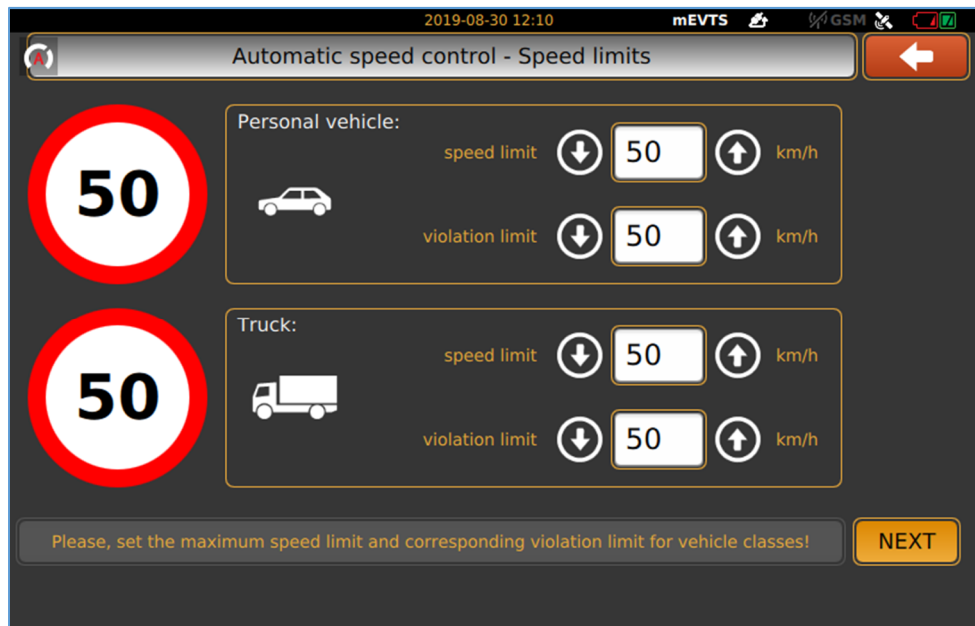
Enforcement” floating menu will appear, where “Enforcement parameters” can be chosen, click on that icon to go further.



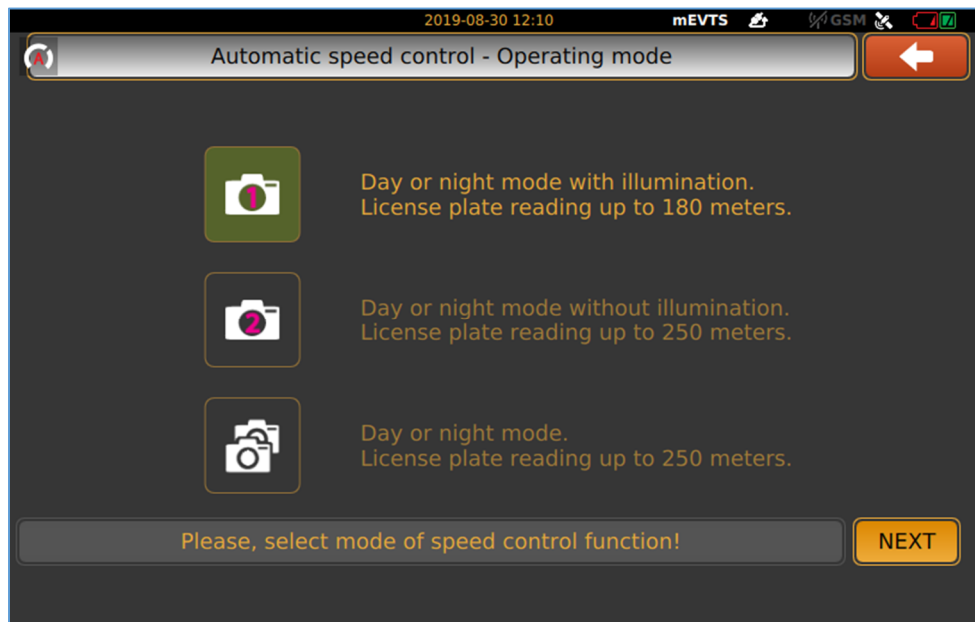
In the “Enforcement parameters”, optional control function can be chosen (selected functions appear green highlight), clicking on “Next” button to step on “Speed limits”. Description of each functions will be discussed later.



Actual speed limit values can be given with virtual keyboard by click into the numeric field or tapping the up and down button next to numeric field, when it is done, press "Next".



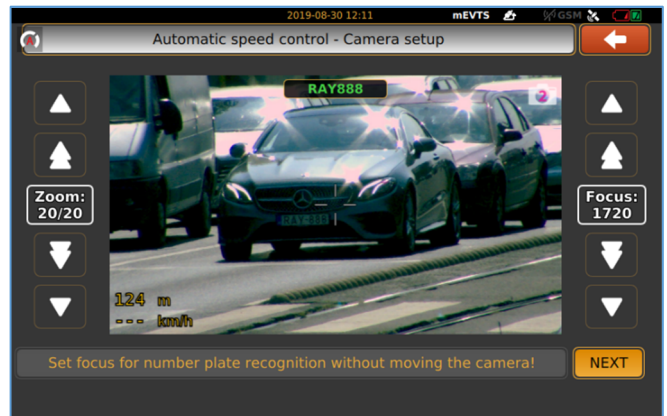
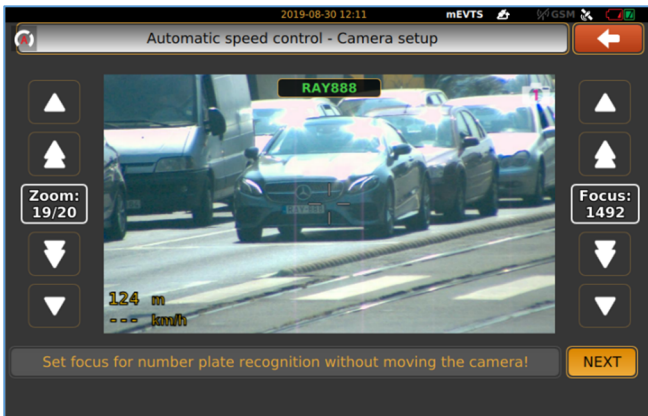
3 options are available to chose from: use one of the 2 sensors in the camera separately or using 2 sensors at the same time. In the second case, you are able to choose between the sensors during measurement.



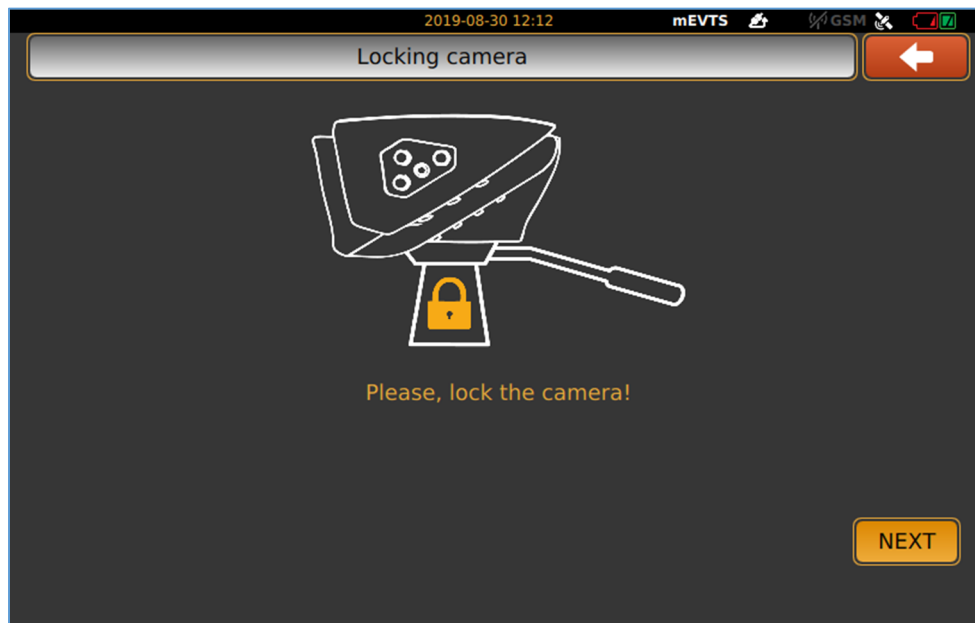
**Note**

2 sensor operating mode only available at "automatic speed control"!

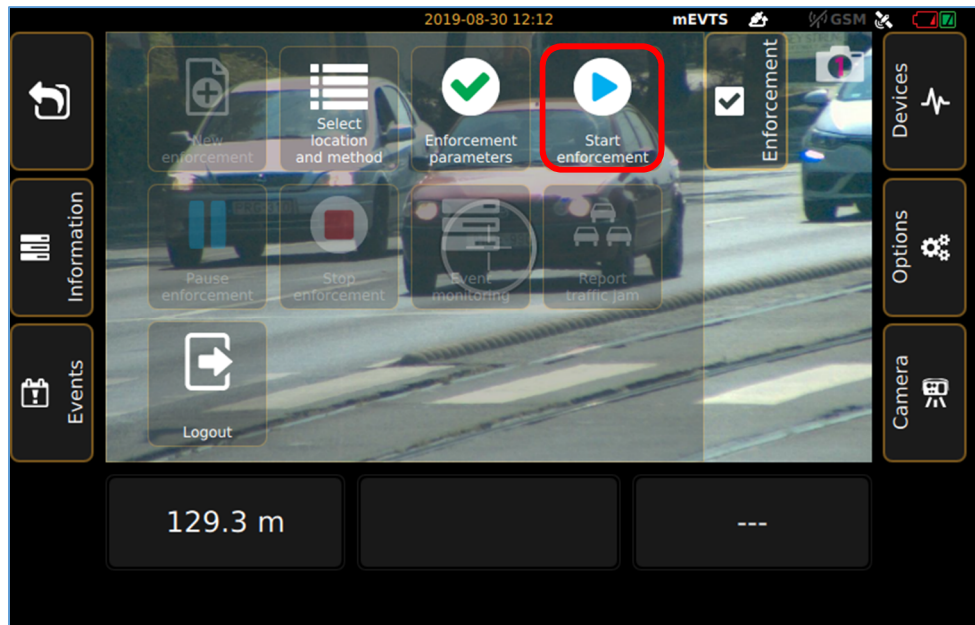
In case of 2 sensors enforcement, it needs to setup 1. and 2. sensor individually. Zoom and Focus can be easily adjusted for the proper setting.



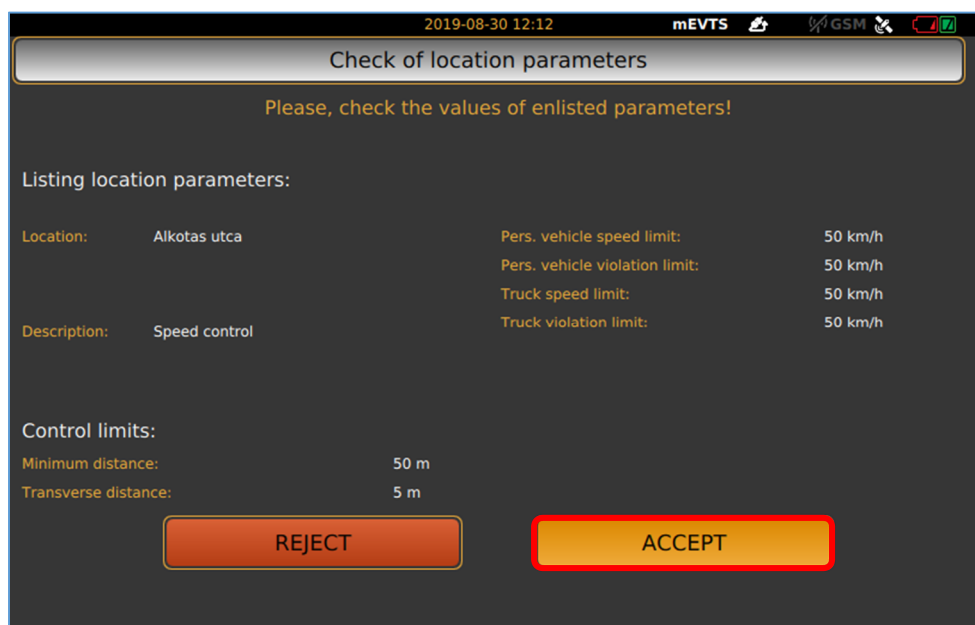
“Locking camera” will appear to remind tighten tilt lock knob and tap “Next”.



After finished setting of all measurement function and parameters, it will change to "Main" screen again with the "Enforcement" floating menu, "Start enforcement" icon is become active.

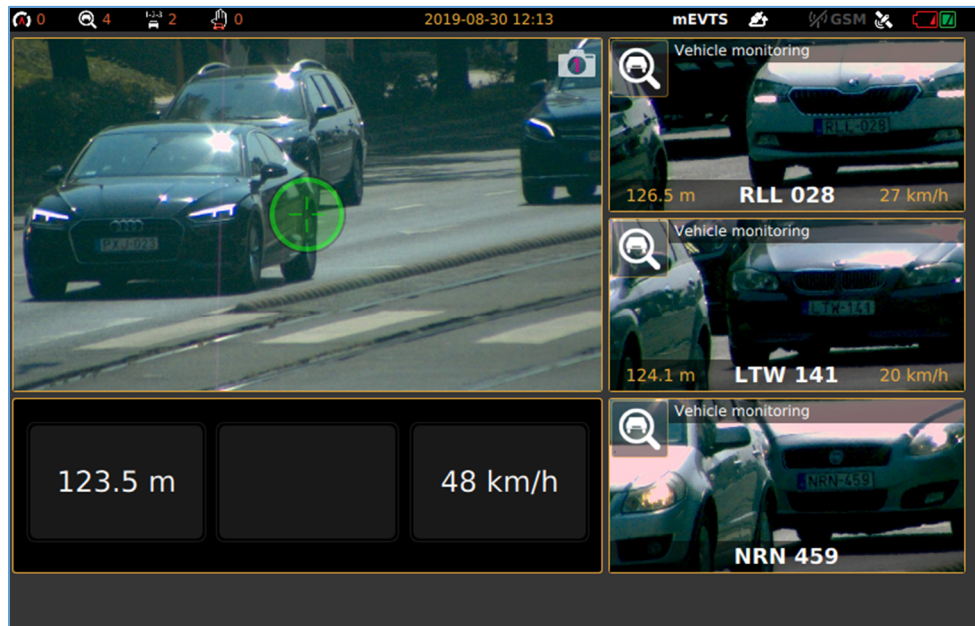


By click on "Start enforcement" icon, screen will guide you to the "Check of location parameters" to verify all values, if It is correct, press "Accept" and start enforcement. If need more adjustment or correction during the setup, you can clear all setup until now and go back to the main window.





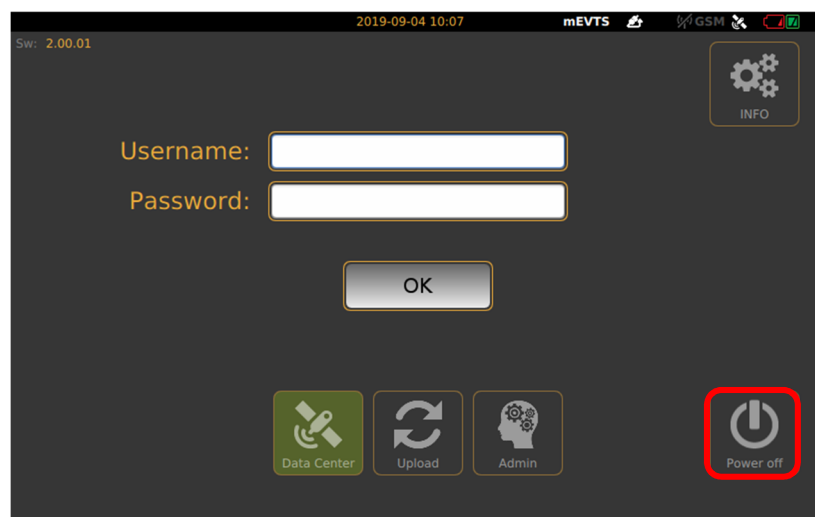
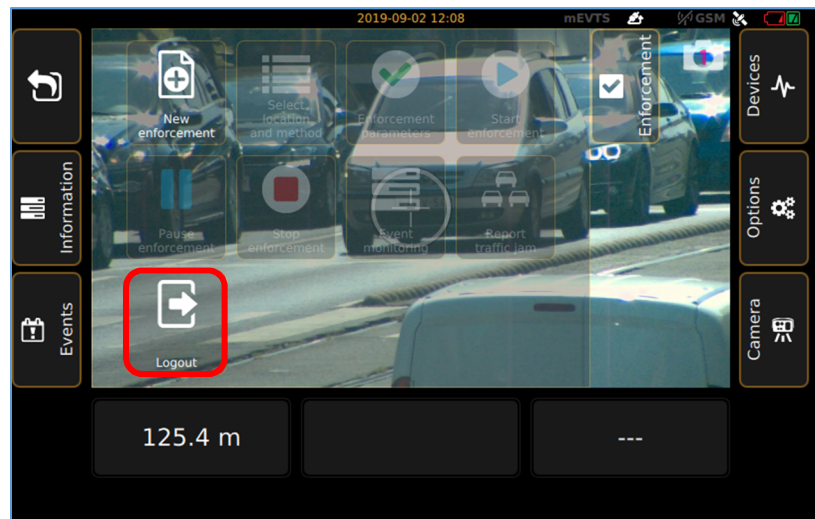
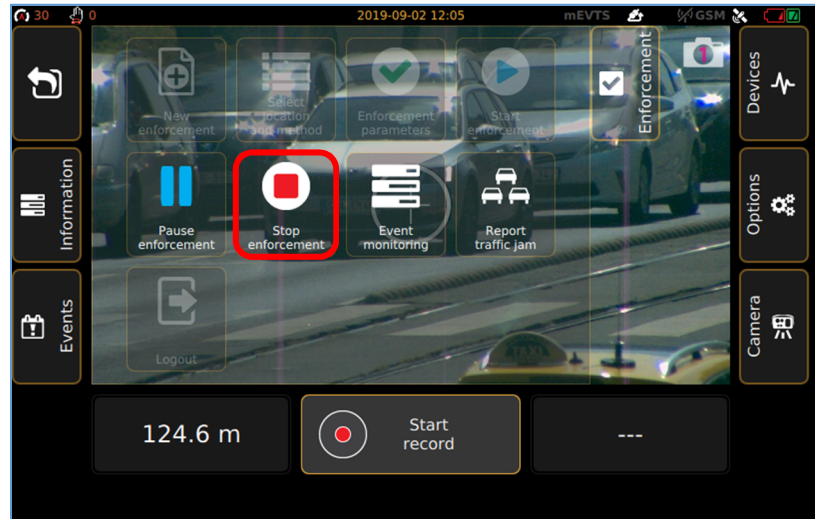
ARH CAM S1 device is started measurement. First, split window will appear with the live view on the left side and 3 small windows with the last 3 detected events. By tap on the left live view image, it will guide you back to the main window.





# STOP ENFORCEMENT

If you have finished the measurement, click on "Stop enforcement" icon, then "Log out" icon and finally tap "Power off" icon on the Login window to switch off the device.



## INTRODUCTION TO THE MAIN SCREEN

After login, the Main screen will appear. The live view is situated in the center of the screen with the information bar.

- Marker in the middle of live view show:
  - a. Red cross - no reflected signal or targeted object is outside of the adjusted parameters. It is closer or further off
  - b. White circle – reflected signal, but no speed value
  - c. Green circle – reflected signal and speed value is also detected

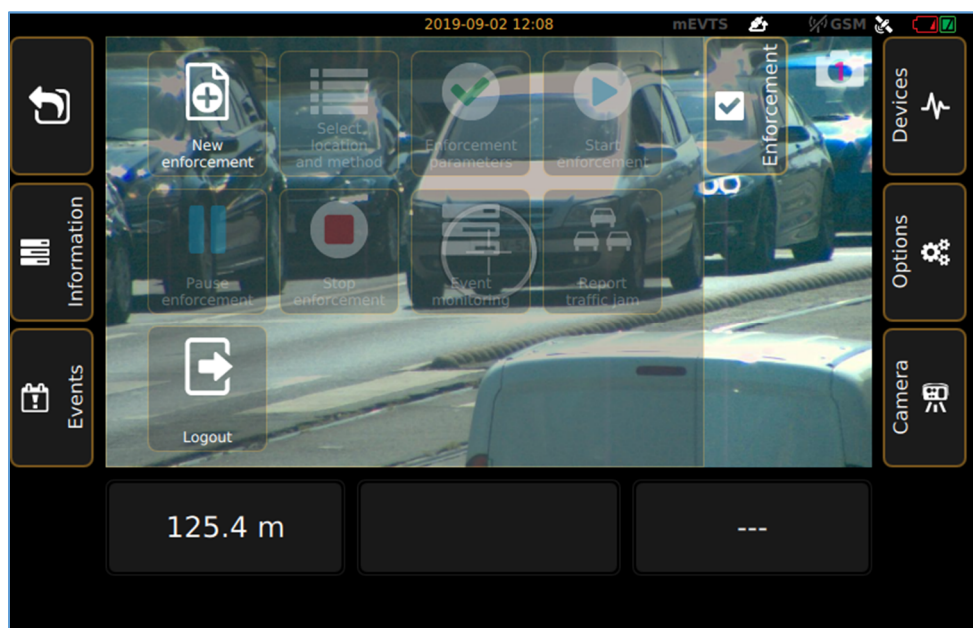
The functions and settings of the device can be accessed through the floating menus by clicking the icons on both sides of the screen.

Exit from the displayed floating menu: tap again the icon of the menu or with the back sign on the initial position of the menu.

# 1. ENFORCEMENT MENU

Select, add and edit all measurement function which is crucial for the enforcement.

- **New enforcement:** start adding new measurement parameters after a finished enforcement
- **Select location and method:** enter related location and task data to the measurement method
- **Enforcement parameters:** display the optional control functions
- **Start enforcement:** start measurement
- **Pause enforcement:** you can interrupt the enforcement
- **Stop enforcement:** switch off measurement
- **Event monitoring:** during measurement, last three events displayed on the right side of the window
- **Report traffic jam:** During the measurement, the congestion reporting functions can be used with tapping the icon
- **Log out:** quit from the main window to the login screen



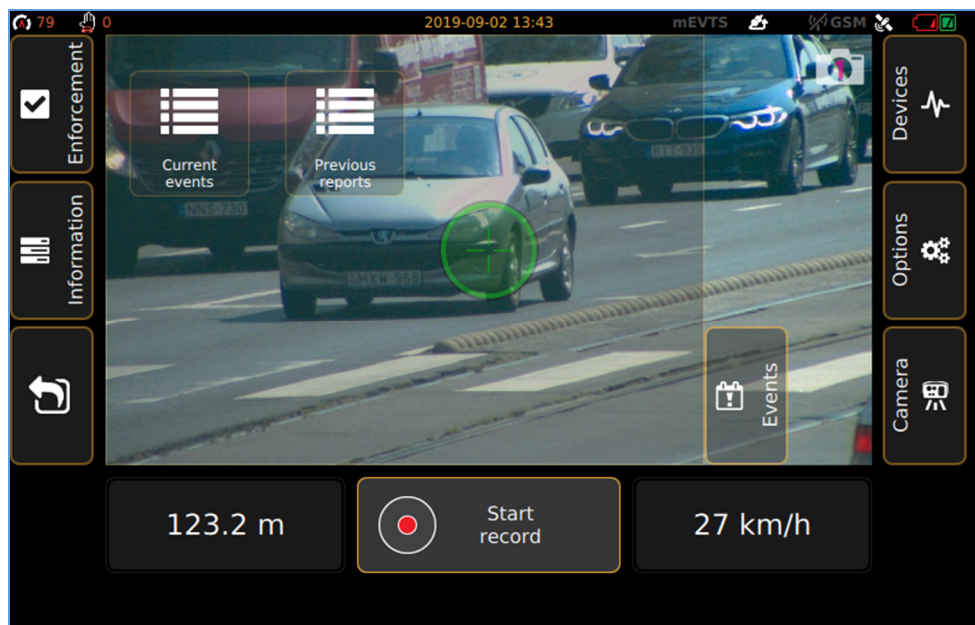
## 2. INFORMATION MENU

- **Enforcement information:** Parameters and settings of the actual measurement can be seen



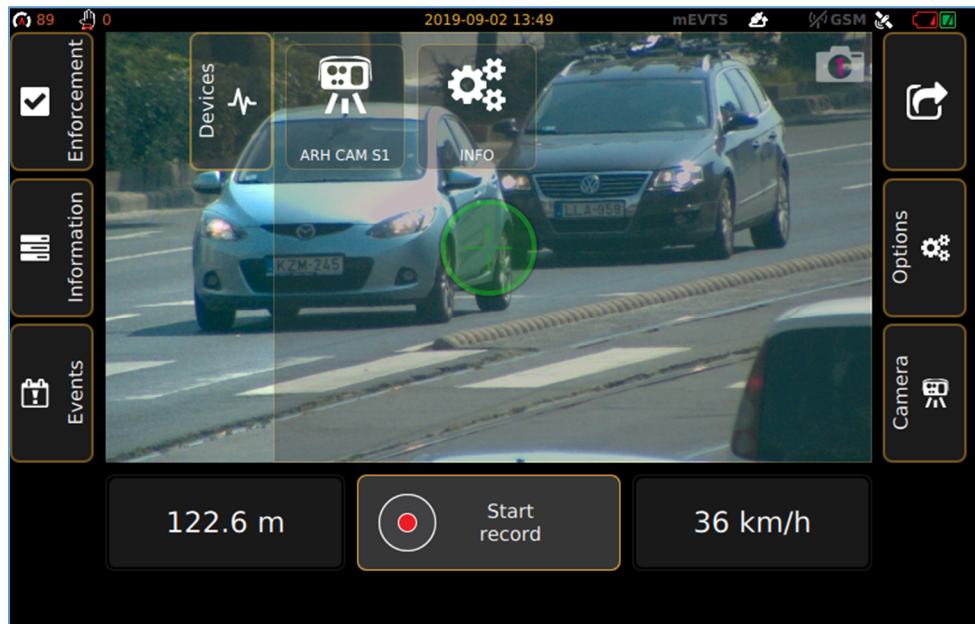
## 3. EVENTS MENU

- **Current events:** All event data displayed from the actual enforcement
- **Previous reports:** Select from each previous enforcement data in this menu



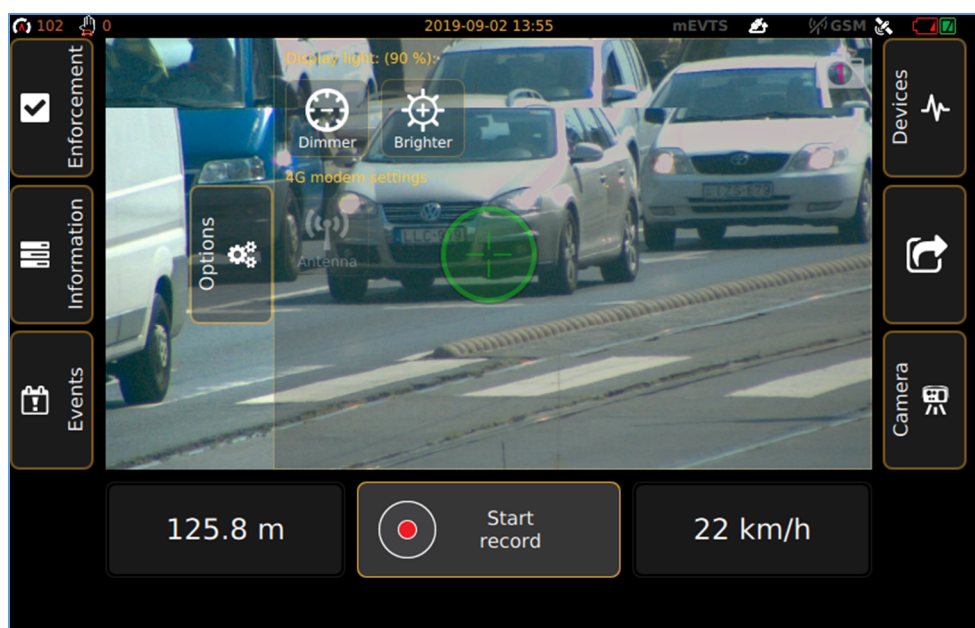
## 4. DEVICES

- **ARH CAM S1:** camera data is displayed
- **INFO:** status of the device is displayed



## 5. OPTIONS

- Image on display can be adjusted according to the environment light conditions. During night measurement, reduce brightness of display is advisable to not be disturbing.
- Antenna settings can be managed



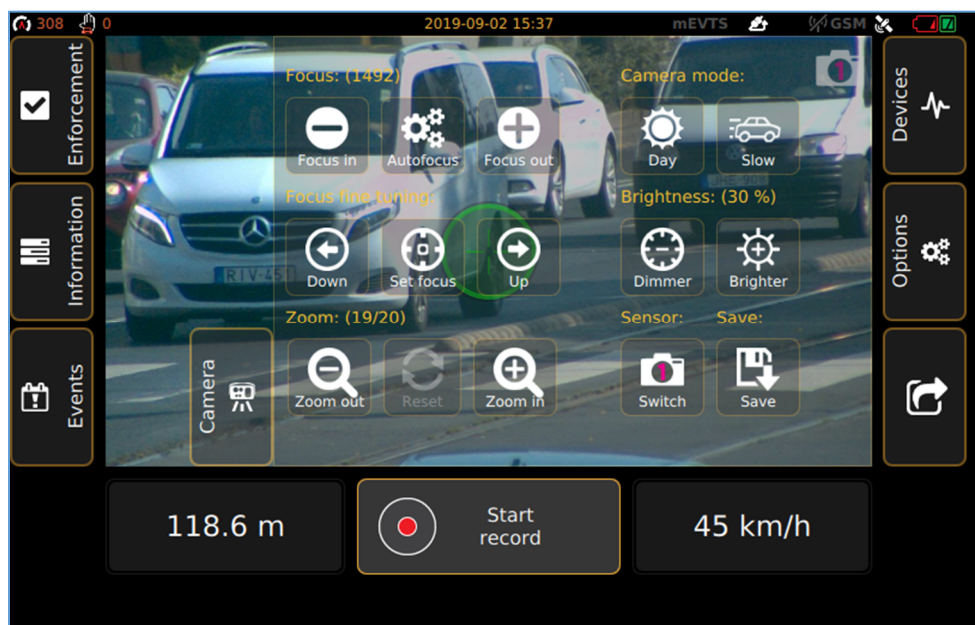


## 6. CAMERA

- **Focus:** set focus to the required sharpness with **automatic focus button**, or with the **manual focus setting**, and the vehicles license plate seen on the livestream should be readable
- **Focus fine tuning:** adjust focus with finer scale. Tap on “**Set focus**”, to see live stream in a full picture with important settings button (Zoom, Focus, Snapshot, Trigger signal, Live view enlargement, License plate recognition)
- **Zoom:** Zoom out and Zoom in icons serve for cropping setting of the image
- **Camera mode:**
  - **Day:** in day mode, you can adjust brightness in 3 steps: Slow, Normal, Fast – camera set fix shutter max values
  - **Night:** you can set 3 fix Infra values
- **Brightness:** the light conditions can be improved with the reduction of the camera brightness
- **Sensor:** if you set both sensors, you are able to switch between sensor 1 and 2
- **Save:** after set all parameters, you can save all changes

### Note

Recommended to set Zoom first and adjust Focus to sharper image for proper license plate reading.

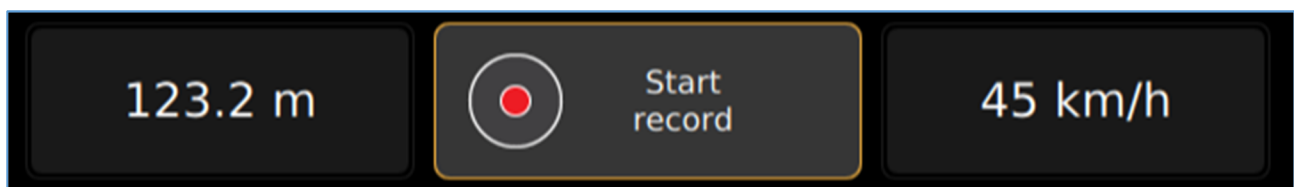


## 7. BOTTOM INFORMATION BAR

In the bottom information bar, you can see the vehicle's data which got to laser beam: speed, direction, distance.

In case of infringement presumption, the device gives audio-visual signal: if the vehicle exceeded the speed limit, the number showing the speed limit will turn red in the bottom information bar of the screen. Signal sound can be heard.

By tap on "Start recording", you can record a 10 second video from the enforcement. It will guide you next to a "**Setting of manually recorded event**" window, where you can give vehicle class for the event and playback the video as well. After you have chosen the vehicle class, press "Next" and it will jump to "**Feature selection**" window, where event type settings are available. Choose one from them and tap "**Save**" button. The video is available "**Events**" menu.



## 8. UPPER INFORMATION BAR

The small icons on the upper left corner show the active enforcement functions.

Example:



According to the example, the current measurement registered 57 passing vehicles. The automatic speed measurement function recorded 32 presumptive infringement data, the traffic count registers 1 vehicle and with the manual speed measurement 15 presumptive infringement data was recorded on the device.

The date and the current time can be seen on the upper edge of the screen:

**2014.12.10 11:57**

*\* The software version, containing the test and educational profiles, are developed in case of occasional usage!*



Signal strength of the data connection (signal strength): weak, good, excellent



Speed of the data connection: EDGE, 4G

*Display example:  
good signal strength*



Satellite GPS connection indicator: if there is a connection it is white, if there is not, it is gray



Battery status (external, internal) \*

*\* The battery status indicator on the screen is only indicative. The actual battery level of the external battery has to be checked on the indicator on the battery!*

*Display examples:*

External power supply / battery is disconnected, internal battery is discharged



External power supply / battery is disconnected, internal battery is good



External power supply / battery is connected, but it is discharged, internal battery is good



External power supply / battery is connected and it is good, internal battery is good





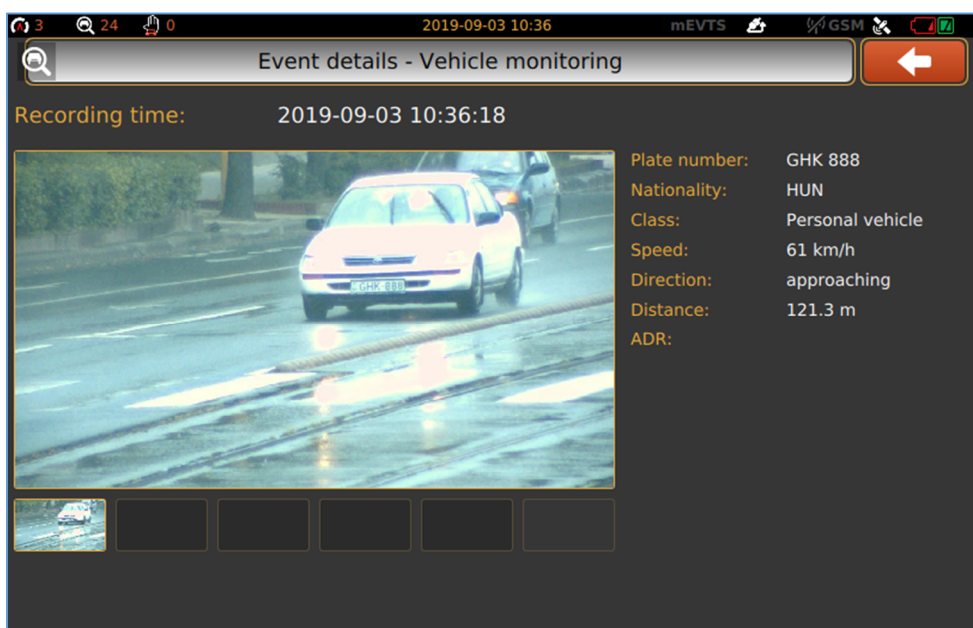
# DETAILED DESCRIPTION OF THE SPEED MEASUREMENT

There are two measurement versions:

- **Automatic speed measurement:** there is no need for the operator during the measurement
- **Manual speed measurement:** the help of the operator is needed



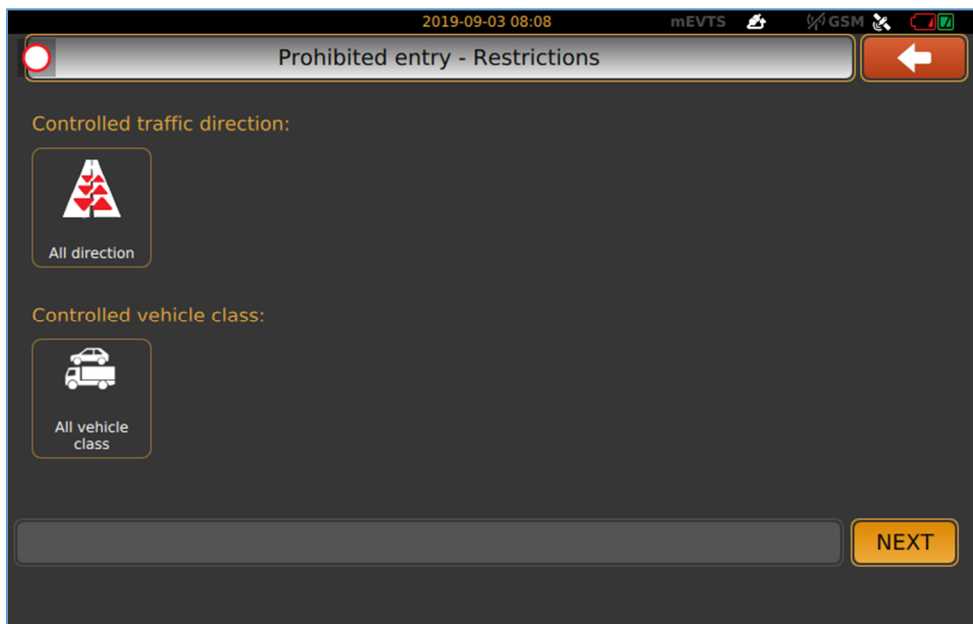
- **Vehicle monitoring:** creating an event of all passing vehicle with number plate, nationality, vehicle class, speed and distance.



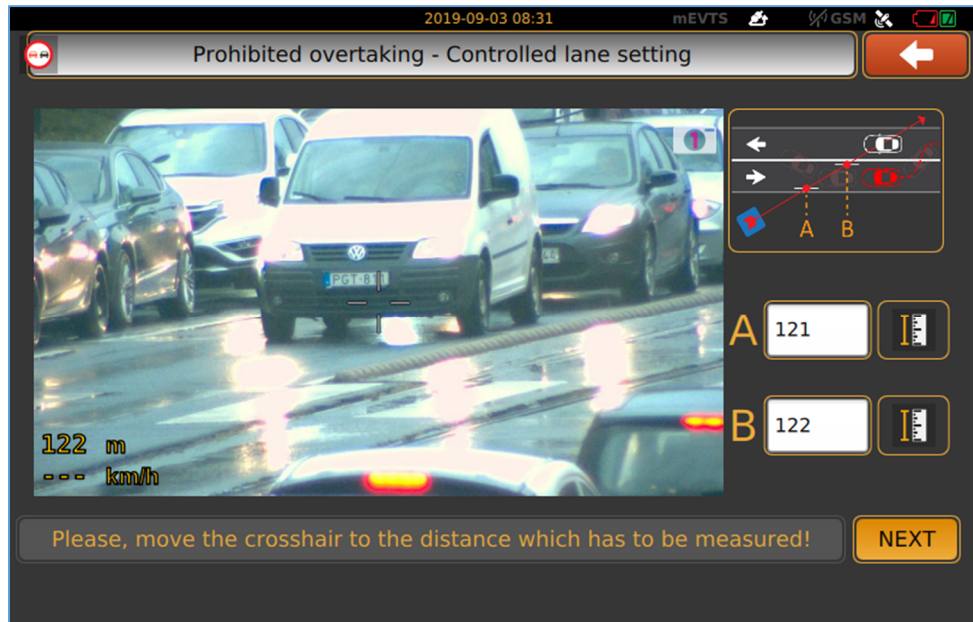
- **Vehicle counting:** counting all passing vehicle. It can only use together with “**Vehicle monitoring**” function.



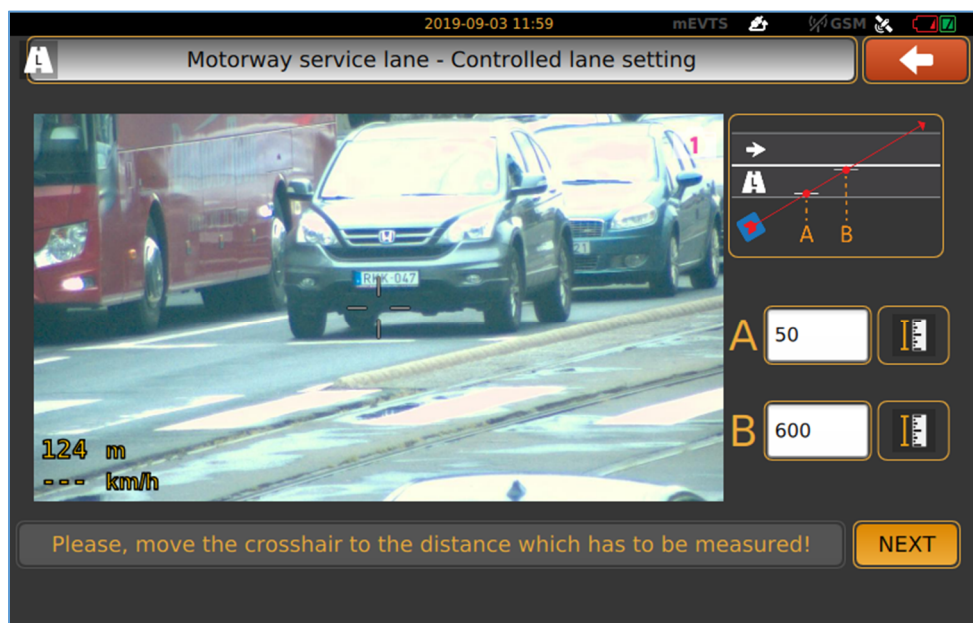
- **ADR:** recognize trucks which transport of hazardous materials
- **Prohibited entry:** monitoring vehicles driving in a restricted area. Controlled traffic direction and vehicle class have to be chosen during the setup of the function.



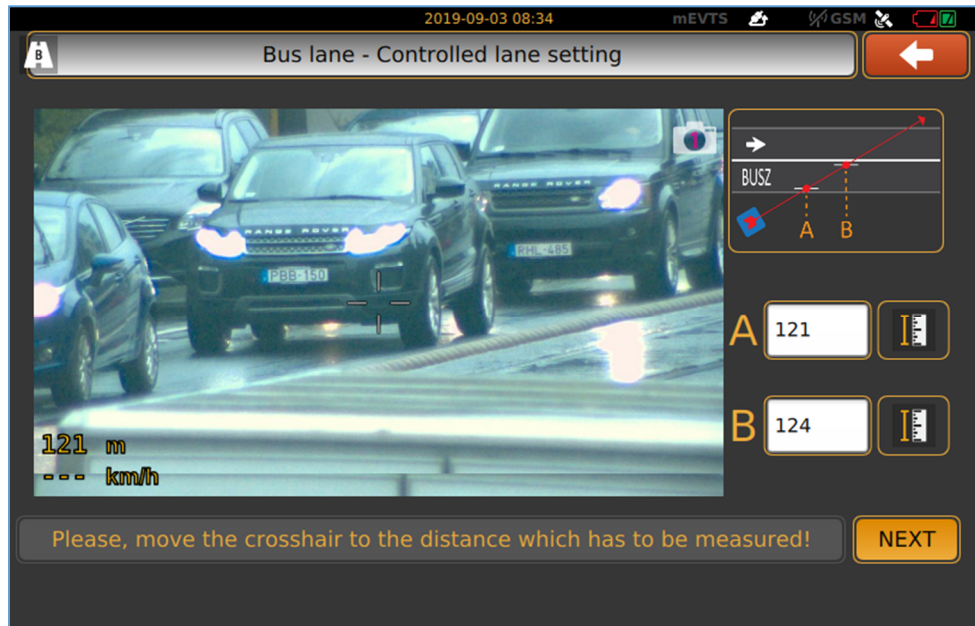
- Prohibited overtaking:** monitoring prohibited barrage lane crossing. To set controlled lane, move crosshair to the "A" point as it shown on the figure and press button next to "A" point to measure distance. Move camera to the "B" point and press button next „B" point.



- Motorway service lane:** it is inspecting vehicles passing in the service lane. Setup is the same as described as "Prohibited overtaking".



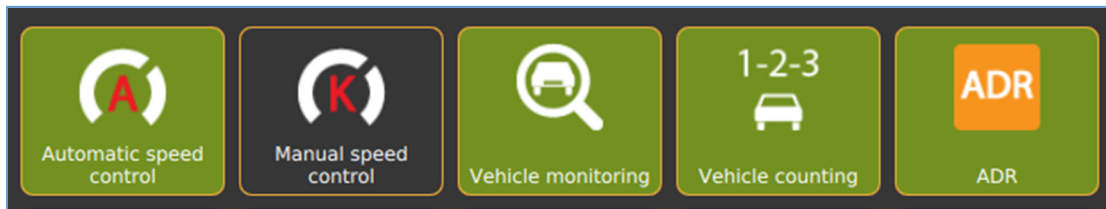
- **Bus lane:** Same method as "Motorway service lane".



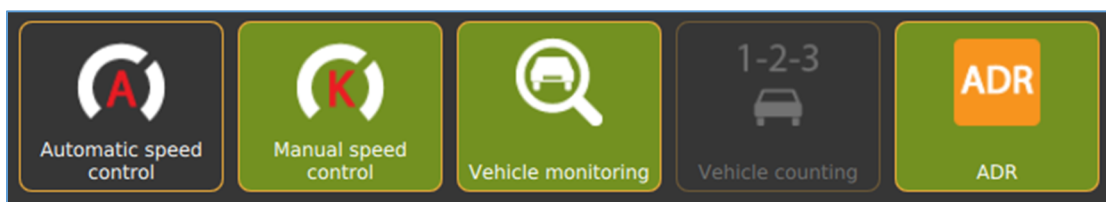
# CONTROL FUNCTIONS PAIRING

## 1. Top line

„Automatic speed control“+„Vehicle monitoring“+„Vehicle counting“+„ADR“

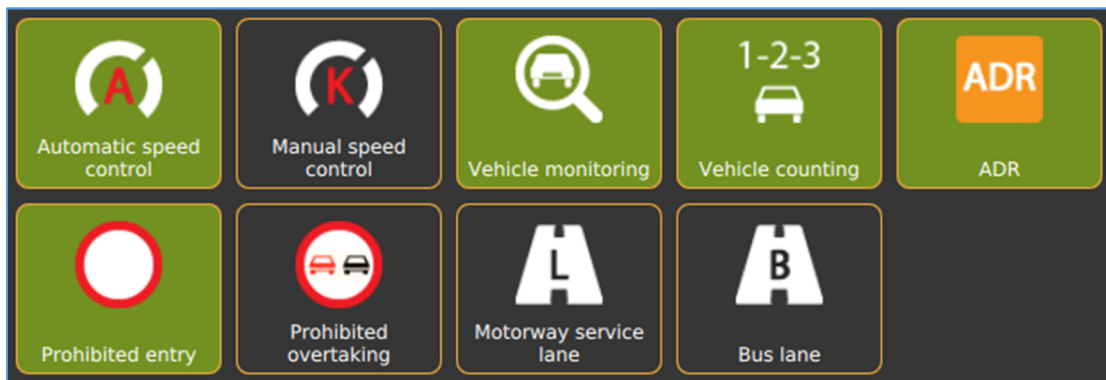


„Manual speed control“+„Vehicle monitoring“+„ADR“



## 2. Bottom line

„Automatic speed control“+one function from middle line



# USAGE OF TRIPOD

## 1. SET UP OF TRIPOD

1. Release fastening (3 pcs) placed bottom of the tripod (It keeps 3 legs together)
2. Unlock quick fasteners on the legs (3 pcs)
3. Pull out legs till maximum or till proper height
4. Lock quick fasteners
5. Release quick fasteners on the upper part of tripod
6. Adjust height and lock patterns
7. Undraw legs until horizontal spreader is unbending

### Hint

You can adjust width of tripod with the fastening of horizontal spreader

8. Lock screw on horizontal spreader (3 pcs)
9. Slide ARH CAM S1 on the rail of tripod

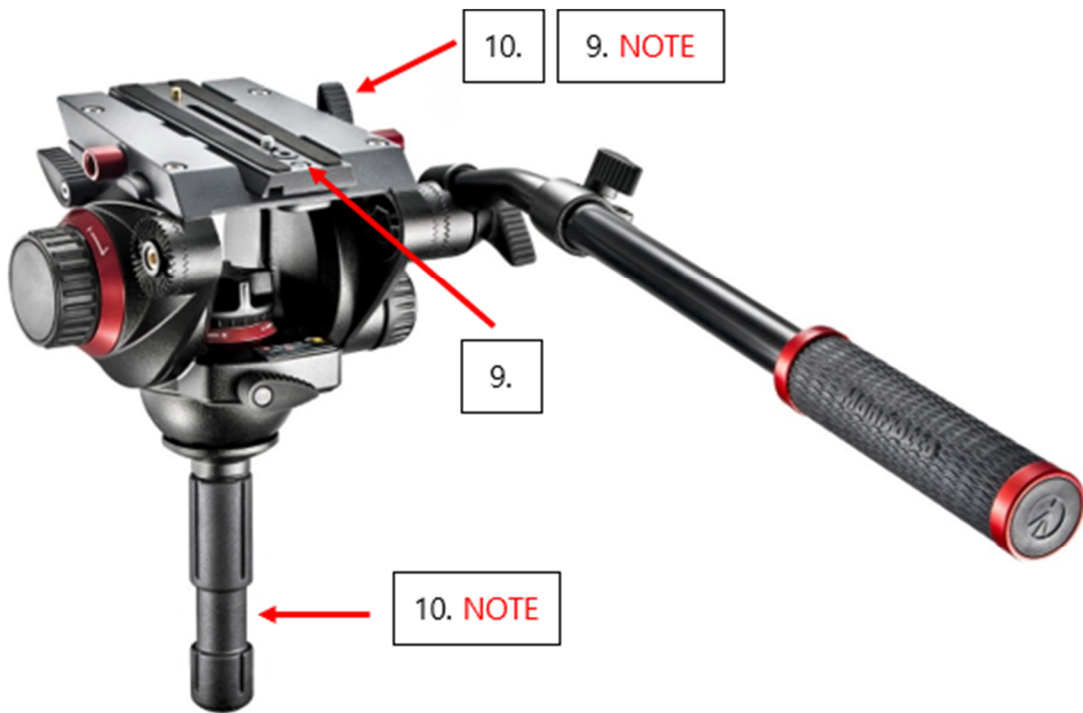
### Note

Rail of tripod contains a fixing screw on one side, it must be released before slide the camera on from the back side. Clicking sound confirm right position of camera on the rail

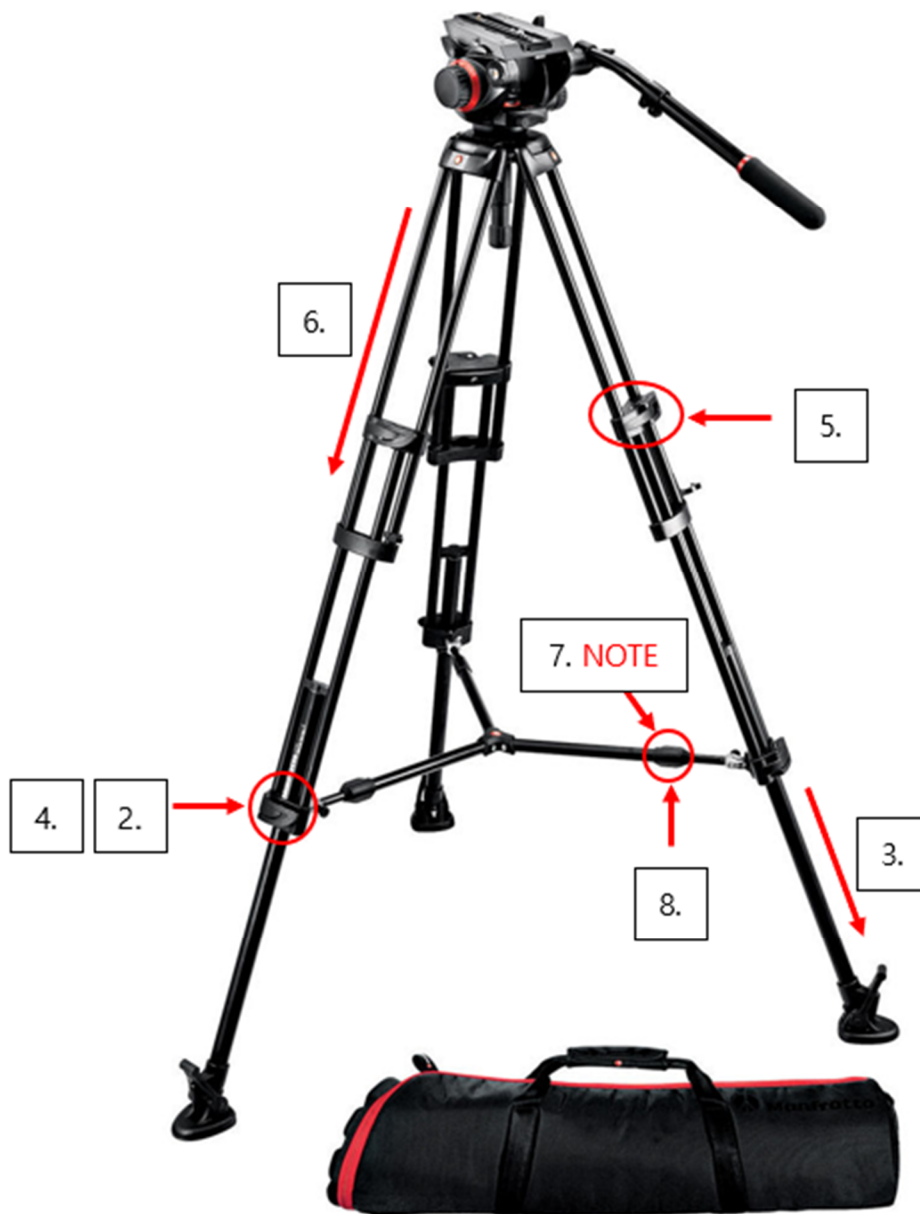
10. Ran fixing screw of the camera

### Note

You can position ARH CAM S1 vertically and horizontally by release level handle under the rail of tripod









## 2. FOLD UP OF TRIPOD

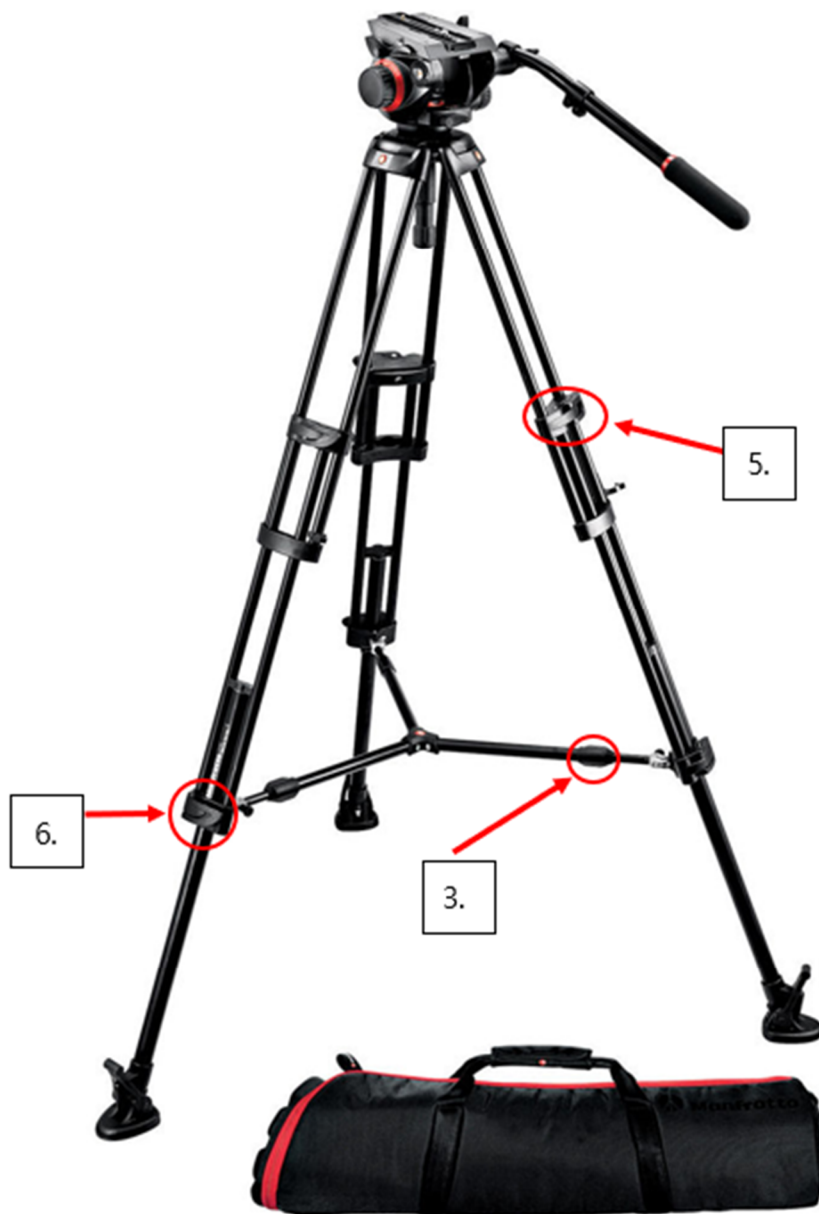
1. Release knob of the camera.
2. Pull off camera from rail by pressing the auto lock safety pin on the left side.
3. Release screw on horizontal spreader (3 pcs).
4. Fold up legs.

### ! Important

Level handle under the rail of tripod must be straight when fold up to fit it in the hole between legs.

5. Release lever-locks on the upper part of the tripod, push part together and fix locking.
6. Release fastening, push legs together and snap fixing locks.





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ARH Technical Support System (ATSS) is designed to provide you the fastest and most proficient assistance, so you can quickly get back to business.

For further technical information about our products, please visit our official website.

Information regarding hardware, software, manuals and FAQ are easily accessible for customers who previously registered to enter the dedicated ATSS site. Besides offering assistance, the site is also designed to provide maximum protection while managing your business information and technical solutions utilized.

### New User

If this is your first online support request, please create an account by clicking on this [link](#).

### Returning User

All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.

If you need assistance with login or registration, please contact [atsshhelp@arh.hu](mailto:atsshhelp@arh.hu) for help.