

User Manual

AI 2.4GHz Wireless Backup Camera System with Magnetic Solar Battery-Powered Camera



Please read this manual thoroughly before operating the device,
and keep it for future reference.

V1.1

Video Tutorials

Scan QR code for Setup & FAQ



Note: If the QR code cannot be scanned, visit inseecam.net and go to the **Support** page for videos.

Thank you for your purchase! Any problem please send us

Email: support@inseecam.net

WhatsApp: +86 13318775092

Contents

1. Precautions	1
1.1 Storage and Keeping	1
1.2 Operating Precautions	1
1.3 Maintenance	2
1.4 FCC Warning	2
1.5 IC warning	3
2. Package List	4
3. Features and Specifications	5
3.1 Wireless Monitor:	5
3.2 Magnetic Battery-Powered Camera:	9
4. Installation	12
4.1 Installing the Wireless Monitor	12
4.2 Installing the Magnetic Wireless Camera	13
4.3 Equipment installation recommendations	13
4.4 Optional Accessories (Sold Separately)	14
4.5 Solution of poor wireless signal during installation	15
5. Operation Instructions	15
5.1 Preview interface resolution	15
5.2 Main Menu interface	16
5.2.1 Record	16
5.2.2 Pairing	17
5.2.3 Playback	18
5.2.4 Settings	19
6. Troubleshooting	24

1. Precautions

1.1 Storage and Keeping

- (1) Do not expose the monitor to excessive heat or coldness, Storage temperature is -30~+80°C; Operating temperature is -20~+70°C; Humidity is Rh90%.
- (2) Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.
- (3) Never use this device in the environment with excessive moisture, dust or smoke.
- (4) Avoid dropping or striking.
- (5) Never use this device in enclosed spaces, areas with excessive vibration or subject to severe impacts.
- (6) Never puncture, scratch or use abrasive cleaning materials on this device.
- (7) Do not place cables where they may be pinched or stepped on.
- (8) Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.
- (9) The camera is designed to be waterproof; the waterproof rating is IP66.

1.2 Operating Precautions

- (1) The device may be powered by a 5-volt automotive battery or vehicle electrical system.
- (2) Make sure all cables are connected properly Observe polarity Improper cable connections may damage the monitor Remove the power cable connections when you do not intend to use the device.



Warning!

1. High voltage is present within the monitor Opening monitor case should be done by professionals.
2. Do not watch any video while driving unless you are monitoring rear view camera Monitor.





Special Notice

1. Occasionally, a few highlights or dark spots may occur on the LCD screen. That is a very common phenomenon in active-matrix Monitor technology, and it doesn't necessarily indicate any defects or faults.
2. Never try to repair this device by yourself. If any problem, please turn off the Monitor at once and notify our company or authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and invalidate warranty.

1.3 Maintenance

- (1) Remove all the cable connections from the monitor before cleaning the device.
- (2) Use a mild household detergent and clean the unit with a slightly damp, soft cloth.
- (3) Never use strong solvents such as thinner or benzine, as they might damage the finish of the device.

	Caution	
	Risk of electric shock Do not open	
<p>Caution: to reduce the risk of electric shock, Do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.</p>		



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



This symbol is intended to alert the user not to waste electrical and electronic equipment.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warranted and necessitate expensive repairs.

1.4 FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates,

uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

NOTE 2: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.5 IC warning

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's








licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2. Package List

 <p>Wireless Monitor</p>	 <p>Magnetic Wireless Camera</p>
 <p>Car Charger</p>	 <p>Fan-Shaped Mount</p>
 <p>Camera Power Cable</p>	 <p>Monitor Power Cable</p>
 <p>User Manual</p>	

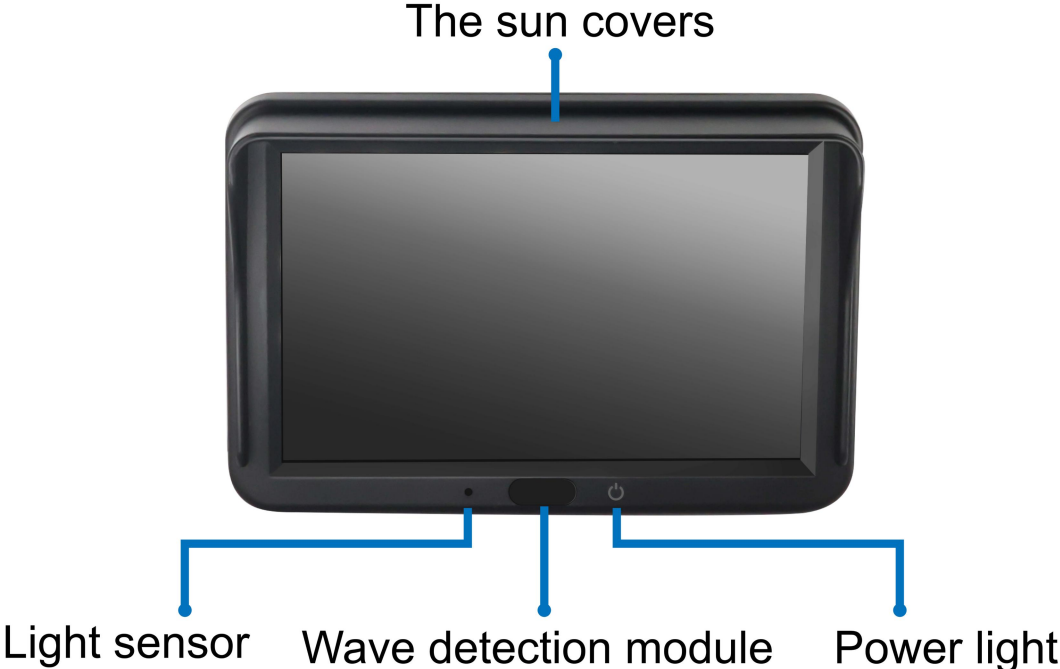



Special Notice

Accessory supply may be different for different application.

3. Features and Specifications

3.1 Wireless Monitor:



 Power indicator: the monitor will be on after power, the red light when the screen is dormant, and when the screen is green.



Gesture-Controlled Camera Switching



Note:

- ① The ideal hand-waving distance is 5 cm to 15 cm from the monitor.
- ② The gesture feature is enabled by default. To disable it, refer to the "Gesture Detection" section in "5.2.4 Settings" of the manual.
- ③ The hand wave gesture will not be recognized when menus or volume bars are displayed. It only responds to hand gestures when the LCD is in preview mode without any active controls.

(1) Waking the Monitor: Wave your hand left or right to wake the Monitor and show CAM1 or CAM2 when in sleep mode.

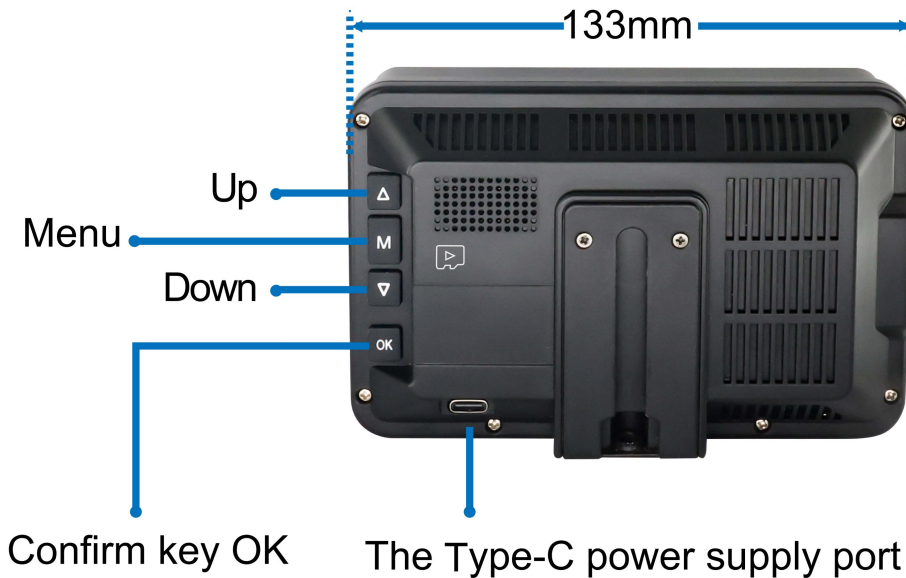
(2) No CAM2 Paired: If the second camera (CAM2) is not paired, swiping left or right on the CAM1 screen will put the monitor back to sleep.

(3) CAM2 Paired: If CAM2 is paired, swiping left or right on the CAM1 screen will switch to CAM2. From the CAM2 screen, swiping left or right will put the monitor back to sleep.



Note:

Please remove the protective film of ① the monitor screen and ② Wave detection module before using.



- **▲ Up**
Volume increase and Backward menu selection.

- **▼ Down**
Volume reduction and Forward Menu Selection.

- **M Menu**
Press to display the menu or to exit the menu.

- **OK Confirm that the key is OK**
Press in the preview interface will switch the video channel, long press will hibernate the monitor; in the call-out menu press the “OK” button to enter the menu items or options settings

Monitor Features:

- (1) TFT LCD monitor with wide angle view and high-resolution Monitor.
- (2) Support for 2-way wireless camera input.
- (3) With the BSD function, it can detect pedestrians and cars.
- (4) The image can be set to be a horizontal flip, a vertical flip, and a normal one.
- (5) With a video recording function.
- (6) Supports both manual and automatic backlight adjustment.
- (7) Support parking line, parking line size and position can be adjusted.

- (8) Support for automatic sleep.
- (9) With a wave detection function for waking up the monitor or switching video channels.
- (10) Equipped with the 1W speakers.
- (11) Operating voltage: 5V.

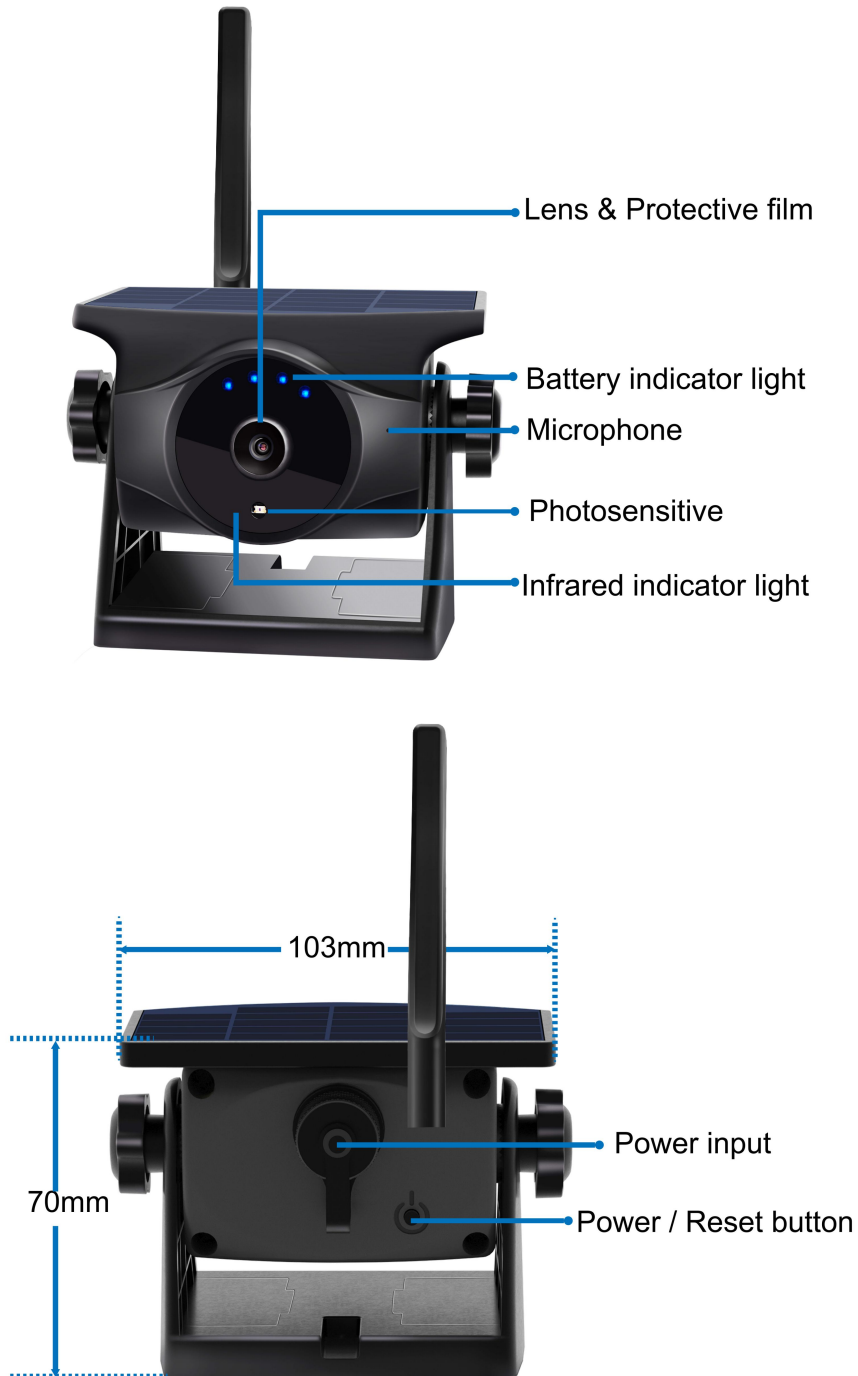
Monitor Specifications:

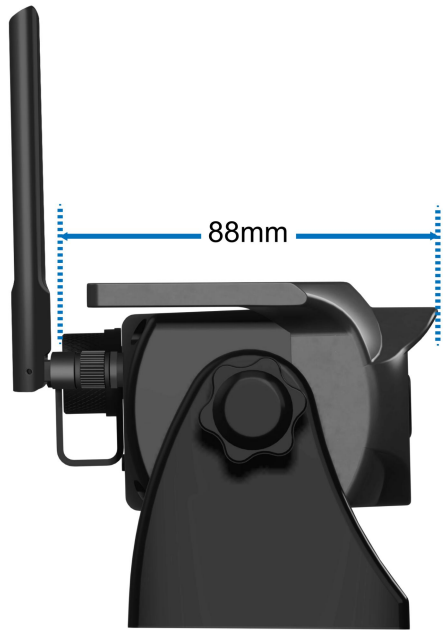
LCD Size	5"
Resolution	800 x 3(RGB) x 480
Contrast	1000:1
Brightness	400cd/m ²
View Angle	U: 85 / D: 85, R / L: 85
Aspect Ratio	16:10
Camera Channel	2 channels
Operating Frequency	2408 - 2478 MHz
Receiving Sensitivity	-83 dBm
Decompression Form	H.264
Modulation	FHSS
Time Delay	Min: 130 ms
Transmitting Distance	Max: 150 m
TF Card	Support 32GB-128GB
Power Supply	USB 5V
Power Consumption	Max.5W
Loudspeaker	1.5W / 8Ω
Operating Temperature	-20~+70°C, RH90%
Storage Temperature	-30~+80°C, RH90%

Maximum recording time on the TF card:

Capacity	16GB	32GB	64GB	128GB
Monitor				
Single channel	≈15h	≈30h	≈60h	≈120h

3.2 Magnetic Battery-Powered Camera:





Show Battery Status	
● ● ● ●	≈ 100%
● ● ● ●	≈ 75%
● ● ● ●	≈ 50%
● ● ● ●	≈ 25%
● ● ● ●	≈ 0%
● ● ● ●	Standby

Power / Reset button:

Press and hold for at least 2 seconds to turn it on. Press and hold for at least 2 seconds to turn it off. Press it for four times to reset the camera. In sleep mode, pressing the power button once will wake up the camera. Double pressing the power button will put the camera back to sleep.

Infrared indicator light:

Four infrared indicator lights will be on in the darkness.

Battery indicator light:

When cameras fully charged, four lights are all on. In camera's sleep state, only the two lights in the middle are on.

Camera Features:

- (1) Smart Power Saving Mode: The camera enters power saving mode when you don't use it for 30 seconds. If you don't use it for a long time, it is recommended to power off the camera to avoid draining the battery.
- (2) Rechargeable Battery.
- (3) Magnetic Mount.
- (4) Portable and Easy Installation.
- (5) Battery Standby Time: 365 days (Expose to sunlight for at least 2 hours per day).

Camera Specifications:

Battery Capacity	3.7V/3000mAh
Charging Voltage	DC 5~12V
Charging Time	4.5H
Discharging Time	7H(Daytime)
Charging Temperature	0 °C ~ +40 °C
Discharging Temperature	-20 °C ~ +60 °C
Storage Temperature	-20 °C ~ +60 °C
Waterproof Rating	IP66
Image Device	1/2.9" CMOS
Effective Pixels	1920 (H) × 1080 (V)
Transmission Distance	Max :150 m (No obstacles)
Night Vision Distance	17ft / 5m
Viewing Angle	150°
Smart IR-Cut	Support
Battery Standby Time	365 days (Expose to sunlight for at least 2 hours per day)
Maximum Power of Solar Panel	0.8W
Maximum Charging Current	81mAh
Cell Efficiency	≤24.3%



Special Notice

All specification is subject to change without notice.

4. Installation

4.1 Installing the Wireless Monitor

1. **Connect the monitor to the power cable and the car charger.**
2. **Plug the car charger into the vehicle's power outlet, then check if the camera and monitor are paired.**

Note: If the camera and monitor are successfully paired, the camera feed will appear on the monitor as soon as both are powered on. Typically, they come pre-paired from the factory. If they are not paired, please refer to section "**5.2.2 Pairing**" for instructions on how to pair the camera with the monitor.

3. **Insert the TF card**

Note: The TF card must be between **32GB and 128GB**. Before using the card, insert it into the monitor and format it. For formatting instructions, refer to section "5.2.4 Settings" under "Video Recording Settings."

4. **Install the monitor mount.**

- (1) Connect the support connector into the fixed groove of the rear shell, and adjust the installation height of the Monitor by sliding the bracket.
- (2) Adjust the Monitor angle and tighten the spherical knob on the fan bracket.
- (3) Tear open the tape at the bottom of the bracket and stick the bracket to the desired place.



Note:

If you want a suction cup mount, you can purchase it separately through our store.

4.2 Installing the Magnetic Wireless Camera

1. Turn on the power button located on the back of the wireless camera.

Note: Press and hold the power button for at least 2 seconds until the front indicator light turns on, signaling that the camera is successfully powered on.

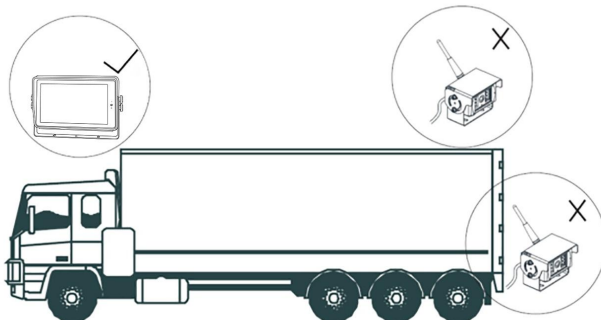
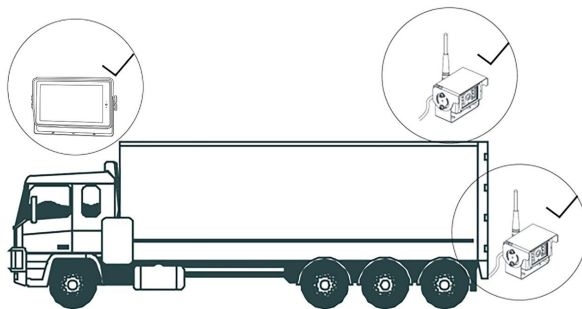
Additionally, it is recommended to charge the camera for 4.5 hours before first use.

2. Find a suitable mounting location for the camera.

Since this is a magnetic camera, simply find a metal surface on the exterior of the vehicle, and it can be easily attached. Regarding the camera installation, it is recommended to mount it at the top rear of the car, rather than underneath, as wireless signals can easily be obstructed or experience interference.

4.3 Equipment installation recommendations

1. Generally, the antenna should be perpendicular to the ground. Ensure that there are no obstacles around the antenna (Installation diagram) is similar to the figure below.

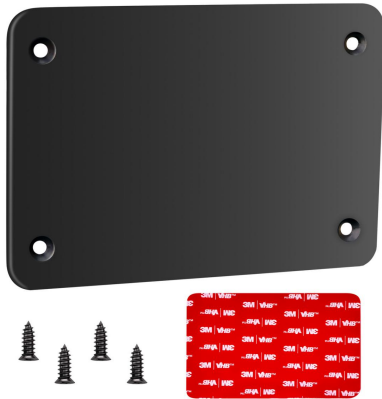


Note:

① Mount the camera at the top rear of the car, not underneath, to avoid signal interference.

② The antenna should be perpendicular to the ground !

4.4 Optional Accessories (Sold Separately)



Metal Mounting Plate

Works on Non-Metallic Surfaces:

If you are using this product on a non-metallic surface (such as plastic, fiberglass, or wood), we recommend using our metal mounting plate for better magnetic attachment.

You can search "**Metal Mounting Plate for Magnetic Wireless Backup Camera**" in our Amazon store to purchase.



Fan-Shaped Mount

Fan-Shaped Mount for Backup Camera Monitor System:

One fan-shaped mount is included with your purchase. If it is lost or you need a replacement, you can search "**Fan-Shaped Mount**" in our Amazon store to purchase another one.



Windshield Suction Mount

Windshield Suction Mount for Backup Camera Monitor System:

This optional suction mount allows you to attach the monitor to your windshield for flexible positioning. You can search "**Windshield Suction Mount**" in our Amazon store to purchase.

4.5 Solution of poor wireless signal during installation

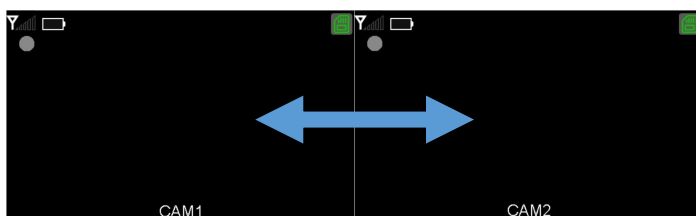
- (1) Ensure the camera is at least 1 meter above the ground. Both the camera and monitor antennas should be vertical and securely tightened.
- (2) If a metal shield is between the monitor and camera, use an extension antenna to bypass the shield and improve signal transmission.
- (3) Install the patch antennas on the same side of the vehicle for better signal transmission.
- (4) Regarding the camera installation, it is recommended to mount it at the top rear of the car, rather than underneath, as wireless signals can easily be obstructed or experience interference.

Note: Please pair the monitor with the camera before installing the wireless system on the vehicle. Please refer to the "5.2.2 Pairing" instructions for the method of pairing the camera with the monitor.

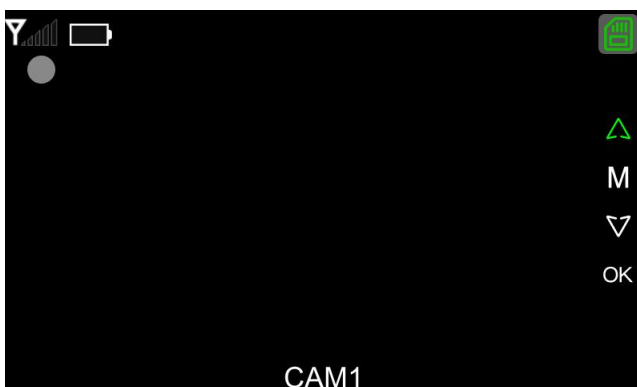
Notice: If an unrecoverable error occurs, please try restarting the device.


5. Operation Instructions

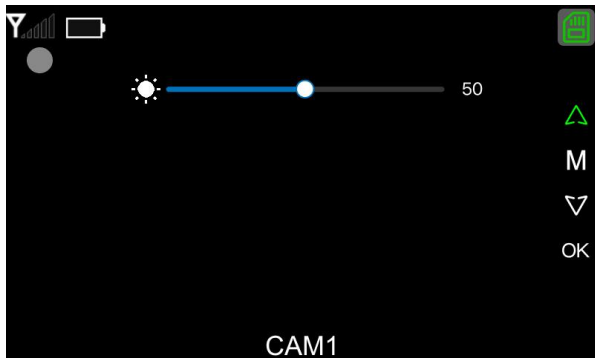
5.1 Preview interface resolution






- (1) 2 screens (if there are multiple cameras, it is the camera 2 screen of the camera code);



- (2) When the key is pressed, the current pressed key is highlighted on the right side of the screen; (as shown, the current pressed )



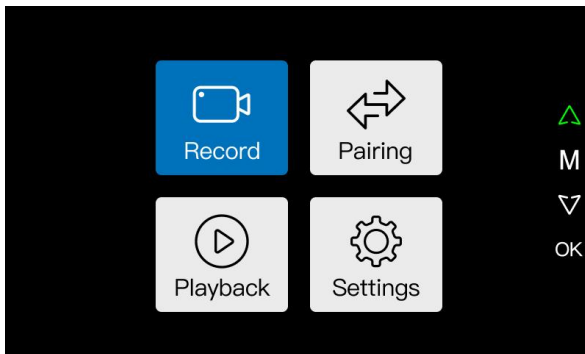
(3) Press   under the current page, the brightness bar will pop up, and can adjust screen brightness, support continuous series, the adjustment range is 0~99; press MENU key to exit directly.



(4) Pressing  under the preview interface will call out the main menu

(5) In the preview interface for a long time without operation can enter the hibernation mode

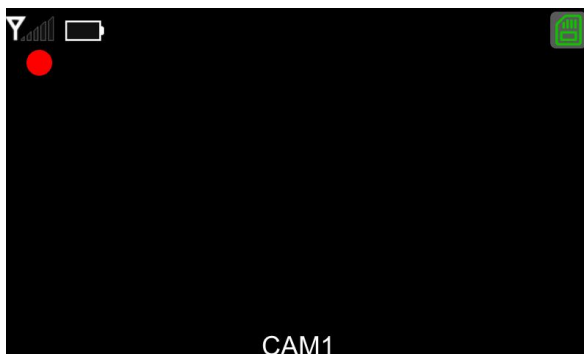
(6) Under the preview interface, you can perform gesture recognition, sleep, wake up, and page switching operations on the monitor


5.2 Main Menu interface



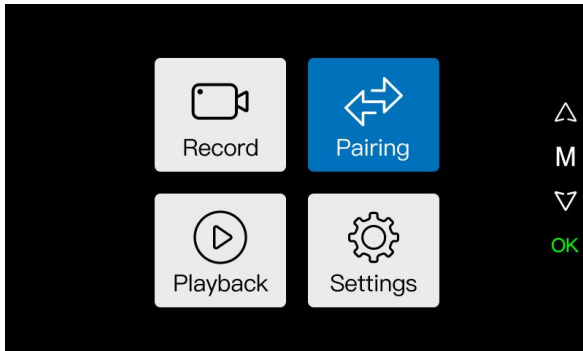
The blue highlight indicates that the icon is selected and can be selected through  -movement. The main menu contains 4 ICONS, respectively: Record, Pairing, Playback and Settings.

5.2.1 Record

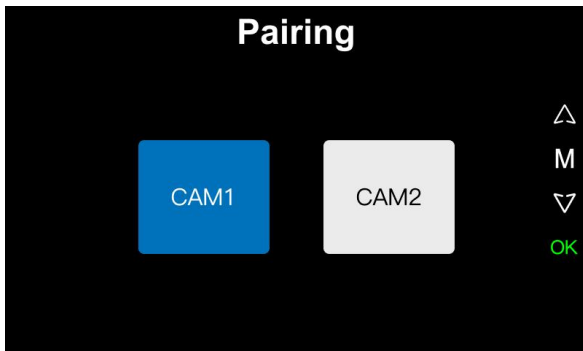


After selecting this icon, press  to open or close the video; to open the video, a circular icon flashes under the signal icon, red for video screen, and gray with no video screen.

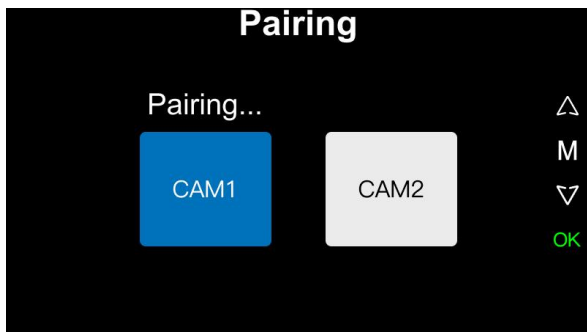
5.2.2 Pairing



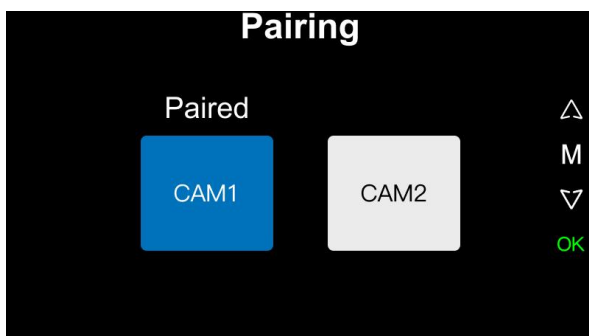
- (1) After selecting the icon, press **OK** to open the pairing page as follows.



- (2) Press the **OK** in the selected icon to pair the video channel.

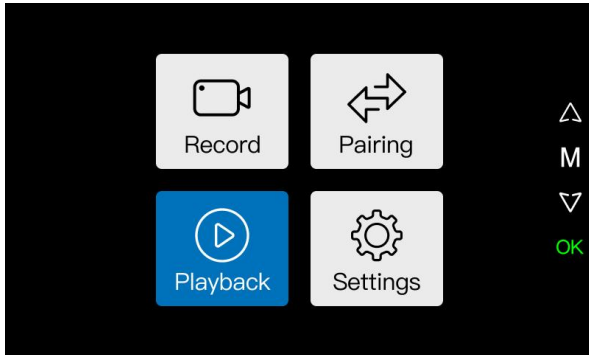


- (3) When the monitor shows "Pairing...", it means the LCD is in pairing mode. The camera enters pairing mode 8 seconds after powering on. If the camera is off, hold the power button for 2 seconds until the status light turns on. If the camera is in sleep mode, press the power button briefly to wake it up; it will enter pairing mode after 8 seconds.

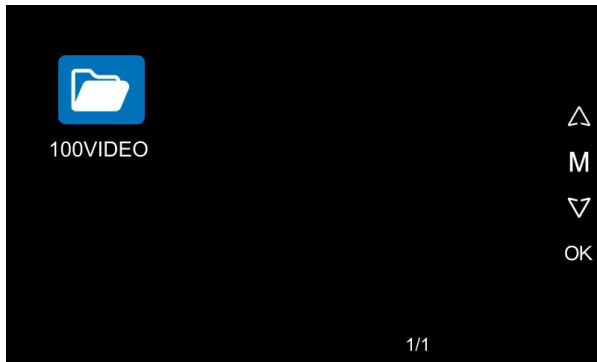


- (4) When paired with the camera, paired will be Monitored to indicate that the pairing is successful, and if not, there is no Monitor.
- (5) Press the Menu button on the selected channel to clear pairing info.
- (6) Waking Up and Switching Cams: After pairing two cams, wave your hand left or right to wake them up. Once awake, waving again will switch channels.
- (7) Cancel Pairing: Long press the Menu button to cancel pairing.

5.2.3 Playback



(1) After selecting the icon, press **OK** to open the play page as follows;



If there is no TF card inserted, or there is no video file in the TF card, indicate that there is no file;

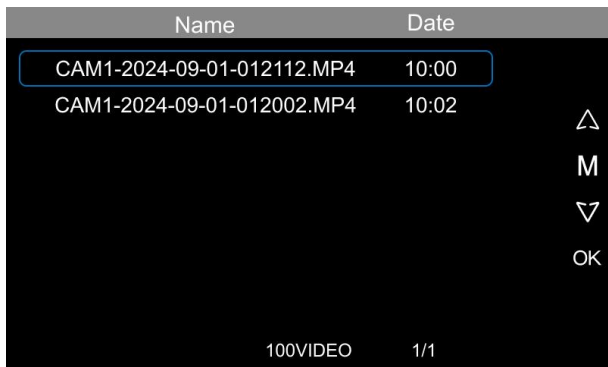
(2) Video Folders: New folders are created when a folder reaches 128 files.

(3) Folder Organization: Folders are numbered by age;

higher numbers are newer. Use the **▲** **▼** and **OK** to navigate.

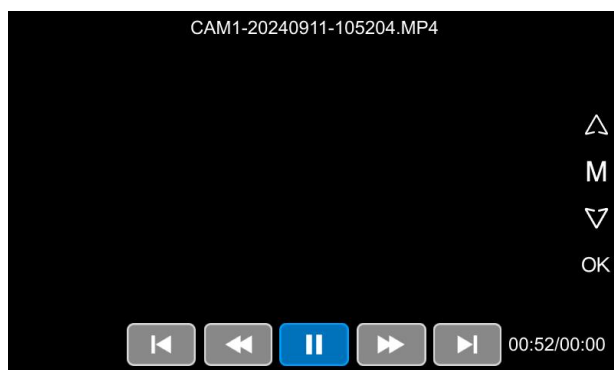
(4) Folder Navigation: Reaching the first or last folder on a page will automatically turn to the previous or next page.

(5) Inside a Folder: Inside the folder, video files are displayed in MP4 format with the file name and date.



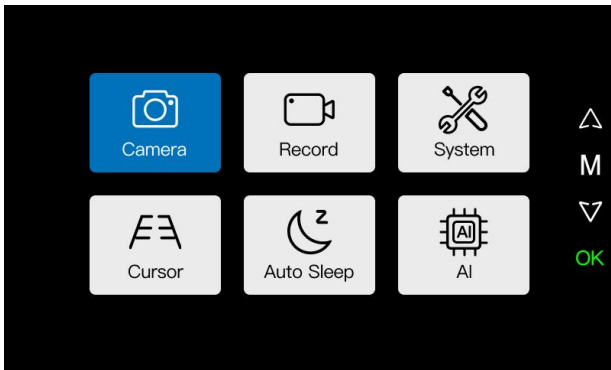
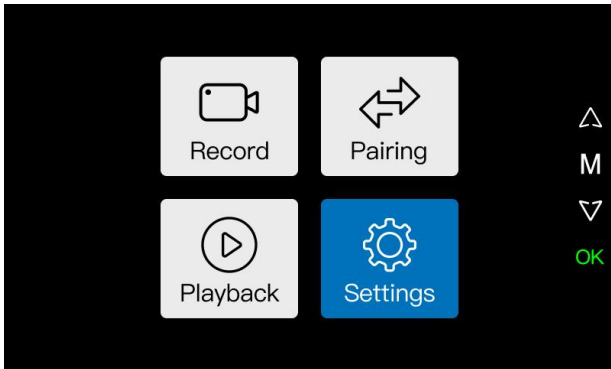
(6) Specific, file name format: channel name-year month daytime and seconds. MP4; Time format: time: minutes

(7) After selecting the video file to be played, press the **OK** button to open the playing video.



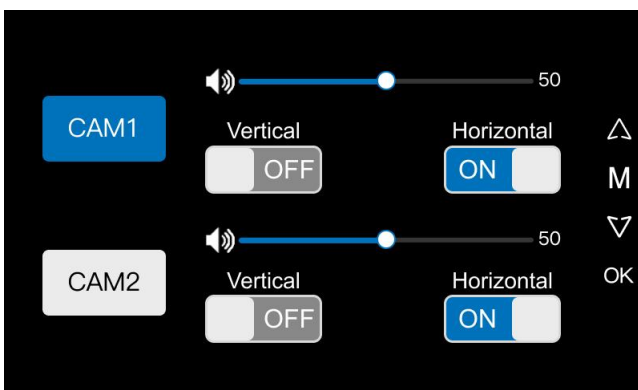
(8) This page includes controls for playing the previous, rewind, play/pause, fast forward, and play the next. During playback, the time displayed on the right shows the current playback time/total time.

5.2.4 Settings

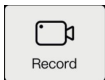


After selecting the icon, press **OK** to open the setting interface as follows.

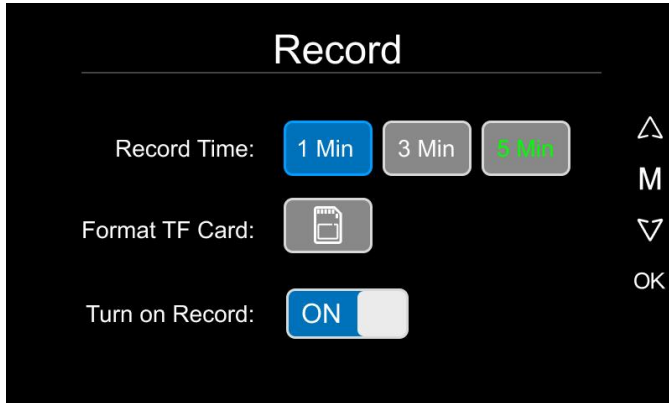
Camera parameter setting



- (1) Vertical mirror: close when set to OFF, open when set to ON, the default is OFF.
- (2) Horizontal mirror: close when set to OFF, open when set to ON, default to ON.
- (3) Alarm volume: It is possible to modify the alarm volume corresponding to the camera feed.



Video recording Settings



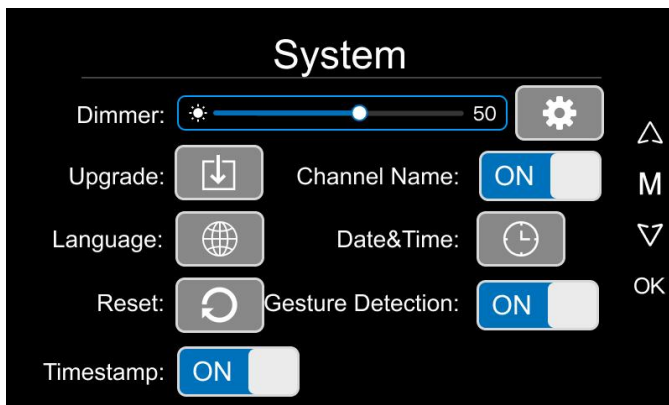
(1) Record time: set the length of each video file, and the default is 5 minutes. The icon text is gold for the current video duration.

(2) Format the TF card

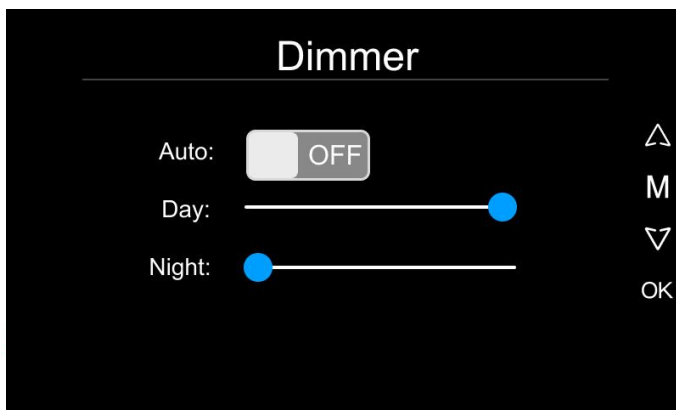
(3) Turn on Record: Power on the video, set to OFF, set to ON, default ON.



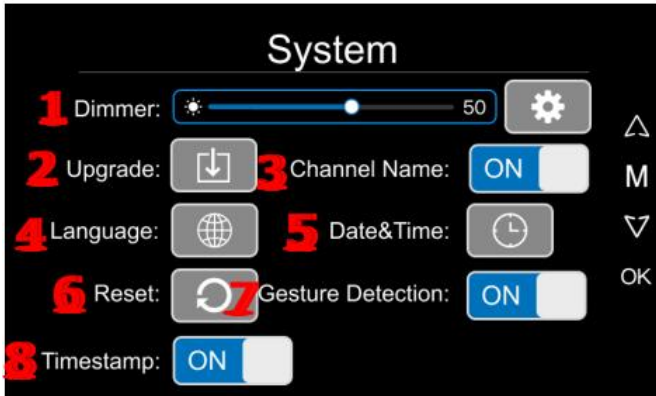
Camera parameter setting



(1) Dimmer: Automatic backlight, open the following setting button, will enter the dimmer Settings page, to set whether to open the automatic backlight.



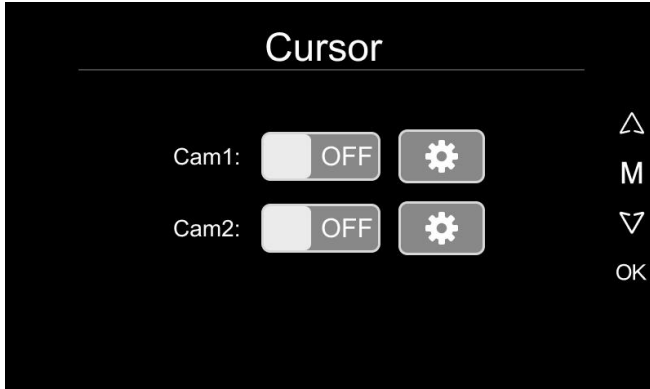
Where Day: represents the maximum value of the automatic backlight range; **Night:** represents the minimum value of the automatic backlight range;



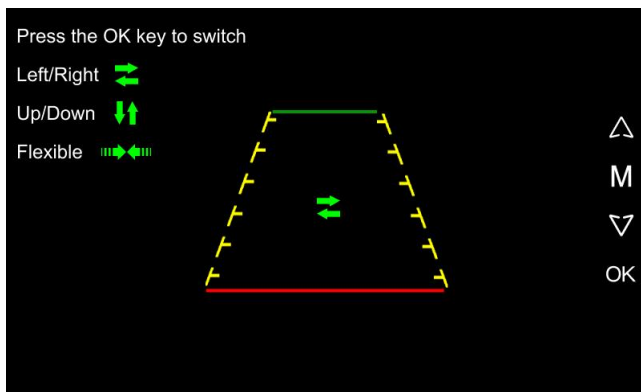
- (2) **Upgrade:** Upgrade the system using a TF card named SNCC7XFW with a .bin file.
- (3) **Channel Name:** Turn on to show the channel name; turn off to hide it.
- (4) **Language:** Switch between multiple languages.
- (5) **Data & time:** time and timely zone setting.
- (6) **Reset:** Selecting reset changes system parameters but not the camera or monitor connections.
- (7) **Gesture Detection:** Gesture switches. If it is turned off, it is not possible to hibernate or wake up the monitor by waving your hand, it is on by default.
- (8) **Timestamp:** Timestamp function switch



Reversing cursor setting



- (1) **Reversing Cursor:** Press the left and right keys, then OK to toggle the reversing cursor ON/OFF. The default setting is OFF. When ON, enter the adjustment interface to position the cursor.

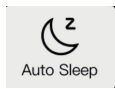


(2) Cursor Adjustment:

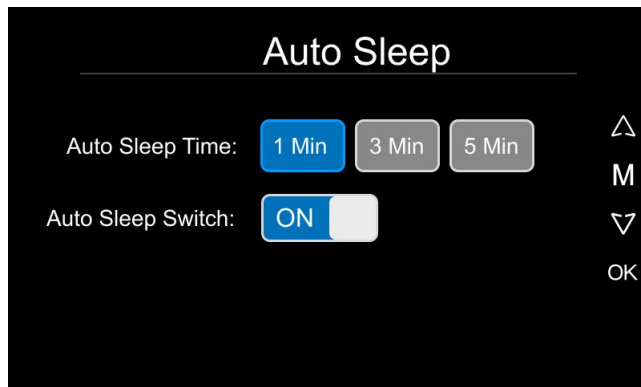
: Adjust cursor position and size.

: Switch between different adjustment modes.

The meaning of the icon in the middle part of the cursor is: the current keys can adjust the left and right movement; the current keys can adjust the cursor size; the keys can adjust the cursor movement up and down.



Sleep setting



(1) Auto Sleep Time: represents the countdown time of automatic dormancy, the default is 1 minute. The icon text in gold indicates the current countdown time of automatic dormancy.

(2) Auto Sleep Switch: Automatic sleep open or off option, the default is ON.

Sleep Mode — Stand by up to 365 days

When the 5" monitor turns off, the rear camera enters low-power sleep mode. It wakes up automatically when the monitor is turned back on. No manual shutdown needed—eliminates the hassle of removing the camera to power it off.



Sleep Mode

Indicator:

When the device enters sleep mode, the two center LED lights will blink intermittently. This indicates that the system is in standby and conserving power while remaining ready for quick activation.

Two Easy Ways to Wake Up Your Magnetic Solar Wireless Backup Camera System from Sleep Mode – Save Power, Extend Lifespan

1   **Button Wake:** Gently press the button on the back of the camera to wake it up.

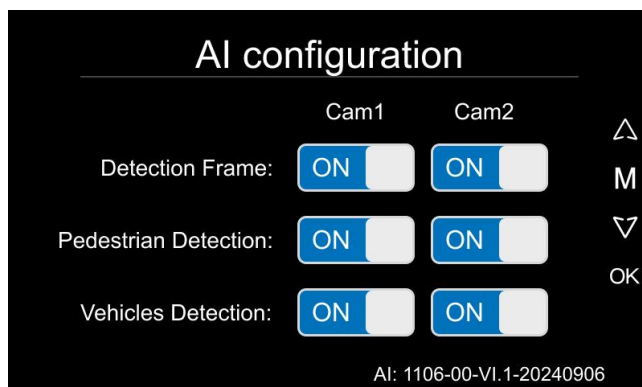
2   **Gesture Control(Recommend!):** Simply wave your hand in front of the monitor once. This will wake up both the monitor and the paired camera simultaneously. (Sleep time can be set via the monitor: 1min, 3min, 5min, or never)

Power-Saving Tip:

If the device will not be used for an extended period, we recommend turning it off manually to conserve battery power. If the camera is completely out of power, recharge it using a USB cable.



The algorithm setting



- (1) Detection Frame: The algorithm box to open or close the button, open by default.
- (2) Pedestrian Detection: Detects pedestrians and alerts drivers to pedestrians.
- (3) Vehicles Detection: Testing vehicles and alerting drivers to oncoming traffic in front and behind them

6. Troubleshooting

1. Monitor Has No Image or Sound:

Check the power supply connection and ensure it has voltage.

2. Monitor Always Shows 'No Signal':

Verify if the camera is powered on and the power indicator is lit.

3. No Alarm Sound When Detecting a Pedestrian or Car:

Ensure the volume is not muted or set too low.

4. Screen Goes Black While Checking Video:

Confirm the camera is powered on. If the battery is depleted, recharge it. For pairing issues, refer to section 5.2.2 of the manual. If problems persist, contact us.

5. Camera Not Connecting:

Ensure that the camera is powered on and has sufficient battery. For pairing instructions, please refer to section 5.2.2 of this manual. If the problem persists, please contact us.

6. Waking Up the Camera from Sleep:

Press the power button on the camera briefly. If paired with the LCD, it will automatically wake and display the image.

7. Wireless Connection Range of the 2.4G Magnetic Rear View Camera:

The camera has a wireless range of up to 492 feet (150 meters). Range may vary based on vehicle type and environment.

8. Low-Power Function and Benefits:

The low-power function enhances energy efficiency by putting the camera in sleep mode when the LCD is off, saving power and reducing charging frequency.

9. 1080P Advertised but 720P Video Exported:

The camera has a 1080p sensor, but wireless transmission may limit resolution to 720p for stable signal quality. The camera maintains 1080p capability.

10. Camera Not Sticking to the Car:

The magnetic base attaches to iron, cobalt, or nickel surfaces. If the desired location lacks such a surface, consider adding a metal plate to facilitate mounting.

If there are any problems during the use of the product, please contact us in time. Thank you!

Email: support@insecam.net

WhatsApp: +86 13318775092

