ROADEFEND

User Manual

Safety Instructions

If you find some inconsistency in this manual during use, please consult the technical support department. The content will be updated over time to time without notice.

Installation Precautions

In order to ensure the normal operation of the device, to extend its service life, please ensure that it meets the specifications during installation.

- The device should be installed horizontally, as far as possible from locations with high vibrations. Make sure that there is no interference from other electronic device, and the ventilation is good. Also there is no shielding, covering, and the device and its accessories and peripherals should be installed in a position that is not easily accessible to passengers and drivers;
- Please pay attention to waterproof, moisture and lightning protection when installing the device;
- Remember not to touch the power supply and the device with wet hands; do not spill liquid on the device to avoid short circuit or fire inside the device;
- This device is compatible with 12V and 24V power supply, please pay attention to the positive and negative poles when wiring;
- When connecting other external devices, please turn off the power the device. Do not plug and unplug while powered on;
- It is strictly forbidden to move the device or replace components with electricity, otherwise it will damage the device;
- Do not place other device directly on this product;
- Non-professionals are not allowed to disassemble the case by themselves to avoid damage and electric shock;

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1. PRODUCT INTRODUCTION

1.1. PRODUCT DESCRIPTION

The product is a active safety intelligent prevention and control system.Supporting the following functions: Driver monitoring system(DMS), forward collision warning (ADAS), blind spot detection(BSD), support for GPS/BD positioning, 4G network communication, multi-channel video surveillance， local dual SD card storage, etc. The product is designed to improve the driving safety of the driver. It is equipped with a multi-channel AI analysis performance system that allows it to be flexible and expandable by ota. The device has a good performance of the system stability, compatibility, maintainability throughout its lifetime.It meets the requirements of ISO 7637, CE, FCC, Anatel,PTCRB, ATT, emark, nom208, nom001, ukca, IP level certification, flame retardant level certification and other standards. While ensuring product compliance, it has multi-channel AI analysis performance, can be flexibly defined and expanded by software, and has good performance in system stability, compatibility and maintainability.

2. PRODUCT FEATURES

2.1. FULL-FEATURED ACTIVE SAFETY INTEGRATED DEVICE

GPS/BD positioning

Meet multi local active safety standards

Maximum support 5 channels 1080P HD audio and video input

2.2. SIMPLE AND STABLE HARDWARE DESIGN

GPS optimization design, minimize circuit interference

Support 2 SD cards storage, single SD card maximum support 512G, cycle stable recording, no omission

2.3. PROFESSIONAL AND RELIABLE SYSTEM SCHEME

Built in EMMC, support video recording cycling, emergency video dual backup

Equipped with super capacitor, no affect of external instant power failure

The special video file system to ensures the confidentiality and security of video data

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2.4. Professional and reliable active safety

Support DMS, ADAS, BSD and other AI algorithms

Deep learning technology: accurate target recognition and fast iterative update

Support the latest neural networks of the industry

2.5. Strong operation and maintenance capability

New web configuration tool, simple style GUI, convenient

New EMS maintenance system, strong remote operation and maintenance capability

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3. APPEARANCE DESCRIPTION

3.1. FRONT VIEW

Figure 1：Front view of the controller box

3.1. REAR VIEW

Figure 2: Rear view of the controller box

3.2. System Connection Diagram

Figure 3

Note: The solution is flexible and can be customized according to customer needs.

4. PRODUCT CONFIGURATION LIST

4.1. Product Part Checklist

Table 1: Product Part List

No	Part Name	Quantity	Remarks
1	AI-8-BOX Controller	1	
2	Power Cable	1	
3	GPS antenna	1	
4	4G antenna	1	
5	Triangular certificate	1	
6	Mounting screws	4	For installation
7	Key of the front cover	1	
8	External Speaker	1	
9	Communication wire harness	1	

4.2. PRODUCT ACCESSORIES

Table 2: Product Accessories List

No	Name	Quantity	Remarks
1	DMS Camera	1	AI camera, supporting up to 4 channels
2	ADAS Camera	1	
3	R-BSD Camera	1	
4	F-BSD Camera	1	
5	L-BSD Camera	1	
6	AHD Camera	4	
7	IPC Camera	1	
8	SD Card	2	The device can be installed with 2 cards
9	SIM Card	1	Provided by customer
10	CVBS Screen	1	
11	Peripheral expansion harness	1	
12	Camera extension Cable	N	As needed
13	Sound and light alarm	1	
14	Hand Mic	1	
15	Wifi antenna	1	

Notice: This product is flexible in configuration and rich in combinations, please contact sales or technical support for details

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4.3. Device Harness

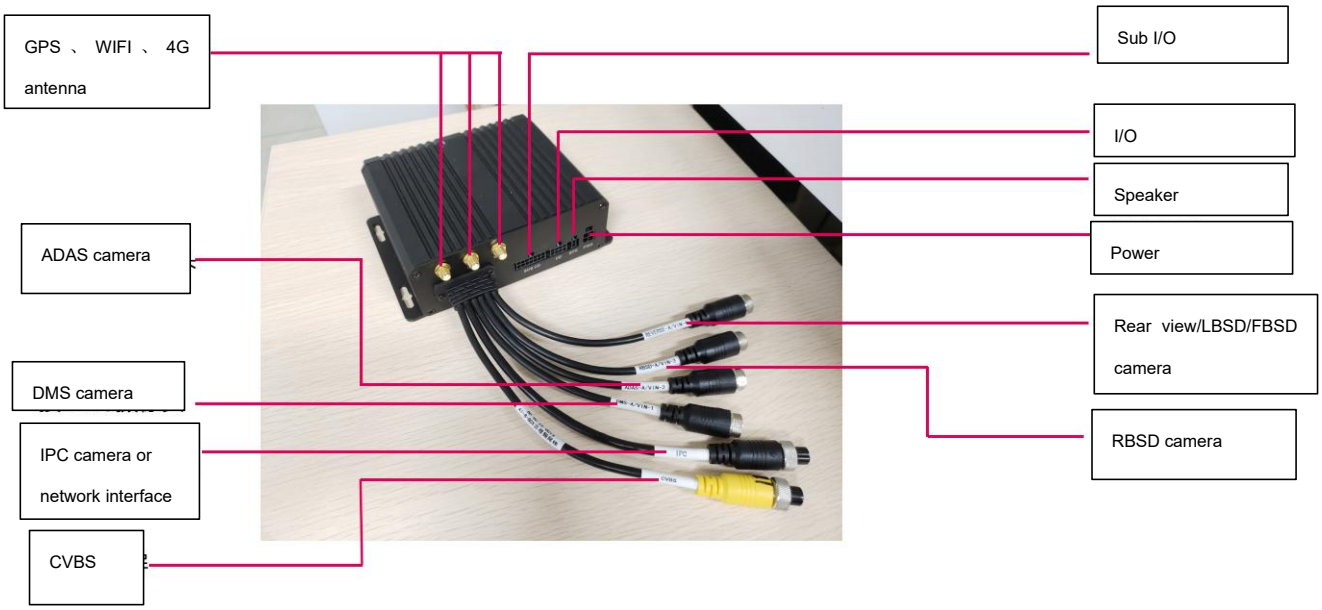

Figure 4: Device Cable Connection

The harness has a variety of function combinations. Please consult the sales or technical support for details

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5. PRODUCT FUNCTION OVERVIEW

Function type	Function description	Voice prompts
Basic functions		
Satellite positioning, etc.	Real-time positioning, Over-speed alarm	Can be customized
Vehicle video monitoring	Local video storage, Real-time video upload, Historical video playback, Voice intercom, Monitoring, etc	Can be customized
Advanced Driver Assistance System		
Lane Departure Warning	LDW: Lane Departure Warning When the vehicle speed exceeds the set value, the device will issue a warning when the driver leaves the lane unintentionally	"Beep Beep"
Forward Collision Warning	FCW: Forward Collision Warning If the vehicle speed exceeds the set speed and the collision time with the preceding vehicle is lower than the set safety time threshold, the device will issue an early warning	"Doodle Doodle"
Distance Detection Warning	HMW: Headway Monitoring & Warning When the vehicle speed exceeds the set value and the distance is kept less than the set minimum time interval, the device will issue an early warning	"Please keep the distance"
Pedestrian Collision Warning	PCW: Pedestrian Collision Warning Warn about impending collisions with pedestrians in front of the car	"Doodle"
Traffic Sign Recognition	TSR: Traffic Sign Recognition When the vehicle is on the road, identify and judge the traffic signs in advance	According to the logo identify prompt
Driver Status Monitoring		
Fatigue Driving Warning	When it is found that the driver enters the doze state and exceeds the set warning threshold, the device sends out an alarm	"You are tired, please have a rest"
Distracted Driving Warning	When the driver's attention is not focused on the road ahead, including the occurrence of head-up, head-down, and left-right look, yawn, the device sounds an alarm when looking down at a mobile phone and other actions	"Please pay attention to the front"
Phone Warning	When the driver makes a call while driving, the device issues an alarm	"Please concentrate on driving"
Smoking Warning	When the driver smokes while driving, the device will give an alarm	"Please concentrate on driving"
Driver abnormal Warning	When the driver deviates from the driving position and the device cannot detect the driver's face, the device issues an alarm	"Dang~Dang~"

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Camera Cover Warning	If the blocking object covers the driver's status monitoring camera for more than the set time, the device will send out a blocking alarm	"Do not block the camera"
Blind zone detection auxiliary system		
Blind Spot Detection	BSD: Blind Spot Detection When the vehicle is driving and detects the presence of pedestrians, vehicles and other obstacles on the blind area, the device will issue a warning,	"Please note the pedestrian on the right"
Other auxiliary systems		
Acute driving detection	Rapid acceleration, Rapid deceleration, Sharp turn, vehicle rollover	According to the acute driving conditions

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6. INSTALLATION PREPARATION

6.1. SITE TERRAIN REQUIREMENTS

Find an open area before installation. In principle, it is required to install and calibrate in areas with flat road, wide vision (skyline can be seen) and lane lines. Considering the actual situation, the installation and calibration shall be carried out at least on the flat ground. Park the vehicle horizontally. It is forbidden to install and calibrate the device when the vehicle is in an inclined state. The specific site requirements have the following two methods: Method 1: find a straight lane to ensure that the vision ahead is wide and the distant skyline can be seen. Stop the vehicle in the center of the long straight horizontal lane and ensure that the vehicle stops straight, as shown in the left figure: Method 2: find a flat open space to ensure that the ground where the vehicle is parked is not inclined, and there is an open area of not less than 5 meters in front of the vehicle in the installation site, which is convenient for the installation personnel to calibrate, as shown in the right figure below

6.2. REQUIREMENTS FOR INSTALLATION PERSONNEL

Site construction personnel should be familiar with the functions and applications of products, understand the composition and working principle of the whole system, be familiar with the internal structure and electrical circuits of motor vehicles, and have experience in the installation and construction of common device in vehicles. It is necessary to know the installation location in advance, the vehicle model of the installation device, the selection of the installation location of the host and camera, and the length of various cables required during installation, and prepare the required common auxiliary materials in advance to ensure the smooth completion of device installation and commissioning.

6.3. VEHICLE INFORMATION CONFIRMATION

Before the device is installed, the on-site construction personnel must confirm the electrical information of the vehicle. This step is the basis for the division of responsibilities involved in vehicle damage (if any). The next step of installation can only be carried out after all the following operations are checked:
Whether the vehicle can be ignited normally.

Whether the vehicle power supply system is in good condition,
whether there are other electrical faults, etc. Whether the vehicle has appearance damage.

6.4. DEVICE INFORMATION CONFIRMATION

6.4.1. Hardware information confirmation

Before installation, check whether the device is complete and damaged. The specific device list shall be subjected to the project plan.

6.4.2. Software information confirmation

Before installation, check the delivery information sheet to confirm the correctness of the factory version of the device software. If it is found that the device software version is inconsistent with the required version, immediately contact the person in charge to check and deal with it, and upgrade it if necessary. Confirmation method: after the device is powered on, use web app to check whether the firmware version information and patch number are consistent with the factory shipment information.

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7. LIST OF INSTALLATION TOOLS

Table 3: List of installation tools

No	Tool name	picture	Specification
1	Wire stripper		General type for cutting lines
2	Tape measure		More than 5M
3	Test pencil		Test pencil for vehicles
4	Screw Set		More than 20cm in length， With slotted screwdriver And Cross screwdriver
5	Multi-meter		General type, used to measure voltage, left and right turn signals, brake signals, etc
6	Corrugated pipe		2cm , used for wiring, packaging, to prevent leakage and line damage
7	Knife		Used for cutting corrugated pipe, tie-wraps and other items

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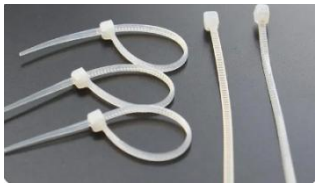
8	Insulating black tape		Used for binding thread
9	tie-wraps		7cm long, used to fix the harness
10	Adhesive tape		It is used to fix the DMS bracket when the hole cannot be punched
11	Electric screwdriver		Professional Electric screwdriver, with a drill diameter of 3cm, is used to fix screws and make holes when walking dark lines

8. INSTALLATION GUIDANCE AND PRECAUTIONS

8.1. INSTALL THE CONTROLLER

8. 1. 1. Wiring Harness

First, find the vehicle power harness (VIN), vehicle ignition switch harness (ACC), ground harness (GND), speed signal harness, left and right turn signal harness of the vehicle. The corresponding harness can usually be found in the fuse box of vehicle. As shown in the pictures below:

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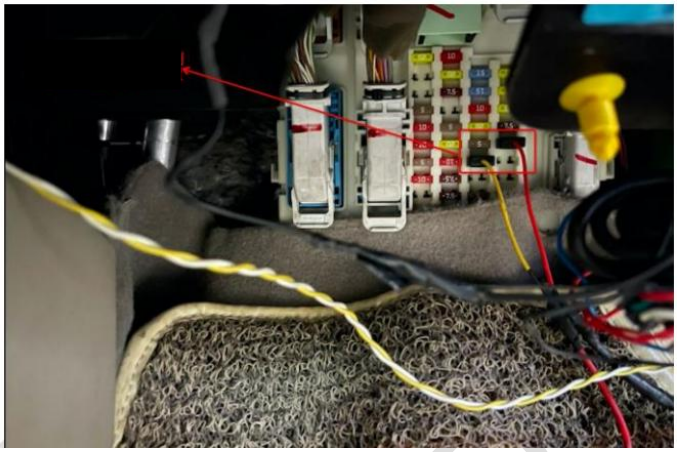

If the description of the fuse box is vague and cannot be judged, the corresponding harness can be found by measuring with a test pencil. The judgment method is as follows：

Vehicle Power Harness(VIN)：When the vehicle engine turning off, use the test pencil to measure whether the VIN has electricity. If there is electricity, you can judge that this harness is VIN, and then measure the voltage to ensure that it is within the scope of use of the device.

Vehicle Ignition Harness(ACC)：Use the test pencil to measure ACC harness, if the voltage of this harness is 0V when the ACC is off and the voltage of this harness is not 0V after the ACC is on, it can be judged that this harness is an ignition signal harness. Then measure the voltage to ensure that the voltage can work normally.

Brake, Left and Right turn Signal Harness：Use the test pencil to measure the voltage, when the vehicle does not turn on the left and right turn signal lights, the harness has no voltage, and when the vehicle turns on the left and right turn signal, the harness has voltage;It indicates that this harness is left and right turn signal harness; Braking is the same. If you still cannot determine the signal harness through the above methods, please contact the team or other professional auto repair shop for assistance.

According to different customer needs, other unused harnesses, such as can wires, are not required to be disconnected, but must be wrapped with insulating tape to ensure that the exposed part of the wire head does not contact any part of the vehicle

8.1.2. Installation and wiring

In order to improve the operation reliability and prolong the service life of the device, the installation mode and location should be comprehensively considered from the aspects of vibration resistance, heat dissipation, moisture resistance, dust prevention, damage prevention, electrical environment, wiring and maintenance.

1)Direction: the longitudinal axis of the device and the longitudinal axis of the vehicle are basically the same (the deviation is not more than 20 °), The front panel of the device faces the inside of the vehicle and is firmly fixed by using the bracket method or the slot installation method (as shown in Figure 5)

Notice：Because the IMU module of AI-8-BOX is located inside the host, failure to install and calibrate as required will affect the relevant alarm functions of the IMU, including ADAS, BSD,Acute driving detection and other functions

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Figure 5: Installation Position

2)Anti-vibration: the device shall be installed at the place with weak vibration of the vehicle and away from the engine; If you choose to install it on the center console of the vehicle, ensure that the device is firmly installed and that the device will not move due to vehicle shaking during vehicle driving.

3)Heat dissipation: ensure that the device is far away from the heat source on the vehicle, and the device is installed in a ventilated position, which is conducive to heat dissipation;

4)Moisture proof: the device should be installed in a dry and ventilated place;

5)Dust prevention: the device should be installed at a place with less dust;

6)Space: try to choose a flat position for device installation to facilitate fixation and maintenance. The installation space should be kept at a certain distance from other objects as far as possible to facilitate air circulation and heat dissipation;

7)Electrical: keep away from electromagnetic complex environment and interference environment as far as possible;

8**)Wiring:** the wiring of the device shall be beautiful and concealed as far as possible to ensure that the operation console is clean and beautiful. The harness exposed outside the cab needs to be protected by bellows, and it needs to avoid frequently moving parts to prevent the harness from being damaged due to vibration and pulling during use. The difficulty of wiring shall be considered during installation, and the modification of the vehicle body shall be avoided as far as possible;

9)Fixing: after the installation position of the host is determined, it needs to be fixed with screws to prevent shaking during vehicle driving.

8. 1. 3. Install SD card and SIM card

When installing SD card and SIM card, it is necessary to open the front lock for operation. The factory default is that the front panel door lock is in the locked state. See Figure 1 and Figure 2 of this document for the device

Use the key to open the door according to the schematic diagram of the door lock.The notch of SIM card and SD card is consistent with the notch orientation of the device schematic diagram. Insert sim card and SD card, and you can feel the spring of the card holder when pressing. Pressing SIM card and SD card to the bottom indicates that the installation is completed. The installation schematic diagram of SIM card and SD card is shown in the following figure 6

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figure 6： Installation of SIM and SD Card

8.2. INSTALL DMS CAMERA

8. 2. 1. Installation position requirements

The DMS camera is installed on the dashboard in front of the driver, within 60cm~120cm from the driver's face, and the included angle with the normal of the face when the driver looks forward is required to be less than ± 30 °; The included angle with the face normal in the vertical direction is less than 30 °, as shown in Figure 7 below.

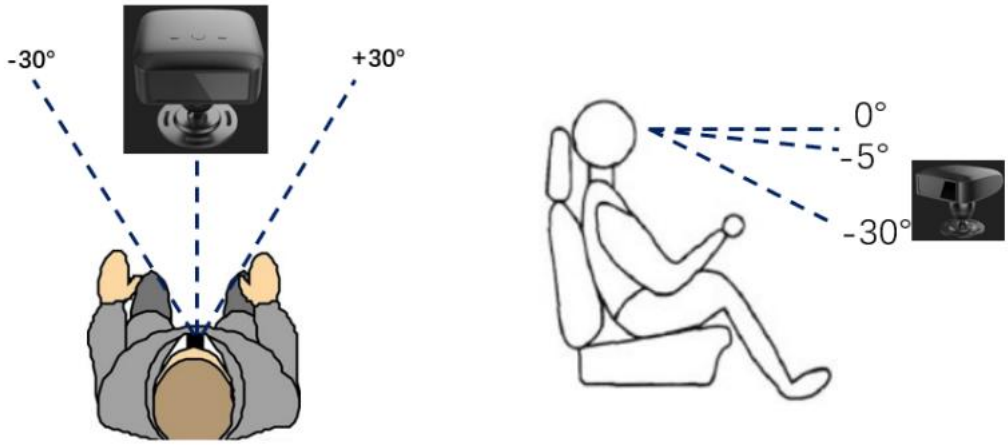

Figure 7: DMS Camera Position

8. 2. 2. Camera fixing and angle adjustment

After selecting the installation position, use four self tapping screws to fix the camera bracket on the dashboard, as shown in Figure 8. The installer should fasten the safety belt and sit well according to the driver's driving posture, connect to the powered on host through the mobile phone web tool, view the DMS live image. According to the live image, and adjust the

camera angle through the universal ball shaft until the driver's face is in the center of the display and occupies about 1/3 of the screen, as shown in Figure 9 below.

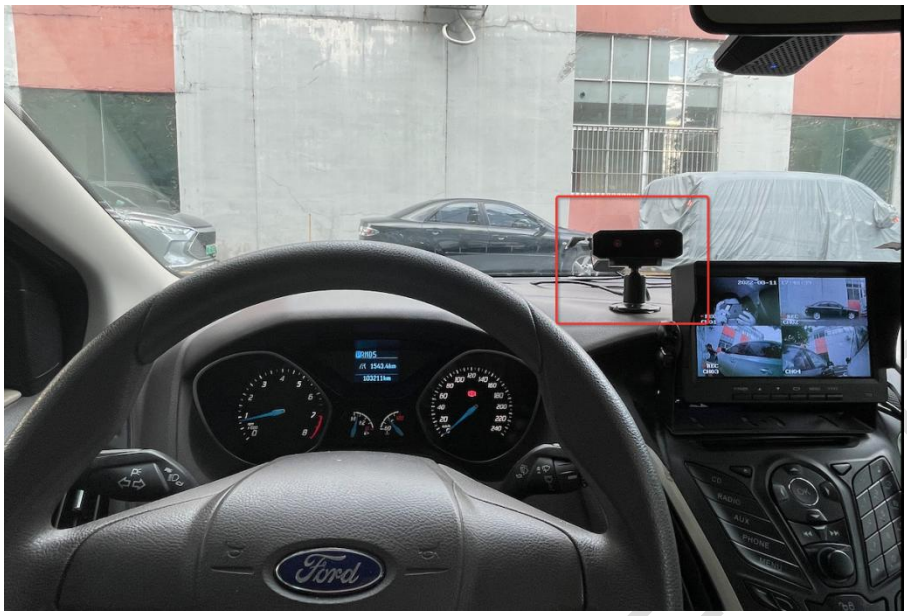

Figure 8：DMS Camera fixing

Figure 9：Driver position of DMS Camera

8. 2. 3. Precautions

Since the camera is installed above the center console, it is necessary to ensure that the installation will not affect the driver's driving vision. The wiring of the device should try to ensure that the dark wire is used to ensure that the operation console is clean and beautiful. The exposed harness needs to be protected by corrugated pipe to prevent damage during later use.

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8.3. INSTALL ADAS CAMERA

8. 3. 1. Installation Position Requirements

The middle of the windshield is recommended. Commercial vehicles are relatively high, so the camera is located below the middle of the windshield; The passenger car is low, and the camera is installed above the middle of the windshield, as shown in Figure 10 below.

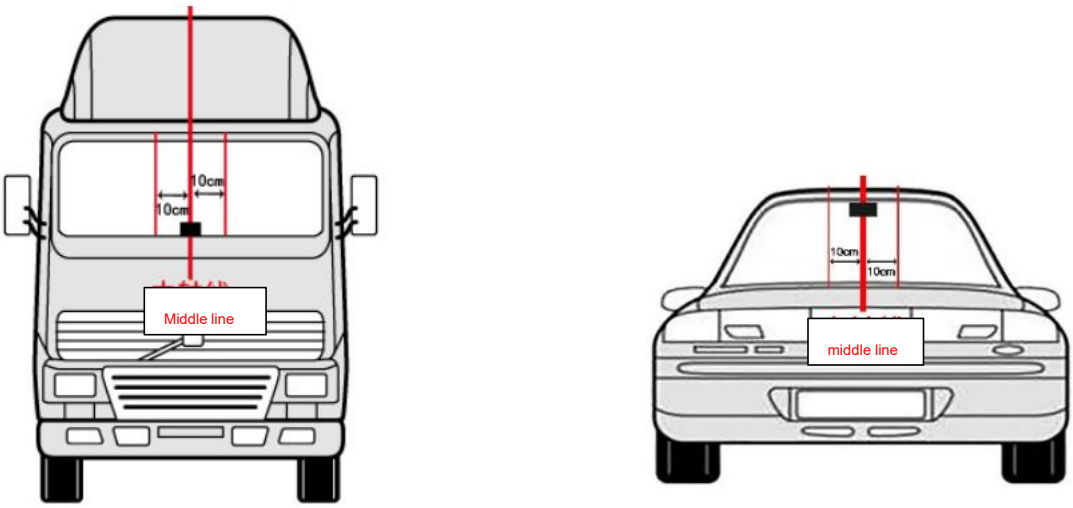

Figure 10：ADAS Camera Installation Position

8. 3. 2. Camera Fixing and Angle Adjustment

Wipe the preinstalled area of the windshield with a dry rag, remove the 3M adhesive sticker and lens protective film of the camera, as shown in Figure 11 below. Stick the ADAS camera on the preinstalled position on the windshield, measure whether the top of the camera is parallel to the ground with a level gauge, and observe the live image of ADAS camera， Make sure there is no obvious height difference between the left and right sides of the live image, and compact the camera after that.

Gently lift the handle, slide up and down to adjust the camera pitch angle, as shown in Figure 12 below. At the same time, observe the live image of ADAS camera to ensure that the camera angle is horizontal and forward, the distant horizon is in the middle of the picture, and the sky and the earth account for half, as shown in Figure 13 below.

Figure 11: ADAS Camera

Figure 12：Adjust the angle

Figure 13：Make sure the skyline is in the center of the screen or in web-app

8. 3. 3. Wiring and precautions

When wiring, pay attention to put the harness into the gap between the windshield and the center console as far as possible to hide the harness; Before fixing the camera, check whether the camera is clean. If there are fingerprints or dirt, please gently wipe it with a soft cleaning cloth. Gently press the camera until the 3M adhesive tape and windshield are fully bonded, ensure that camera is stable.

8.4. Install BSD Camera (Take truck as an example)

8. 4. 1. Installation position requirements

There are generally three installation schemes (installation positions) for BSD cameras. Type1 is generally recommended for trucks, and Type2 and type3 can be selected according to the actual project situation. For specific installation and calibration methods, see web app - algorithm configuration. This document takes type1 as an example to explain the installation and calibration of BSD.
The best effect is when the installation height of BSD camera is about 1.8m from the ground. If there is no installation position at 1.8m, the height can be selected between 1.8m and 2.2m. When selecting the front and rear positions, try to stay back and be more than 2 meters away from the middle axle of the vehicle, as shown in Figure 14 below.

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Figure 14: BSD installation

8. 4. 2. Camera Installation and Angle Adjustment

Measure the height of the BSD installation position with a tape measure, mark it, and wipe the vehicle of the installation position with alcohol to remove dust. Fix the bottom of the protective support of BSD camera to the vehicle body through screw punching, or contact the customer's welder to assist in welding and fixing. Punch holes in the vehicle body under the support so that the camera extension harness can enter the cab through the hole to connect with the host, as shown in Figure 14 above

Loosen the screw fixing the angle of the camera with a screwdriver, observe the web app--live image on the mobile phone and adjust the BSD camera angle so that the proportion of the vehicle in the picture does not exceed 10%, and the skyline is horizontal and the sky accounts for about 20% , as shown in Figure 15 below.

Figure 15: Installation requirements, wrong for the middle and correct for the right figure

8. 4. 3. Wiring and Precautions

The video extension cable needs to be wrapped with a protective sleeve to prevent later wear. The truck body can be lifted, and the harness needs to be routed from the rotating shaft. The harness needs to be fixed on the vehicle body with ties and harness clamps to avoid shaking or pulling, and a certain margin should be left to avoid pulling the harness when the truck body is lifted. The wiring of the vehicle body needs to be routed along the vehicle girder. It needs to avoid contacting the heat dissipation pipe and other parts that are easy to cause damage to the harness, as shown in Figure 16 below

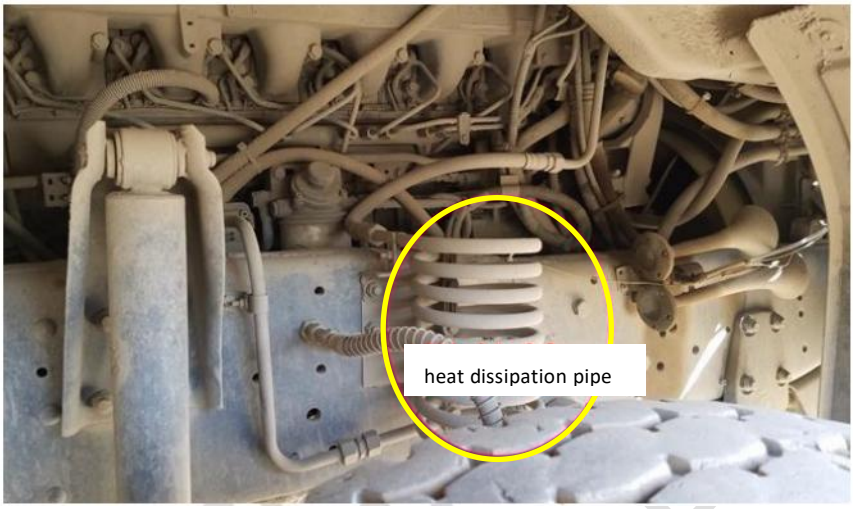

Figure 16: Wiring requirements

8.5. Install 4G&WiFi&GPS Antenna

8. 5. 1. install 4G & WiFi antenna

When installing 4g & WiFi antennas, do not pile them up disorderly. When the antenna length is long, it can be folded and tied When installing and fixing, it should be placed vertically. Tear off the 3M adhesive protective sticker at the back and stick it in a suitable position: the pillar of the vehicle (recommended) is shown in Figure 27 below. Remember not to fix it on the metal medium at the side of the windshield and on both sides of the vehicle dashboard.

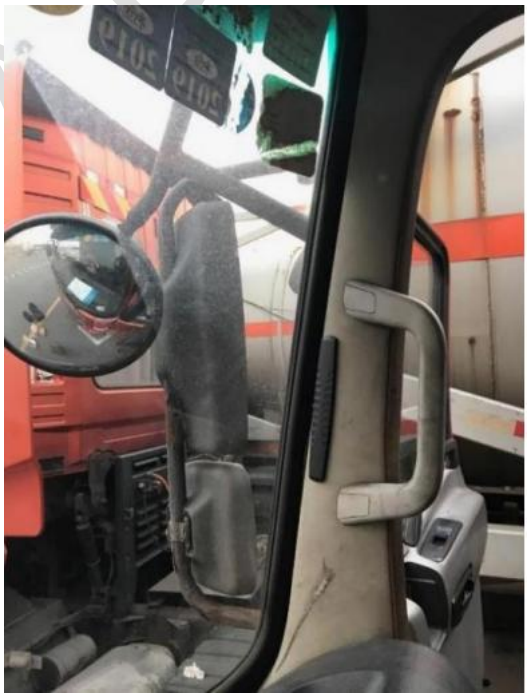

Figure 17 4G Antenna Installation

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8.5.2. Install GPS Antenna

The installation position of GPS antenna is preferentially selected on the roof, and the harness can enter the vehicle through punching or along the door gap. If it cannot be installed on the roof, it is recommended to install it on the console in front of the passenger seat, as close to the window as possible. More than 50cm away from the electronic device, pay attention to the antenna receiving surface facing upward, and tear off the 3M adhesive protective sticker and stick it on the console, as shown in Figure 18 below, to ensure that the antenna is stable during driving, and it is strictly prohibited to stick the GPS antenna to the device.

Figure 18：BSD Antenna Installation

9. USE OF WEB APP CONFIGURATION TOOLS

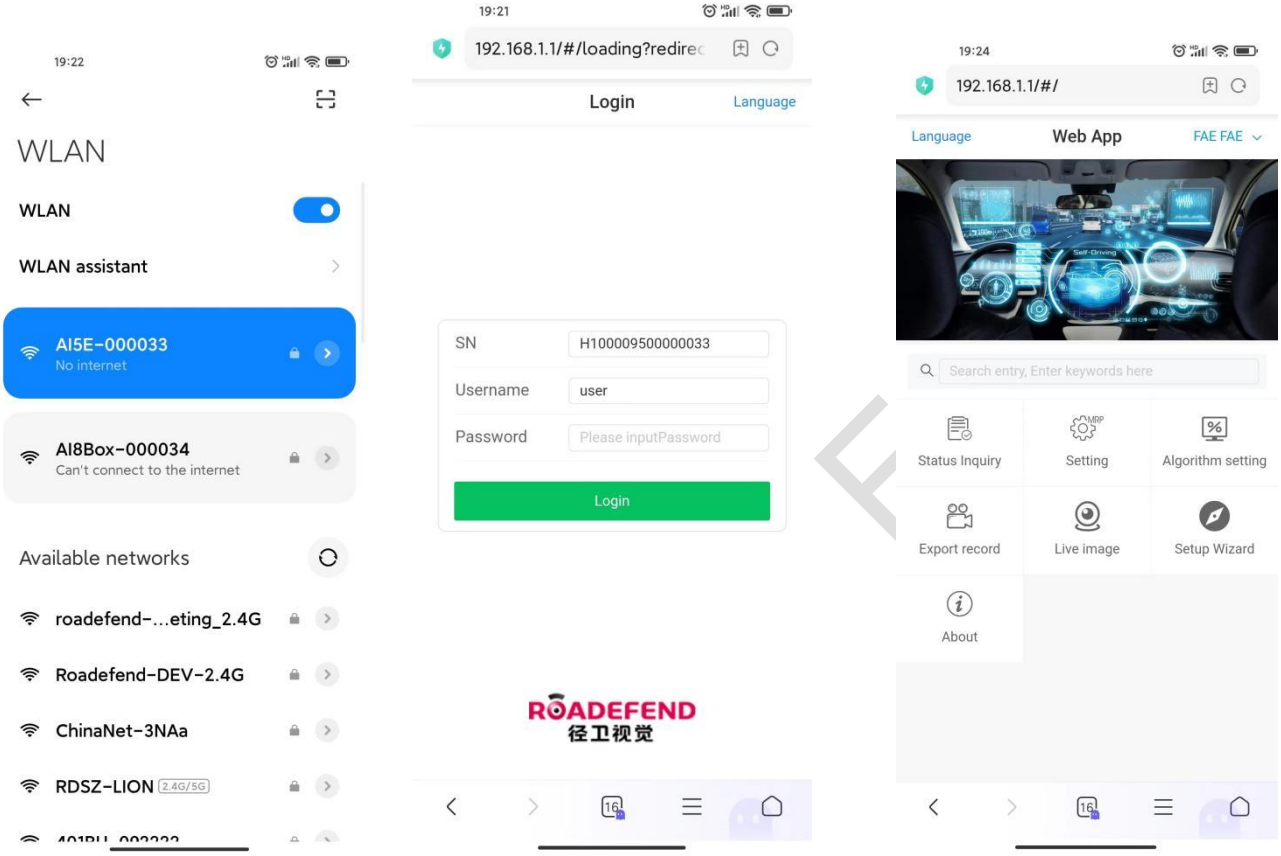
9.1. LOGIN

9.1.1. Connect WiFi

When the mobile phone opens the WiFi connection interface, you can see the WiFi name of "ai8box- the last six digits of the device number", such as ai8box-000949. Connect to this WiFi, and all the WiFi passwords of ai-8-box are unified as 12345678,Go to the next step after the connection is successful

9. 1. 2. Login Web App

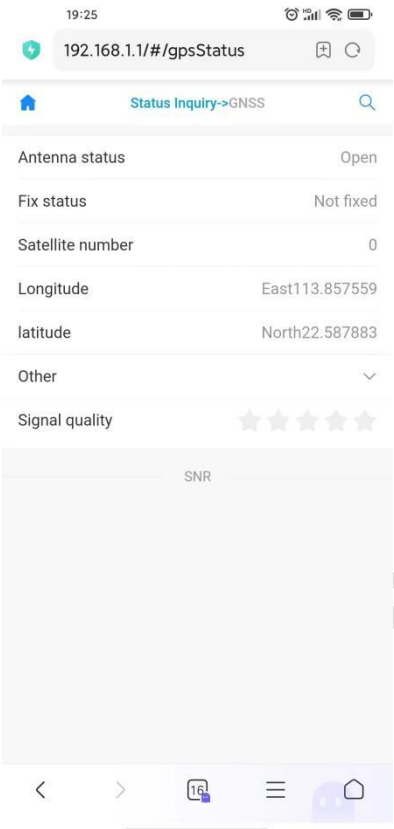
Open the mobile browser, enter "192.168.1.1" in the website bar, and click go to enter the login page; After checking the device number and the actual device number, enter the password: 123456, click login, and enter the homepage of the web app

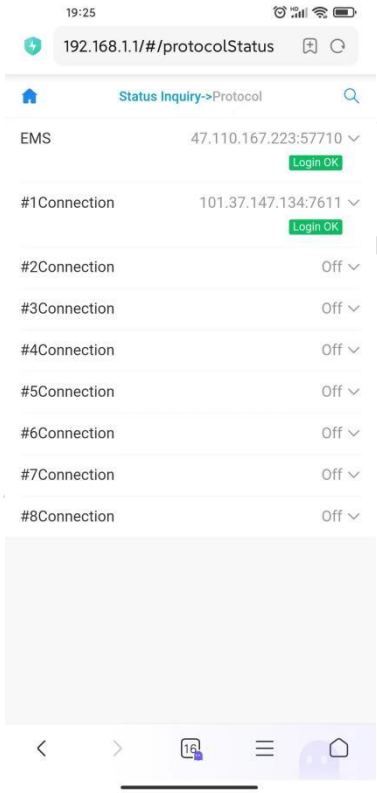


9.2. STATUS INQUIRY

Click "status inquiry" to enter the status inquiry page. The status inquiry includes: version information, vehicle information, storage, GPS, protocol, switch status, networking status, etc

19:25
192.168.1.1/#/vehicleInfo
Status Inquiry->Vehicle information
License plate number 粤B12345
The license plate color Yellow
Vehicle VIN 55
Engine number 55
Device information
SN H100009500000033
Terminal ID H000033
Business line number 012917000033
Pulse factor 3600
Power voltage
Low voltage (12V) protection threshold (V) 9
Low voltage (24V) protection threshold (V) 17
Main voltage (V) 13.5 Normal


19:25
192.168.1.1/#/gpsStatus
Status Inquiry->GNSS
Antenna status Open
Fix status Not fixed
Satellite number 0
Longitude East113.857559
latitude North22.587883
Other
Signal quality
SNR


19:25
192.168.1.1/#/protocolStatus
Status Inquiry->Protocol
EMS 47.110.167.223:57710 Login OK
#1Connection 101.37.147.134:7611 Login OK
#2Connection Off
#3Connection Off
#4Connection Off
#5Connection Off
#6Connection Off
#7Connection Off
#8Connection Off

19:25
192.168.1.1/#/netStatus
Status Inquiry->State of the internet
4G module
Module type EC200T
Firmware version EC200TCNDAR03A03M16
ICCID 8986028819175005650 5
Mobile network
Network selection China Mobile
Service type FDD-LTE
Network type 4G
Signal 3
Status OK
Dial-up status Dial-up success
Dial-up IP 10.132.246.78

9.3. SETTING

9. 3. 1. Set Vehicle Information：

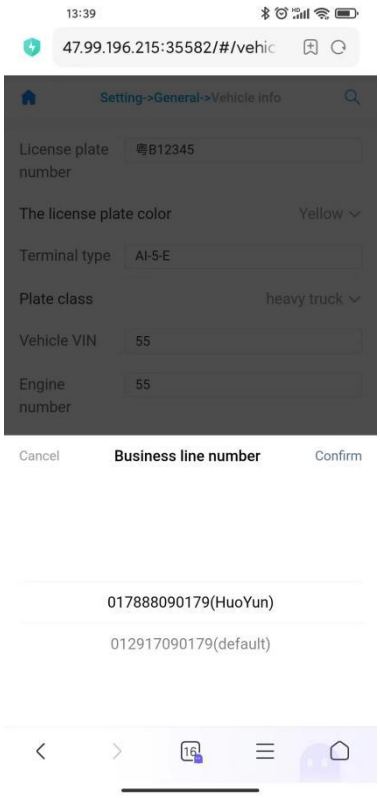
Click “setting---general---vehicle info”，input “the license plate color,license plate number”，etc，The business line number can be filled in by clicking the "+" on the right to select "HuoYun" or "default" (it is recommended to select "HuoYun") or according to the demand.

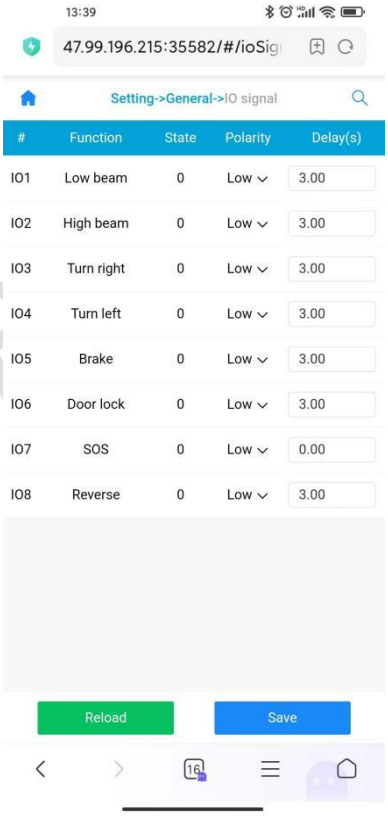
9. 3. 2. Set IO Status：

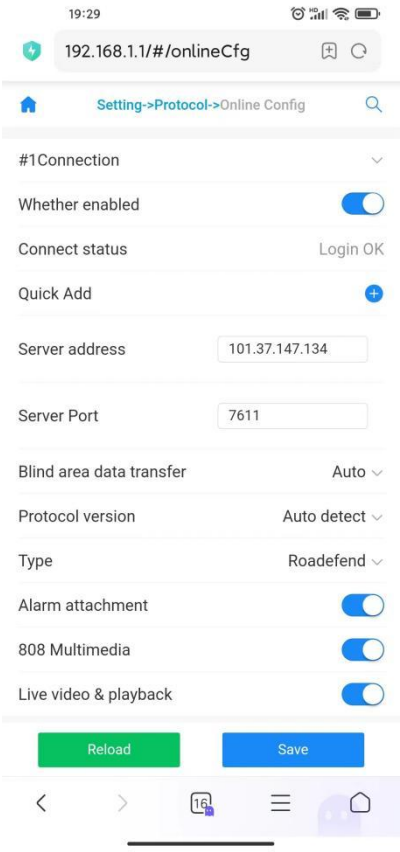
Click “setting---General---IO signal”， According to the actual situation, set the trigger level “high” or “low” value to be effective

9. 3. 3. Online Config：

Click “setting---protocol---online config”， Set the “Server address， server port” and other parameters according to the requirements







ROADEFEND

9. 3. 4. Set ”display linkage” and “mirror and flip”

According to the actual project requirements, click "setting - VIDEO - display linkage" or "setting - VIDEO - mirror and flip".You can set the “display linkage” function or mirror / flip the video of any channel

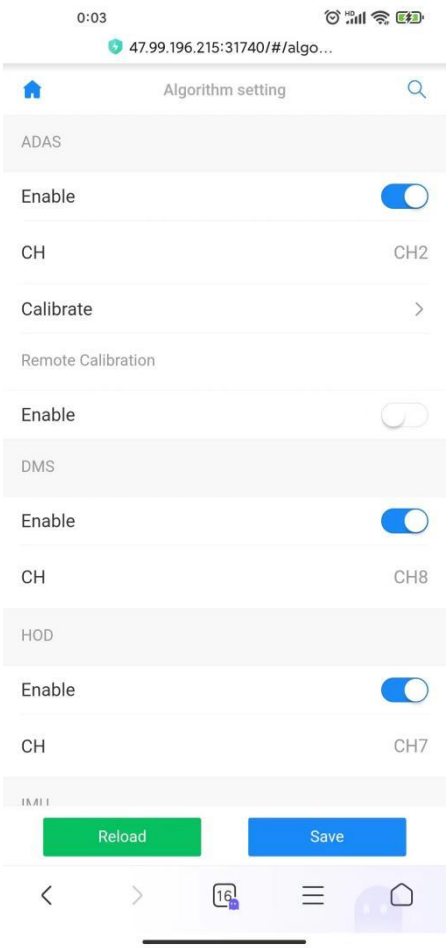
9.4. ALGORITHM SETTING

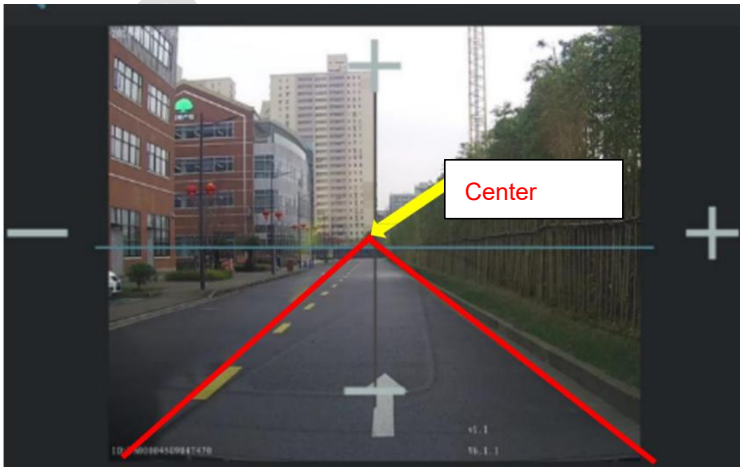
9. 4. 1. ADAS calibration

Click“Algorithm Setting”，Enter the algorithm configuration page to calibrate ADAS camera

（1）Distant skyline calibration

Drive the vehicle to the center of the long straight horizontal lane and ensure that the vehicle stops straight. Adjust the ADAS camera handle until the horizontal line of the picture coincides with the distant horizon . The ground and sky account for half of the picture, as shown in the following figure; Use a tape measure to measure the height of the camera from the ground, the distance of the camera from the center line, the width of the vehicle, and the distance from the camera to the front bumper, modify the parameters according to the actual situation, click the Save button, and exit after hearing the "calibration completed" language prompt





（2）Use the calibration rod to calibrate

ROADEFEND

If there are obstacles in front of the vehicle, and the lane line and the distant skyline cannot be seen, the installer can also use the calibration rod to calibrate.

Step 1: prepare a calibration rod whose length exceeds the installation height of the camera and stand it 1.5 meters in front of the camera;

Step 2: measure the installation height of the camera with a tape measure, and mark the same position of the calibration rod with an obvious color;

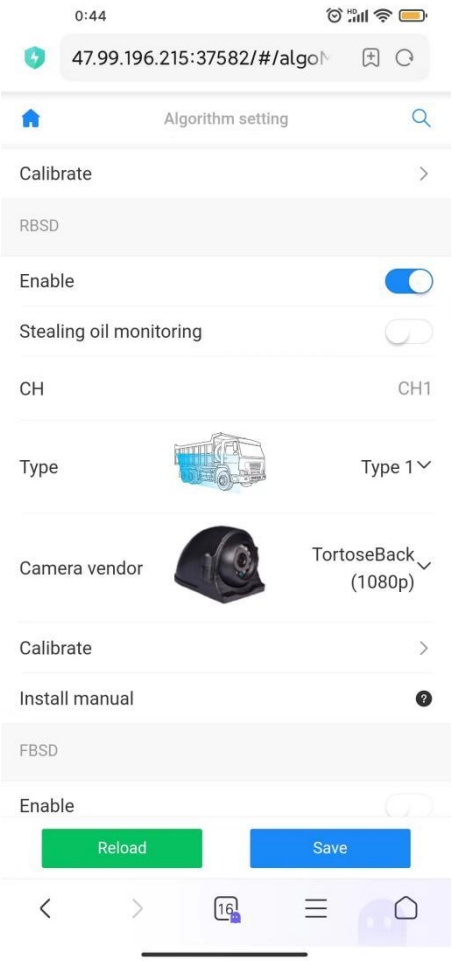
Step 3: enter the ADAS calibration page, adjust the up and down angle of the camera through the real-time video image until the mark on the calibration bar coincides with the horizontal line of the screen, as shown in the following figure:

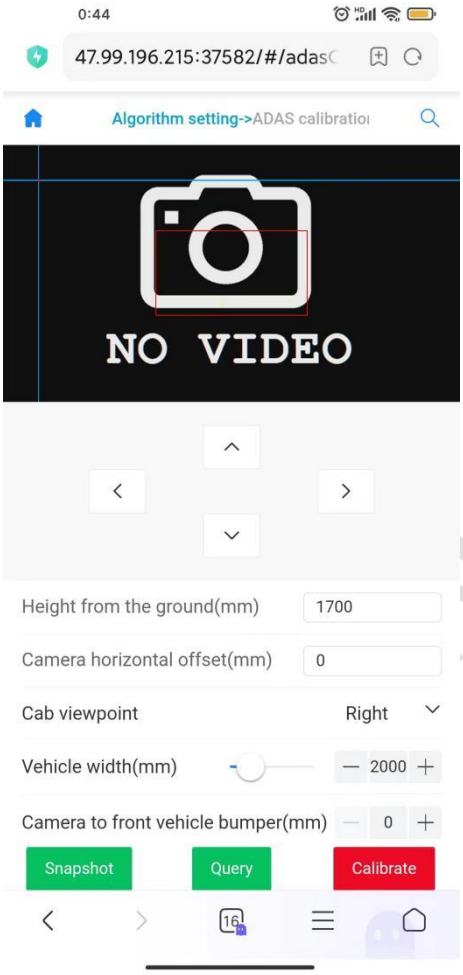
Step 4: measure the height of the camera from the ground, the distance of the camera from the center line, the width of the vehicle, and the distance from the camera to the front bumper with a tape measure, modify the parameters according to the actual situation, click the Save button, and exit after hearing the "calibration completed" language prompt.

9.4.2. BSD Calibration

Click“Algorithm Setting”， Enter the algorithm configuration page to calibrate BSD camera. Select the installation type and camera type according to the installation requirements, and click "install manual" to view the corresponding installation instructions. After operating according to the install manual, click "calibrate" to calibrate the BSD.

ROADEFIND

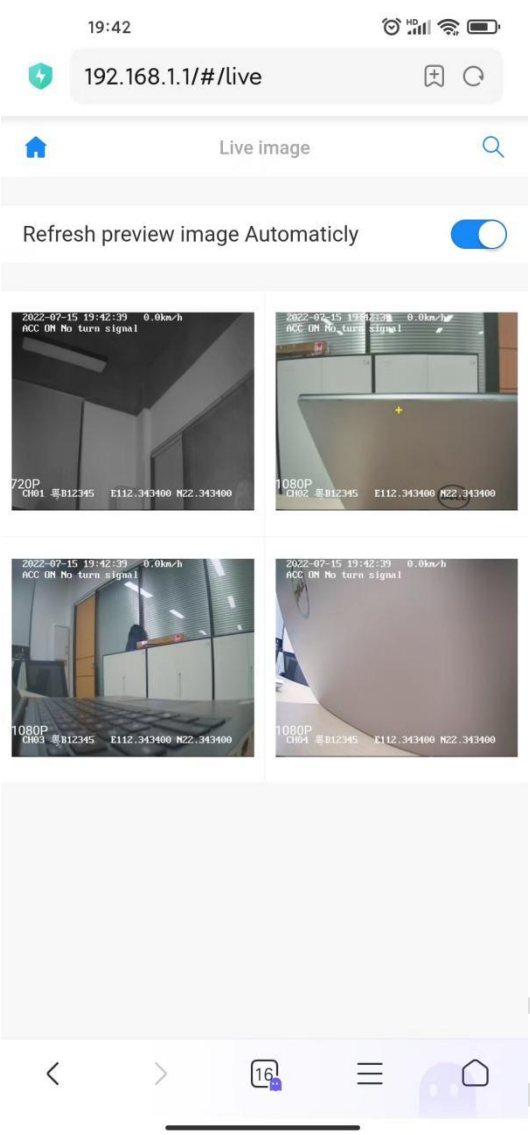




9.5. LIVE IMAGE

click "live image" to enter the real-time image page to view the images of each channel. After selecting "refresh preview image automatically", you can select one channel to view the real-time video of that channel.

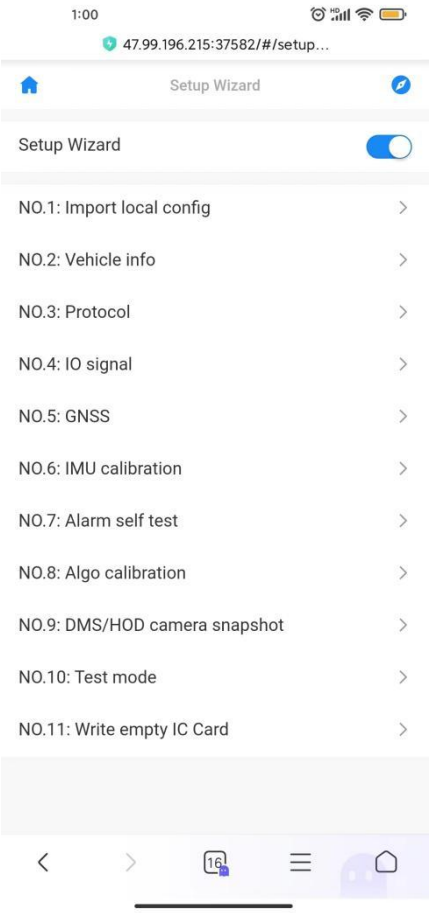
ROADWARD



9.6. SETUP WIZARD

To improve the installation efficiency, you can enter the installation wizard to operate in sequence, you can enter the installation wizard to operate in sequence

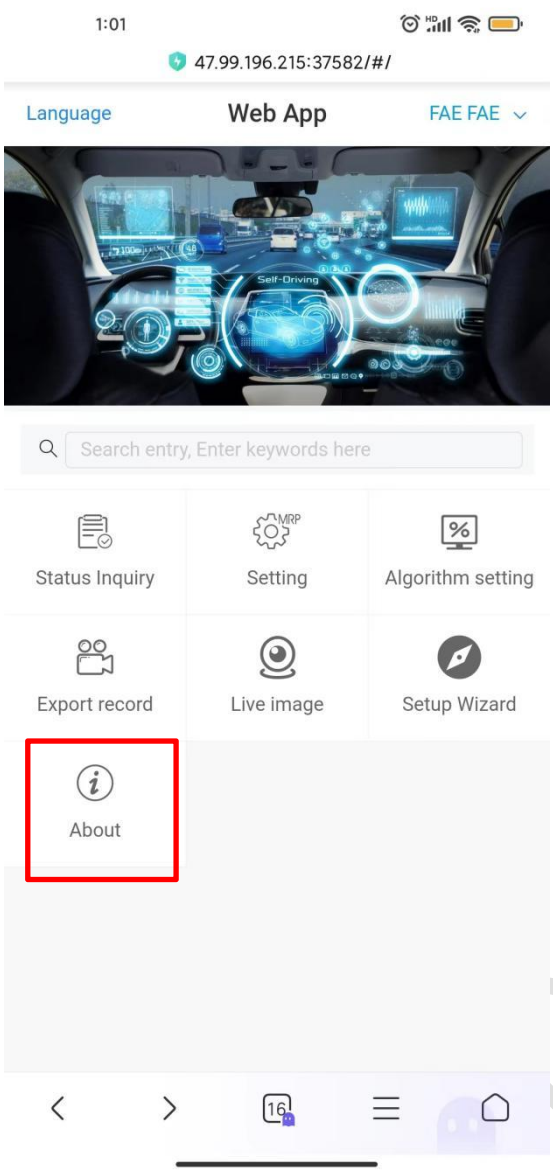
ROADE

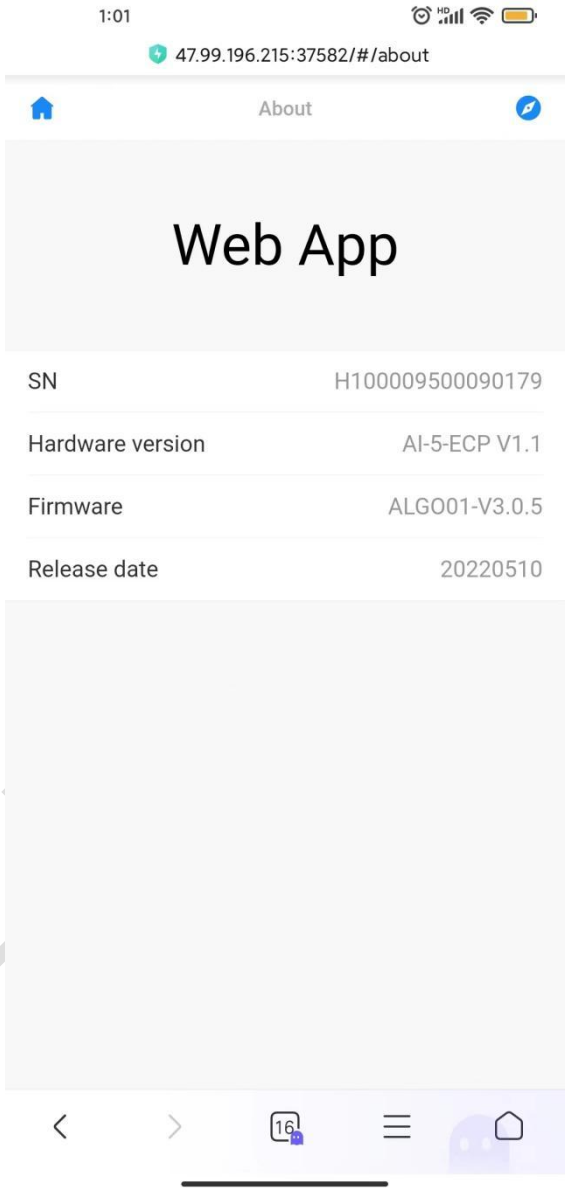


9.7. About

Click "about" to enter the about page to view the device SN number, hardware version, firmware version and release date of the device，as shown in the following figure

ROADEND





10. USER NOTICE

1. The product is a active safety intelligent prevention and control system, which can help enterprises manage fleets and monitor the status of vehicles in real time.
2. The driver using this product can reduce the possibility of traffic accidents caused by manual driving, but it cannot replace safe driving. The driver must still be attentive at all times and obey traffic regulations for safe driving.
3. Installation and calibration will affect the identification and response of the system. During installation, it must be installed and calibrated by the dealer or professional installer authorized by the company.
4. Pavement and weather conditions will affect the identification and response of ADAS and BSD functions. In case of unclear pavement markings and bad weather, the accuracy of system identification will be reduced.
5. This product is designed to improve driving safety and reduce the incidence of accidents. During use, it is necessary to ensure that the camera has a clear field of vision and avoid damage to the device.

FCC warning statements:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance 40cm between the radiator & your body.