

# **SENCOR®**

**Let's live!**



**OUTDOOR CAMERA  
OUTDOOROVÁ KAMERA  
OUTDOOROVÁ KAMERA  
SZABADIDŐ-KAMERA  
KAMERA OUTDOOROWA  
3CAM 4K51WR**

**USER'S MANUAL  
NÁVOD K OBSLUZE  
NÁVOD NA OBSLUHU  
HASZNÁLATI ÚTMUTATÓ  
INSTRUKCJA OBSŁUGI**

**EN**

**CZ**

**SK**

**HU**

**PL**



## 1. Warning

1. The product has been manufactured with a high precision and designed with respect to its multi-purpose outdoor use for individual entertainment.
2. While recording, please observe the privacy protection laws in force, especially in your absence.
3. Protect the product from falls and collisions, particularly with sharp and angular objects, stones etc.
4. Do not expose the device to strong fields from magnets or electric motors. Keep out of reach of strong radio signals. Strong magnetic fields may damage data in the device memory (on the card), distort sound and video or even render the product inoperative.
5. Do not expose the product to high temperatures and direct sunlight.
6. Use fast and branded microSD cards. Non-branded or slow memory cards cannot guarantee correct function and recording properties.
7. Protect the battery contacts from short-circuiting. A short-circuit will increase the battery temperature and may even set fire to surrounding objects.
8. If overheating, smoke or unpleasant smoke appear during charging or handling, disconnect the device immediately and remove the battery to avoid the risk of fire.
9. Take care to ensure your safety and observe the traffic rules while using the product in a car. Start the device while your car is still at standstill and do not operate it if you are a driver, ask your passenger for cooperation instead.
10. The product is not intended to be a toy. Keep it out of reach of children, particularly during charging. A wrong connection to power may result in injury, involuntary suffocation or electric shock.
11. The device is not a security equipment or a remote controlled unit. Always keep the device at hand while using it and stop first if it's to be operated in a car.
12. Store the device in a cold, dry and dustless location.

## Storage

1. Keep in mind that this product is also designed for outdoor use where it may get dirty. Before storing the product for a short or long period of time, such as off-season, clean it carefully including the accessories and blow the dust off dirty areas. Dust may impair the contact conductivity and reduce or eliminate the product immunity to dust. Please check the product cleanliness before season.
2. At the end of the season or at least once a year check the camera door sealing and buttons and replace them if necessary.
3. Do not use chemical or abrasive substances or instruments for cleaning, use dry and soft fabric only. Non-electric accessories can be washed in warm water.
4. The battery may be exposed to a significant mechanical stress due to varying outdoor conditions. For this reason, inspect the battery from time to time (at least once in a season) for any change in shape, package colouring and check the contact oxidation status and degree. Battery wear is indicated by reduced capacity, i.e. shortened operational lifetime or shape change. If you notice changes in the battery shape, contact surface oxidation or a significant capacity reduction, this indicates the end of lifetime. Replace the battery for a new one.
5. If you need to store the battery for a long period of time, charge it to the full capacity, then remove it from the device. This will prolong the battery lifetime, allowing you to make a better use of its capacity.

## Outdoor use

Before using outdoors, assemble the camera and its accessories at ease in a dry environment. Check if the camera is ready to record the scenes you want to capture and is not obstructed by any equipment or clothing parts. In this way, you can avoid the need to adjust the device and open the sealed camera housing in environment with dust, sand, rain or while wearing gloves. Remember that before using outdoors, you should close the waterproof housing properly. Protect the battery contacts from contamination and short-circuit when handling the battery. When the battery is removed, put the it in a plastic bag. Do not use the camera in running water and thermal springs. When you finish working with the camera in salty water, wash the camera housing in clean water and have the salt crystalized on the surface. Open the housing in a dry and clean environment, remove the camera and check the sealing and the buttons. If you find any salt residues, wash the housing in clean water again and let it dry at room temperature without using hot air or heating. The housing will thus remain waterproof for further use. The camera does not float. To prevent the camera from getting lost in water, please use a suitable tie. Pay special attention to the housing glass, protecting it from dust, dirt and scratching. Your reward will be clean and sharp pictures.

## Using the camera at low temperatures

At low temperatures, the battery capacity will decrease temporarily and will be restored when the camera has reached room temperature. We recommend to carry the camera in warm environment, such as in a clothing pocket. Do not charge the battery at a low temperature. The display brightness and colours may vary at temperatures around the freeze point. Air humidity may condensate or freeze mainly around the buttons at low temperatures, making the camera operation difficult. This may also adversely affect the quality of images. Try to avoid condensation and freezing.

## 2. Introduction

This product is designed for recording digital video at a very high resolution. It provides a number of superior features including digital video and still image recording, sound recording, video playback and a replaceable battery, thus becoming an ideal solution for taking photographs, recording during sport activities, diving, slow-motion recording of fast actions and time-lapse of slow actions etc., allowing you to record video at any time and anywhere.



Outdoor sports - Water sports - Diving

Depending on the activities you want to shoot you can insert a holder to ensure appropriate lens field of view for you to capture the entire scene. Keep in mind that the camera field of view is wider than a human eye can cover. In practice, this means that straight edges of objects may be recorded curved. This phenomenon is also described as a fisheye effect. Take a test recording to make sure that the camera can cover the required scene and there are no obstacles to the recording. Try to keep the holder as short as possible while inserting. This will prevent the camera from being extended unnecessarily, making it less liable to damage by a random collision with an obstacle, reducing the vibrations that may be transferred onto the camera from the pad. This will result in smoother video recording. If you decide to fix the holder with an adhesive tape, use the tape supplied with the camera and carefully clean and degrease the locations the tape is to be applied to. Find an area which is smooth and large enough to fix the holder. Before applying the tape, make sure it's clean, undamaged and not too old (an old tape may have poor adhesive effect).

Get a new quality branded tape if needed. The camera holder (bottom) was designed with ruggedness and ease of use in mind while the window unveils only part of the display. If you need to adjust the camera, remove it from the holder and put it back when done.

## 2.1. Function

1. A waterproof housing allows you to capture fascinating water scenes with watertightness up to 30 meters.
2. A high resolution display is designed to view and play back the recorded videos.
3. A removable battery can be easily replaced, extending the camera lifetime.
4. You can record videos even during charging.
5. Recording video with battery power
6. Wide-angle lens with 16Mpx HD resolution
7. HDMI HD output
8. Supports memory cards with up to 128GB capacity
9. Recording in MP4 format
10. Several still image modes: single shooting, snapshots
11. Miniatures
12. Remote control

### 3. Putting into operation

#### 3.1. Inserting and removing a microSD card

1. Insert the microSD card into the camera slot with the contacts first and press until a click is heard.
2. To remove the card, press it gently until it clicks and ejects from the slot. Then remove the card from the camera with your fingers.

**Note:** Please use your own branded microSD card and format it before first use in your PC. With non-branded memory cards correct camera function cannot be guaranteed. When the card is inserted, the camera will check the file system usability and offer formatting if needed. Please use a card with sufficient capacity for the intended purposes. Otherwise, the camera will report insufficient total capacity or lack of free space on the card and reject the required operation.

The highest resolution recordings (typically 4K) require that the card inserted should have at least U3 speed class. For cards with a lower speed class, select lower quality and resolution of the recording.

#### 3.2. Battery installation and removal

**Note:** there is a thin ribbon on the battery allowing it to be pulled out of the tight battery compartment. Do not remove the ribbon.

1. Press the battery compartment lock gently with your nail and open it when it's toggled up by the spring.
2. Insert the battery fully into the camera (with the correct contact orientation). Make sure that the battery ribbon is still accessible.

3. Replace the battery compartment cover (towards the camera side) and close it carefully until the latch clicks.
4. Removing the battery: open the cover and pull the ribbon to remove the battery.

**Tip:** A new battery will reach its full capacity after about 3 charging cycles. We recommend to fully charge the battery (until the red LED goes out) and let it fully discharge until the camera turns off. This will extend the battery lifetime.

**Note:** You can also use the camera without a battery, with the external power supply only. If the battery charge is low, unexpected conditions including spontaneous shut-off may occur. Please charge the batteries at least a little before using the camera for the first time.

### 3.3. Charging

To charge the battery inside the camera, connect the camera to a PC or a power adapter. The output adapter voltage must be 5V. Please use either a power socket adapter or a car adapter. Before connecting the power adapter, make sure it's compatible with either the grid voltage or the car's on-board voltage. You can charge the battery inside the camera in either on or off state. You can record even while the charging is in progress (such as in a car). The red indicator (bottom left) lights while the charging is in progress. While the charging is in progress, adapter, battery as well as the camera heat up slightly. This is a normal state during energy conversion.

### 3.4. Turning the camera on and off

1. To turn your camera on or off, hold down the on/off button for 3 to 5 seconds. Blue indicator (top left) or active display indicate the camera is turned on.



2. To turn the camera on or off (according to the current settings, see below), connect or disconnect the power supply. In a car, for example, this is achieved by turning the ignition key to appropriate position.

### 3.5. Switching the modes

To switch to the camera mode, press the following key briefly: **Video recording/Shooting/Playback/Photo/Settings**.

The selected mode is indicated by the following symbols in the active display's upper left corner: Video camera/camera/Playback/Tools.

### 3.6. Recording video and photo shooting

Recording (Video recording mode) and photo shooting (Camera) will be available if a correctly formatted memory card is inserted into the camera. This can be easily achieved by pressing **OK** in the camera top section while the display is enabled. If the display is disabled (PowerSave mode), pressing the first time enables the display, pressing the second time starts the required function.

To stop the ongoing recording, press **OK** again while the display is enabled.

While the recording is in progress, a blue indicator is flashing slowly and a red time counter is shown on the display. Taking a shot is accompanied by a typical shutter sound from the camera speaker.

### 3.7. Playing back recorded videos and viewing still images

To switch into the playback mode, browse the files; video clips are marked with a triangle (playback icon). Press **Up** and **Down** arrows to browse the files. You can play entire video files - press **OK** to start/stop videos, press **UP** to skip 5 sec. back or press **Down** to skip 5 sec. forward. To stop playback, press the **On (Mode)** button briefly. To erase the current file being shown, proceed as follows: hold down the **Down** arrow for 4 sec., select confirm erase and press **OK**. Select **Cancel** to exit without erasing the file.

### 3.8. HDMI connection

You can watch the video camera recordings on a monitor (TV) if connected with an appropriate cable. The camera is equipped with a Micro HDMI (type D) connector. When the camera is connected to a TV with the HDMI cable, the camera display will turn off, redirecting the camera image to the connected monitor (TV), keeping the button features unchanged. When the HDMI cable is disconnected, the camera will turn the display back on.

### 3.9. Operating indicator lights

Blue LED – operation	<ol style="list-style-type: none"><li>1. Upon powering up, the blue indicator lights.</li><li>2. Video recording - while recording video, the blue indicator flashes.</li></ol>
Red LED (next to the ON button) - WiFi	<ol style="list-style-type: none"><li>1. While connecting to WiFi, the red indicator is flashing.</li><li>2. When connected to WiFi, the red indicator lights steadily.</li></ol>
Red LED - charging	<ol style="list-style-type: none"><li>1. The red indicator is lights steadily while the charging is in progress.</li><li>2. When the charging is finished, the red indicator goes out.</li></ol>

#### 4. PC connection

Connect the camera to your PC (Windows) USB port with the supplied cable. In addition to the battery charging, you can use the cable to transfer data.

As soon as the camera detects a PC connection, a message appears with the option to select USB storage or PC camera. Press **OK** to toggle between them.

**Storage mode** - connects the camera memory card as the PC external storage. This memory device functions as another PC hard drive, allowing you to copy your recordings into PC. The card contains video camera recordings (MP4) and photos (JPG). The names correspond to the following modes: SLOW (slow), NORM (normal), LPSE (time-lapse), DLAY (self-release), LOOP (loop), SING (single), B (batch), or \*.DNG (digital negative). The thumbnails are LRV (video), THM (photo).

**Note:** The card is write-protected from PC due to possible integrity and readability disruption. The files saved on the card cannot be erased, edited and the card cannot be formatted.

**PC camera mode** – can be used in video communication applications. According to your application, your camera can be named UVC Camera and the like.

When the camera is connected to any PC port for the first time, the PC will usually search for a driver for a corresponding connection. Downloading the operating system updates requires an internet connection. Wait until the installation process is finished. If the installation fails, try connection to another port or use a different cable.

**Card reading** - You can remove the microSD card from the camera in the off-state and insert it into the corresponding PC card reader slot. This will allow you to read the files directly from the card folders and save them for further processing or archiving in your PC.

## 5. Wi-Fi control

The camera can capture video and receive basic control commands from a smartphone (Android/iPhone) using a wireless Wi-Fi connection.

By default, the Wi-Fi feature is disabled to save energy. Enabling Wi-Fi (pressing **Up**) will enable the camera transmitter which waits for an external control application to be connected. The red LED will start flashing, the display will show Wi-Fi and once the transmitter is initialized, transmitter name (WiFi-SSID) and connection message will be shown.

### To enable Wi-Fi control (with initial values), proceed as follows:

1. Install an application suitable for your smartphone type from the store, such as **YUTUPro**.
2. Enable the Wi-Fi function on both camera and smartphone and start the applications.
3. Select the name matching the one shown on the camera display from the available wireless networks.
4. The default Wi-Fi connection password is "12345678". Enter a correct password on your smartphone and the camera will connect. Then connect the running application to the camera.
5. The smartphone will show the camera image and the icons to control photo shooting and video and still image and video download into the phone memory.

**Note:**

There is a two-point connection between the camera and the smartphone meaning that once connected to one smartphone, you cannot establish connection to another smartphone until the connection to the first smartphone is cancelled. Smartphones with Android 2.3 or higher or iOS are supported. The video being transferred slightly lags behind the real time. The Wi-Fi connection range depends on the surrounding environment (due to interference etc.). As reliable data transfer requires sufficiently strong signal, watch the signal indicator on the phone. If the signal is weak, the data transfer may fluctuate or may not function at all, resulting in the camera remote control failure.

## 6. Remote control

The basic functions (recording start/stop) and taking a photo can be performed from the supplied wristband remote control. To control, please keep a small distance between the camera and the controller. You can also replace the remote control battery which should last about 1 year when used normally.

## 7. Camera settings

The camera settings must correspond to working in different modes. Before you start working with the camera in full, take time to test the camera and make correct settings. In this way, you will avoid possible disappointment if the work result fails to meet your expectations. You should consider whether or not the camera will move during the recording, how long the recording will take, how to power the camera etc. Also, keep in mind possible conflicts when processing the cues (random start, motion detection, delayed start, connecting the power adapter to charge the battery) to avoid missing the event you wished to capture only because the first cue is followed by a second one. Press **Power** repeatedly to select Settings (gear wheel icon). To navigate between the setting items, press **Up** and **Down** and confirm the selection by pressing **OK**. Select the required menu item value and press **OK** to save and close the item. To exit the settings mode, press **Power**.

### 7.1. Settings

**Video resolution** – from 3840×2160 30P, via 1920×1080 60p up to 1280×720P. A higher resolution will capture more details but also means greater usage of your memory card space and requires a higher memory card speed. A higher frame rate is useful for fast actions, but also means greater usage of your memory card space and requires a higher memory card speed. We recommend the 1920×1080 60P 16:9 mode, which provides very good picture results for both TV transfer and further PC processing.

**Image Size** – from 16M (4608×3456), via 12M (4000×3000) up to 3M (2048×1536). The camera's graphic processor will upscale to a higher resolution.

**Time lapse video** – you can record slow and very long actions as a series of consecutive frames in the interval you select. You can play it as a video without sound later on.

**Loop Recording** – for permanent recordings, it's useful to split a consistent recording into smaller sections for later processing. To select the full size allowed by the card file system, select Off option.

**SlowRec** – for 120P modes, this records fast actions faster and then plays at normal speed, i.e. in slow motion.

**Anti-shake** - electronic stabilization of image shaking.

**Lens angle** - If the Anti-shake is turned off, this allows you to widen (Wide) or narrow (Narrow) the field being recorded.

**Shooting Timer** - selectable camera self-release delay.

**Burst** – making more photos at a single release press.

**PhotoLapse** - “infinite” shooting with a preset delay until stopped.

**Microphone** - you can enable or disable sound recording.

**Exposure Compensation** - adjust the exposure from lighter (overexposure) to darker (underexposure) according to the scene being shot.

**ISO** – selecting the equivalent 35mm film speed. Higher ISO speeds are more sensitive, but the sensor generates more image noise.

**AWB** – manual white balance setting according to the prevailing scene illumination.

**Encode Mode** - using H.264 video codec (easier processing) or H.265 (higher compression).

**DNG** - saving an image in Digital Negative format (for subsequent processing by a special software).

**HDR/WDR** - capturing and recording still image and video with a higher dynamics.

**Scene** - select from several shooting options according to the prevailing scene light conditions.

**Rotate** - display the menu upside down.

**Frequency** - set the grid frequency according to your region to improve the flickering processing of lights, screens etc.



**Language** - select one of the available OSD languages.

**Date/Time** - set the date and time the camera will insert in images and store on the card.

Data determine the order in which the camera will show day, month and year.

**Date stamp** - inserting a time stamp in the recording.

**WiFi SSID** - Wi-Fi transmitter name in the camera and changing the Wi-Fi access password in the camera.

**Button Sound** - you can disable the beeping accompanying the button pressing and the shutter sound.

**Screen saver** - determines the time after which the screen is to go out when no user action is made. You can turn the screen back on.

**Auto Shut Off** - if no action is made until this time has elapsed, the camera will shut down.

**Format** - matching the card to optimal use in the camera in a format suitable for making recordings. This "cleaning" of the inserted card is irreversible and the camera shows a warning before start. **Note:** if a card with inappropriate data format is inserted, a prompt to format will be shown; without formatting, no recording can be made. **Tip:** After a longer single-purpose use, it's suitable to perform a full (slow) formatting in a PC from time to time.

**Default Setting** - restore the factory settings of all values. Due to a number of various, even contradictory camera settings, this is the fastest way to achieve the correct values of all settings.

**Version** - camera software version.

**Note:**

If some features or their combinations cannot work together or are illogical, their menu selection will grey out and cannot be enabled or changed. Similarly, options restricted by hardware will also remain greyed out, such as selecting a video loop for a card with insufficient free space.

**ATTENTION:**

For demanding recordings (high resolutions, high speeds, top recording quality, scenes with a high contrast) it's necessary that the card should receive and write data in speeds provided by the camera. Try out the required setting options and use fast and branded cards. Also, it's useful to refrain from using the maximum possible settings and use the most efficient ones instead. Please note that the memory card operation speed may be also affected by temperature, thus the recordings made under severe outdoor conditions may differ from tests made under room conditions.

## 8. Technical specifications

LCD display	2" (320 × 240)
Lens	Wide-angle HD lens with 170° field of view
Video/codec formats	MP4/H.264, H.265
Recorded video resolution	<b>Resolution:</b> 3840×2160 30P 16:9 2704×1520 30P 16:9 1920×1440 60P 4:3 1920×1440 30P 4:3 1920×1080 90P 16:9 1920×1080 60P 16:9 1920×1080 30P 16:9 1280×720 120P 16:9 1280×720 60P 16:9 1280×720 30P 16:9
Still image format	JPEG, DNG
Still image resolution	16M/12M/8M/5M/3M
Storage	microSD, max 128GB
USB interface	Micro USB 2.0
TV output	HDMI, D type
Required power source	5V/1 A min.
Battery capacity	1,050 mAh

Recording duration	approximately 2 hours with a new, fully charged battery (and the display turned off)
Charging time	approximately 2 hours
Dimensions	60 × 44 × 32 mm
Camera weight including battery	70 g
Operating temperature	-10°C ~ +55°C
Storage	-20°C ~ +70°C
Humidity	5% ~ 95%
Water tightness in housing	up to 30m in depth

**Note:** Technical specifications may be updated. The product itself may be considered to be a standard.

## INSTRUCTIONS AND INFORMATION ABOUT THE DISPOSAL OF DISCARDED PACKAGE

Return the packaging to a collection centre for disposal.

### DISPOSAL OF DISCARDED ELECTRICAL AND ELECTRONIC EQUIPMENT



This symbol placed on the product, accessories or package notifies that the product must not be treated as household waste. Please dispose of this product in a collection centre designed for recycling electric and electronic equipment. In some EU or European countries, you can return your products to your local dealer when buying a new equivalent product. Correct disposal of this product helps save valuable natural resources and prevents possible adverse impacts on the environment and human health that might be caused by improper waste disposal. For further information, please contact your local authorities or the nearest waste disposal collection centre. Wrong disposal of this type of waste may be subject to a legal penalty.

#### For EU companies

If you need to dispose of an electric or electronic device, ask your dealer your supplier for necessary information.

#### Disposal in countries outside the European Union

To dispose of this product, please ask your local authorities or dealer for the necessary information on correct disposal.



This product complies with EU requirements.

Changes in the text, design and technical specifications may be made without prior notice and we reserve the right to make such changes.

The original version is in Czech.

Address of the manufacturer:

FAST ČR, a. s., Černokostelecká 1621, Říčany CZ-251 01

# SENCOR®

## EN Warranty conditions

**Warranty card is not a part of the device packaging.**

This product is warranted for the period of 24 months from the date of purchase to the end-user. Warranty is limited to the following conditions. Warranty is referred only to the customer goods using for common domestic use. The claim for service can be applied either at dealer's shop where the product was bought, or at below mentioned authorized service shops. The end-user is obligated to set up a claim immediately when the defects appeared but only till the end of warranty period. The end user is obligated to cooperate to certify the claiming defects. Only completed and clean (according to hygienic standards) product will be accepted. In case of eligible warranty claim the warranty period will be prolonged by the period from the date of claim application till the date of taking over the product by end-user, or the date the end-user is obligated to take it over. To obtain the service under this warranty, end-user is obligated to certify his claim with duly completed following documents: receipt, certificate of warranty, certificate of installation.

**This warranty is void especially if apply as follows:**

- Defects which were put on sale.
- Wear-out or damage caused by common use.
- The product was damaged by unprofessional or wrong installation, used in contrary to the applicable instruction manual, used in contrary to legal enactment and common process of use or used for another purpose which has been designed for.
- The product was damaged by uncared-for or insufficient maintenance.
- The product was damaged by dirt, accident of force majeure (natural disaster, fire, and flood).

- Defects on functionality caused by low duality of signal, electromagnetic field interference etc.
- The product was mechanically damaged (e.g. broken button, fall).
- Damage caused by use of unsuitable media, fillings, expendable supplies (batteries) or by unsuitable working conditions (e.g. high temperatures, high humidity, quakes).
- Repair, modification or other failure action to the product by unauthorized person.
- End-user did not prove enough his right to claim (time and place of purchase).
- Data on presented documents differs from data on products.
- Cases when the claiming product cannot be indentified according to the presented documents (e.g. the serial number or the warranty seal has been damaged).

**Authorized service centers**

Visit [www.sencor.com](http://www.sencor.com) for detailed information about authorized service centers.



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Designed in Europe by Sencor®, Made in China

