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Safety Warnings

iSmartTTM 600 Tyre Tread Depth Measuring Equipment is suitable for tread depth measuring of four-wheel passenger cars. To avoid personal injury, property damage and accidental injury, please read and follow all safety tips in this chapter carefully before using the product.

- To avoid improper operation, iSmartTTM 600 operators need to receive relevant training and be familiar with the dangers, risks and working conditions in the repair shop.
- Check the equipment regularly, and conduct all maintenances and services as required.
- Use only authorized and qualified spare parts for equipment repair and maintenance.
- Keep the safety tips and warning labels on the equipment clean and clearly visible.
- The safety information described here covers all situations that SMARTSAFE is aware of. SMARTSAFE is unable to know, predict or recommend all possible hazards. The operator must ensure that the maintenance operation performed under any circumstances will not cause harm to personal safety.

Warning signs and definitions	
	Indicates a seriously dangerous situation which, if not avoided or operated incorrectly, will cause death or serious injury to the user.
	Indicates a potentially dangerous situation which, if not avoided or operated incorrectly, will result in minor injury or property damage.
	Indicates the cautions during use and the use conditions to be avoided as much as possible.

Please read all safety warnings and operating information carefully. Failure to follow safety warnings and operating information can result in electric shock, fire or serious personal injury.

1. Always keep test in a safe environment.
2. Equip fire extinguishers near the workplace.
3. During the test process, beware of pedestrians lingering around the equipment to avoid collision with the detection vehicle.
4. Regularly check the equipment power connection and the wear of the power line, and timely replace the aging line.

Precautions for operating iSmartTTM 600 Tyre Tread Depth Measuring Equipment

In order to avoid personal injury, property damage or accidental damage to the product caused by improper operation, please pay attention to the following points before using this product:

- Do not look directly at the equipment beam.
- Do not allow wires to hang on the edge of tables, stools, counters or sharp metal objects.
- If an extension cable must be used, place the power cable and extension cable carefully to avoid tripping or pulling.
- Keep the working area clean, tidy and well-lit. Miscellaneous, disordered, dirty or dark working environment is easy to cause accidents.
- Do not expose the equipment to wet environment.
- Please use the accessories authorized by our company. Substandard accessories may result in personal injury or damage to the equipment.
- When the equipment is damaged or the power cable and other parts are worn and need to be replaced, please contact the authorized maintenance personnel for inspection and maintenance. Before this, do not operate the equipment or repair and replace by yourself. This tip does not contain user serviceable parts.
- Do not allow untrained personnel to operate the equipment.
- Please maintain the measuring equipment regularly.

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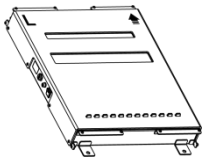
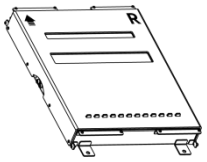
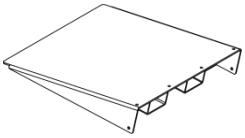
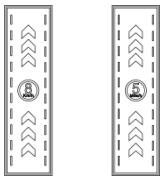
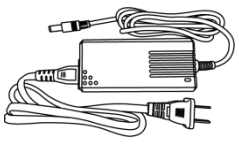
1. Packing List

The product configuration for different markets is different. For details, please consult the local dealer or check the randomly distributed packing list.

No.	Accessory Name	Reference Picture	Quantity
1	Measuring Unit (Left)		1
2	Measuring Unit (Right)		1
3	Connecting Bridge		1
4	Inclined Bridge Slab		4
5	Installation Positioning Sticker		1
6	Driving Instruction Sticker		2
7	Switching Power Supply (24V/3A)		1
8	Power Extension Cable (15m)		1

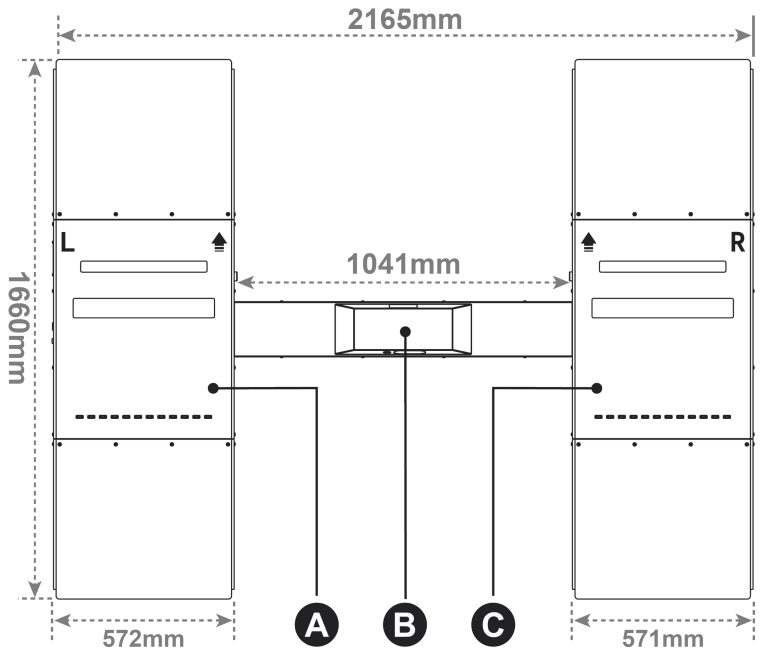
9	Bluetooth Adaptor		1
10	Bursting Screw (M8x60)		10
11	Socket Head Cap Screw (M6x16)		38
12	User Manual	-	1
13	Packing List	-	1
14	Certificate	-	1

2. Product Introduction

2.1 Overview

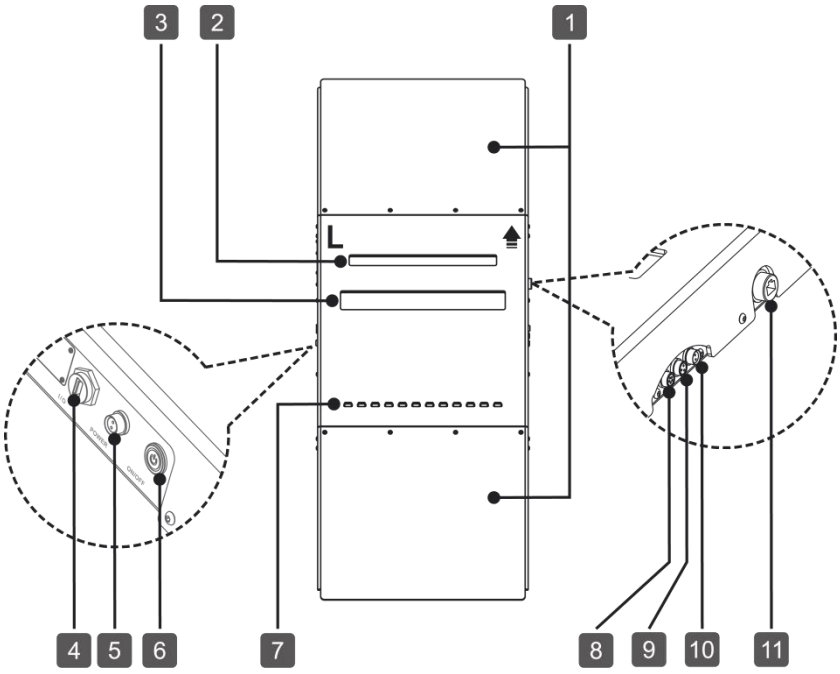
iSmartTTM 600 passenger car pass-through tyre tread depth measuring equipment is developed by SMARTSAFE to detect the tire tread data and tire wear status of four-wheel passenger cars. This equipment can accurately and quickly detect the wear status of each tire of the vehicle, and provide reference for tire replacement and vehicle maintenance.

2.2 iSmartTTM 600 Main Frame



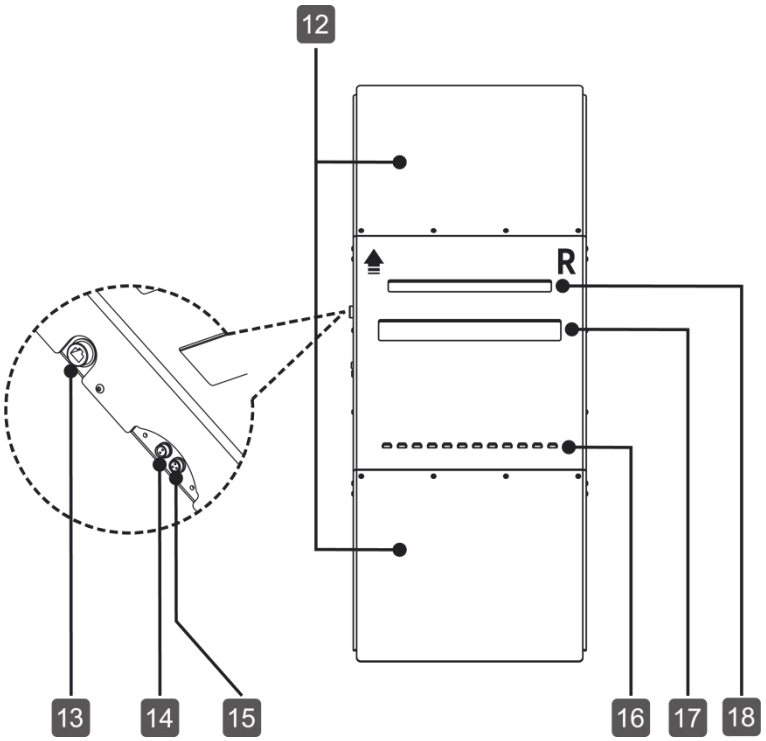
A. Left Measuring Unit B. Connecting Bridge C. Right Measuring Unit

2.2.1 Left Measuring Unit



1. Inclined Bridge Slab
2. Laser Glass Window
3. Camera Glass Window
4. Usb Type-A
5. Power Port
6. Power Switch
7. Pressed Trigger Switch
8. Camera Adapter Cable Jack (Reserved)
9. Data Adapter Cable Jack
10. Power Adapter Cable Jack
11. Network Port (Reserved)

2.2.2 Right Measuring Unit



12. Inclined Bridge Slab
13. Network Port (Reserved)
14. Power Adapter Cable Jack
15. Data Adapter Cable Jack
16. Pressed Trigger Switch
17. Camera Glass Window
18. Laser Glass Window

2.3 Technical Parameters

Supported Vehicles:	**Vehicle Speed Range:**
Four-wheel passenger car	4~8km/h
Power Supply:	**Vehicle Wheelbase Range:**
100-240V, 50/60HZ	1360~1720mm
Operating Voltage:	**Communication Mode:**
DC 24V	Bluetooth, USB
Measurement Accuracy:	**Waterproof Level:**
0.1mm	IP65
Maximum Measurement Width:	**Operating Temperature:**
450mm	-10℃~45℃
Maximum Load:	**Overall Size:**
4t	2165x1660x100mm

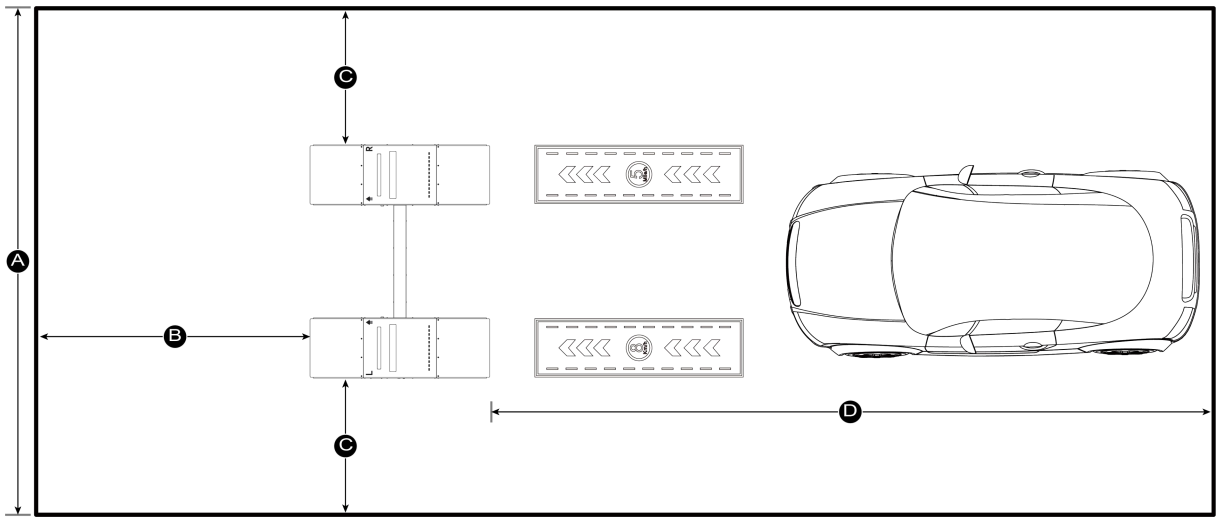
3. Equipment Installation

3.1 Installation Environment Requirements

1. The tyre tread depth measuring equipment must be installed and used indoors.
2. Avoid installing it in an environment with direct sunlight or other strong light, so as not to affect the measurement accuracy.
3. The installation ground must be flat, dry and clean.
4. The ground below the measuring unit must be suitable for installing concrete anchor (for example, the minimum thickness of the concrete ground must be 10mm), and can withstand the load of the tyre tread depth measuring equipment during the measurement process.

3.2 Site Size

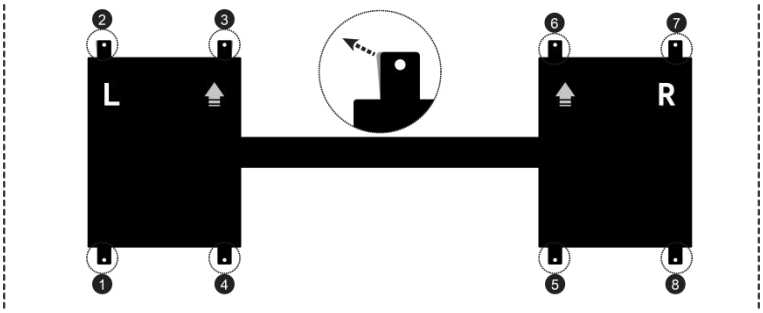
For the installation and use of the tyre tread depth measuring equipment, the site size requirements are as follows:



Distance A = about 4 meters (the width of the equipment plus the reserved space on both sides of the equipment)
Distance B=about 7 meters (the driving and parking distance reserved in front of the equipment)
Distance C=about 1 meter (the distance from both sides of the equipment to the wall or fixed object)
Distance D = about 8 meters (the driving and parking distance reserved behind the equipment)

3.3 Installation Steps

1. Plan the installation location of the equipment to ensure that there is enough driving and parking space in the front and rear after the equipment is installed, and enough space for people to pass on both sides.
2. Straighten the installation positioning stickers and press the positioning stickers, and then tear the back adhesive of the positions (① ~ ⑧) as shown in the figure below to stick the positioning stickers firmly to the ground.

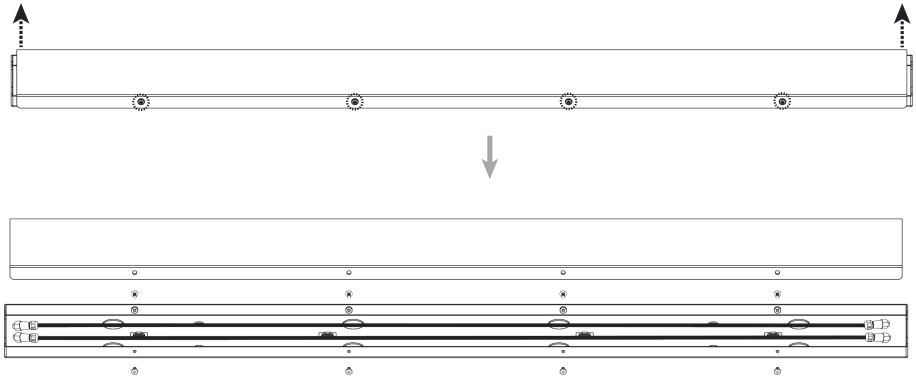


3. Use a 10mm drill to drill holes at the positioning holes (positions ①~⑧ as shown in the figure below).

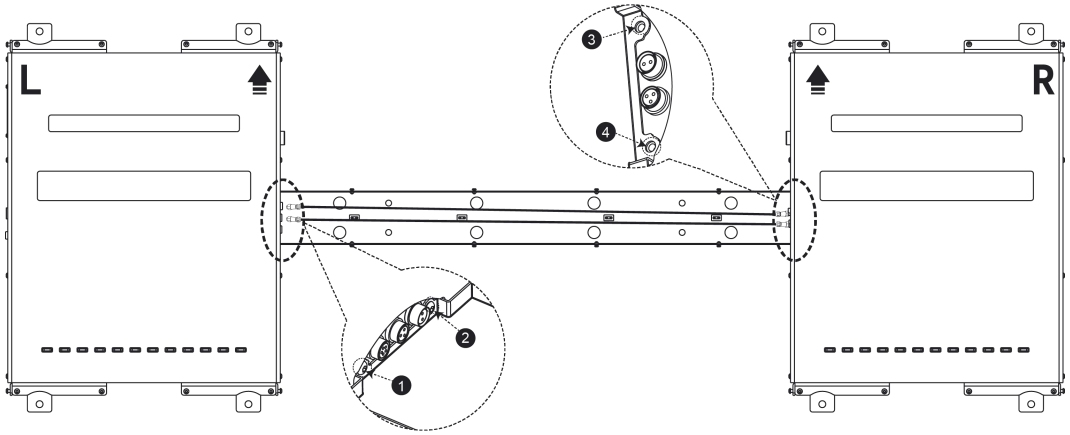
4. Place the left (L) and right (R) measuring units with reference to the installation positioning stickers, align the hole of the concrete anchor on the measuring unit with the ground, and then insert the bolt of the concrete anchor into the hole (as shown in the following figure at positions ① ~ ⑧).

Remarks: Do not tighten the nut of the concrete anchor first, so as to adjust the position of the measuring unit when installing the connecting bridge bottom plate.

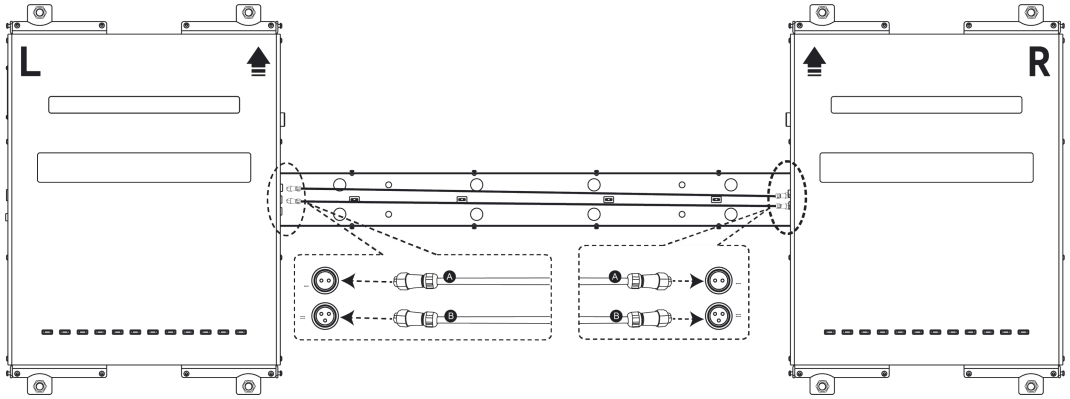
5. Take out the connecting bridge, unscrew the screws on the side (as shown in the figure below, there are 4pcs on each side), and remove the cover plate.



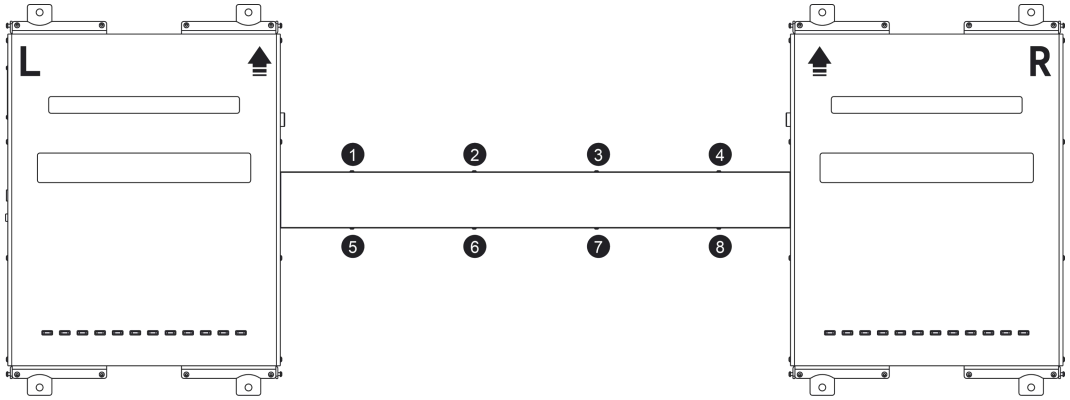
6. Align the screw holes at both ends of the connecting bridge bottom plate with the screw holes of the left and right measuring units and tighten the screws (① ~ ④) to make the bottom plate and the left and right measuring units firmly connected.



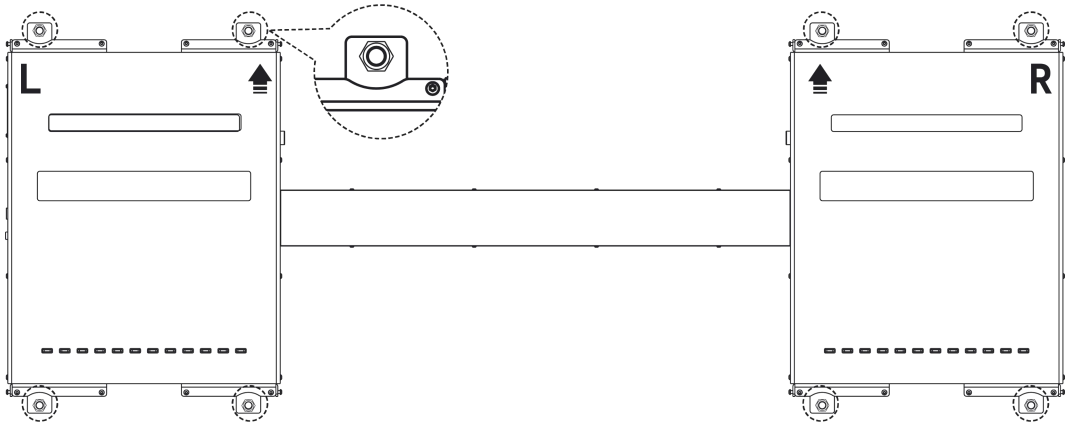
7. Insert the two ends of the data adapter cable B (3 pin) into the port "II" of the left and right measuring units respectively, and insert the two ends of the power adapter cable A (2 pin) into the port "I" of the left and right measuring units respectively.



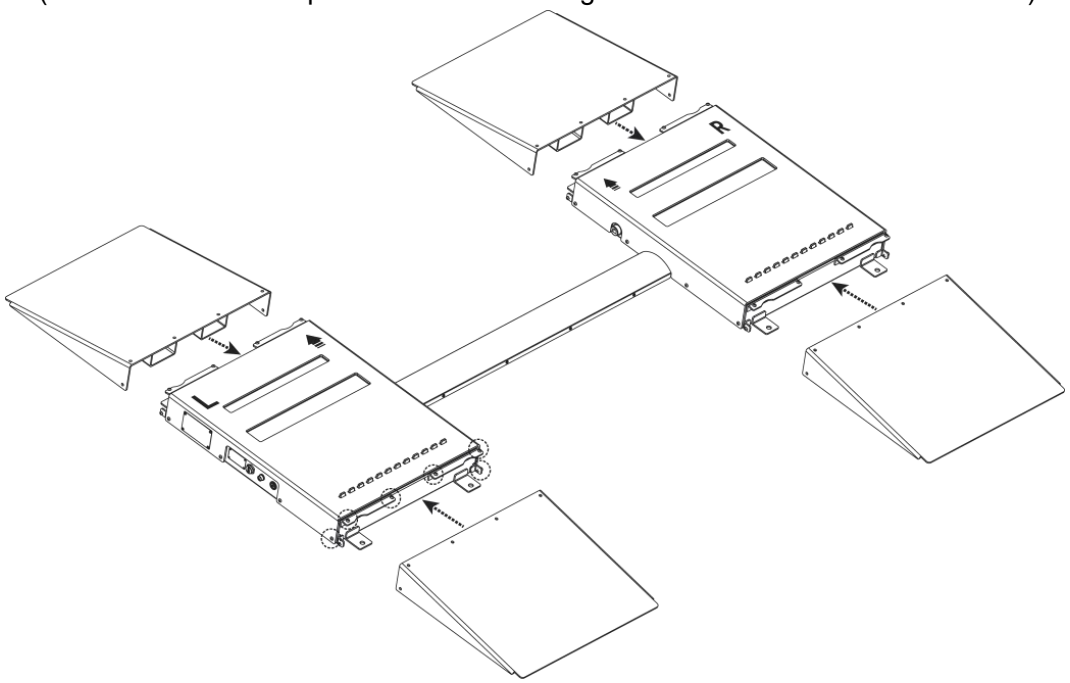
8. Align the connecting bridge cover plate with the screw holes of the bottom plate and cover the cover plate. Tighten the screws (① ~ ⑧ positions as shown in the figure below) to make the connecting bridge cover plate and the bottom plate firmly connected.



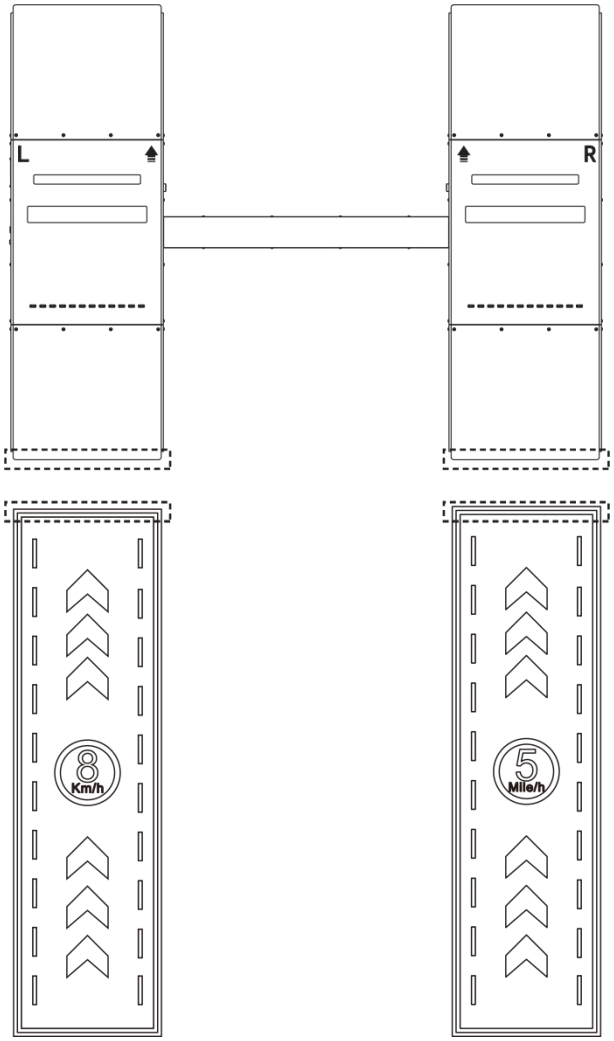
9. Tighten the nuts of the concrete anchors on the left and right measuring units.



10. Connect the four inclined bridge slabs to the left and right measuring units respectively and fix them with screws (four screws on the top of each inclined bridge slab and one screw on each side).

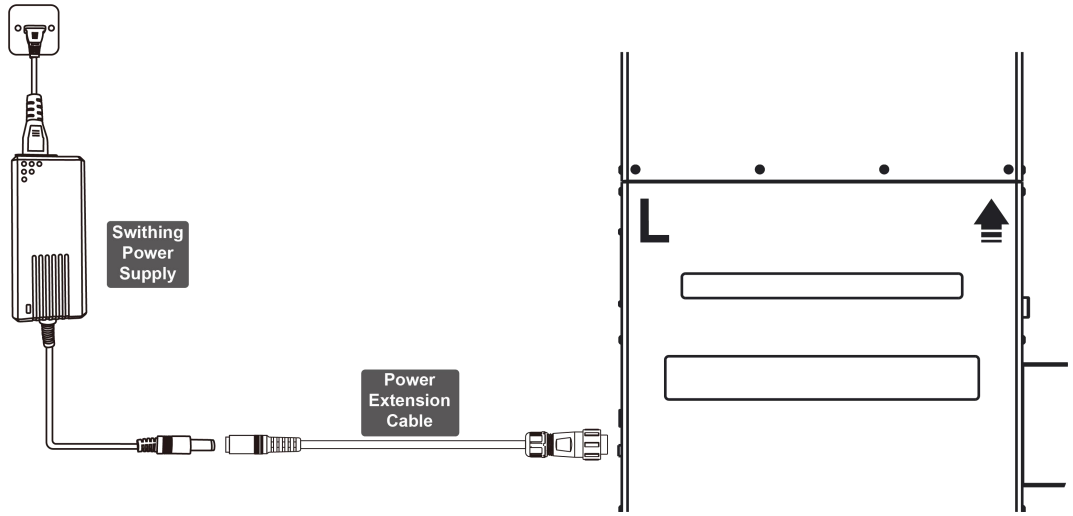


11. Align the two driving instruction stickers with the left and right measuring units respectively (leave a distance of 10 ~ 20cm from the equipment), and the arrow is toward the equipment. Keep the top of the instruction stickers parallel to the edge of the inclined bridge slab corresponding to the equipment.
Remove the back adhesive on the top of the instruction sticker and paste it on the ground. Press the top of the instruction sticker and continue to tear off the remaining back adhesive. At the same time, paste the torn part of the instruction sticker on the ground. Follow this operation to paste the whole instruction sticker on the ground.



12. Insert one end (white point upward) of the aviation plug of the power extension cable into the power port on the left side of the left measuring unit and tighten the lock nut clockwise. Connect the other end to the power adapter, and then insert the power adapter into the power socket.

Remarks: Users can choose to bury the power extension cable according to the actual situation.



4. Initial Use

4.1 Software Download

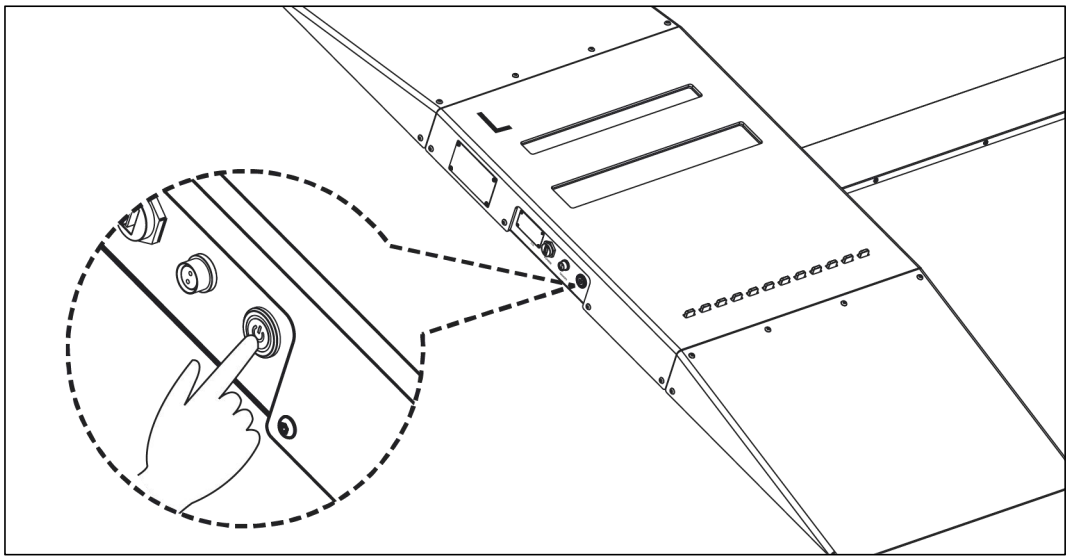
The client is divided into PC Version (the client configures the computer host and display device) and Android Version (applicable to P01, P03 and other diagnostic devices).
The minimum configuration requirements of the computer running the PC client are as follows:

Operating System	Windows 10
Memory	4GB
Hard Disk	128G

1. Download the PC client installation package of the tyre tread depth measuring equipment through the following link:
https://downloadfiles.newsmartsafe.com/app/TTM600.exe
2. Double click the downloaded installation package and install the client software according to the prompts.

4.2 Equipment Startup

1. Insert the power adapter into the power socket and turn on the power.
2. Press the power button on the left side of the left measuring unit to start the equipment.



3. After the equipment is started, do wait about 40 seconds before measuring.

Remarks: Users can press the pressed-trigger switch. If the laser is emitted in the laser glass window, it means that the equipment is started successfully.

4.3 Communication Connection

The tyre tread depth measuring equipment can be connected through Bluetooth wireless communication connection and USB wired connection. Among them, Bluetooth is applicable to the diagnostic equipment (such as P01 and P03) and the PC, while USB wired connection is only applicable to the PC.

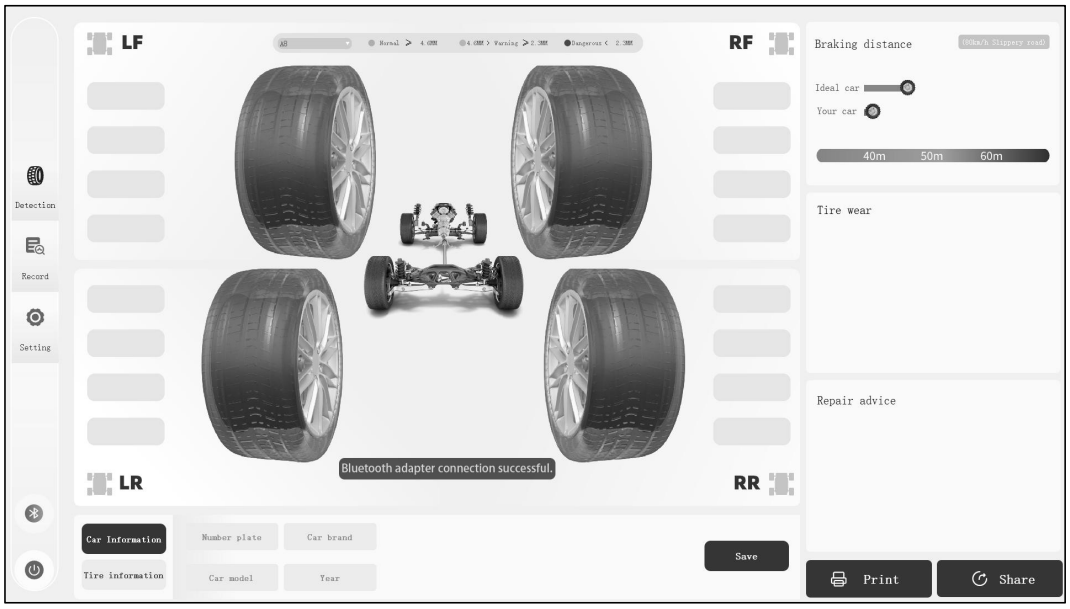
4.3.1 Bluetooth Connection

This connection mode is applicable to PC and diagnostic equipment.
PC client Bluetooth connection
1. If the PC host does not have a Bluetooth adapter, the Bluetooth adapter attached to the equipment must be used for Bluetooth communication connection. Insert the Bluetooth adapter into the type-A port of the PC.
2. Click "Settings" on the client, then click "System Settings", and select "Bluetooth" as the

communication method.

3. The system will automatically search for available Bluetooth devices, and select the Bluetooth name of the tyre tread depth measuring equipment in the Bluetooth device list (the Bluetooth name is the equipment serial number).

4. After the Bluetooth connection is successfully established, the client will pop up the prompt of "Bluetooth adapter connection successful", and the Bluetooth icon on the screen will be lit.

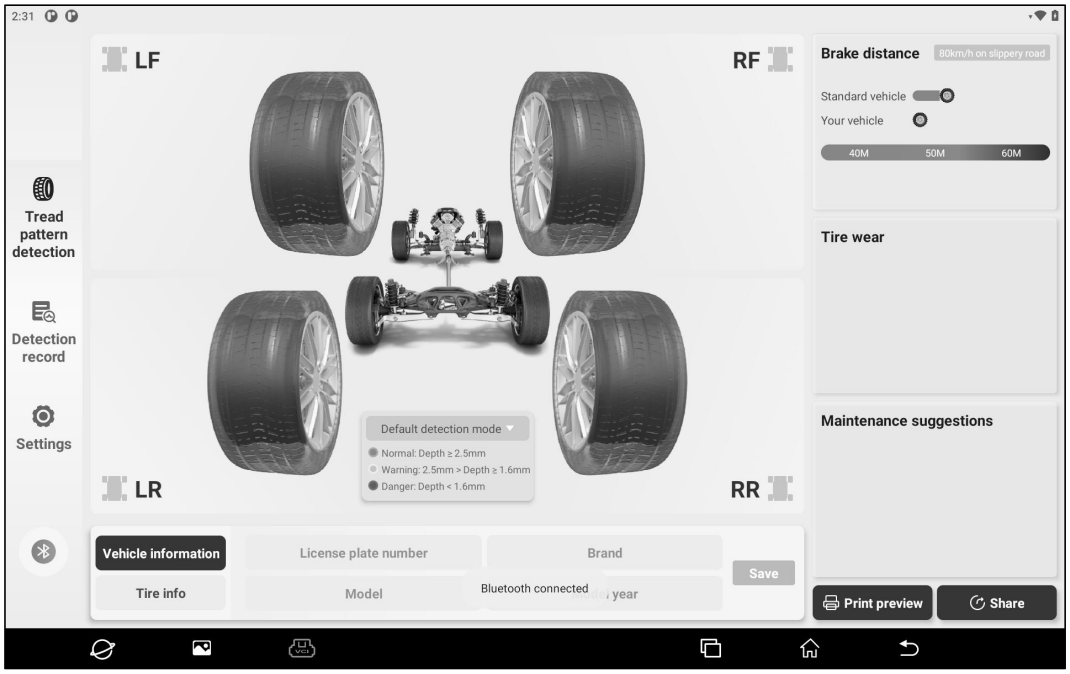


Android client Bluetooth connection

1. Click "**iSmartTTM 600**" on the diagnostic equipment to enter the tread depth measuring function module. The system will automatically search for available Bluetooth devices, and select the Bluetooth name of the tyre tread depth measuring equipment in the Bluetooth device list (the Bluetooth name is the equipment serial number).

Remarks: If the Bluetooth function on the diagnostic equipment is not enabled, the system will pop up a dialog box to prompt the user to enable the Bluetooth function. Click "Allow".

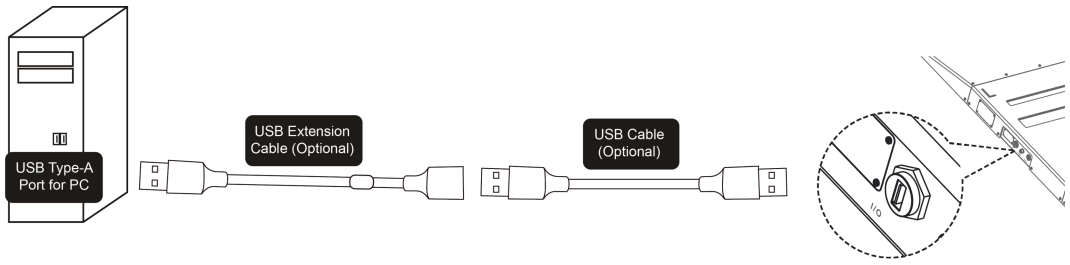
2. After the Bluetooth connection is successfully established, the screen will pop up the prompt of "Bluetooth connected", and the Bluetooth icon will be lit.



4.3.2 USB Wired Connection

This connection mode is suitable for PC use.

1. As shown in the figure below, insert one end of the USB cable into the USB port on the left side of the left measuring unit, and connect the other end to the female connector of the USB extension cable. Insert one end of the male connector of the USB extension cable into the USB port of the computer host.



2. Click "**Settings**" on the client, then click "**System Settings**", and select "**USB**" as the communication mode.

3. After the connection is successful, the client will pop up a window indicating that the connection is successful, and the system will automatically switch to the USB communication mode.

4.4 Client Settings

4.4.1 PC Client Settings

Click "**Settings**" on the main page of PC client to enter the following page. Users can set the mode, shop and system.

Mode Settings

The system has its own default mode. If you need to add a new mode, click "**Mode Settings**" and then click "**Add Mode**". Set parameters of different depths as required, enter the mode name, and click "**Save**" to add a new mode.

Click "**Delete**" on the right of the mode name, and then click "**OK**" to delete the mode.

Remarks: Users can edit the "Default Mode" parameter, but cannot delete the mode.

Shop Settings

Click "**Shop Settings**", enter the shop information, and then click "**Save**". The set shop information will be displayed on the tread depth detection report.

System Settings

This function is only supported by the PC client, including setting the system language, setting the communication mode (USB/Bluetooth), trun on/off automatic printing, and selecting a printer.

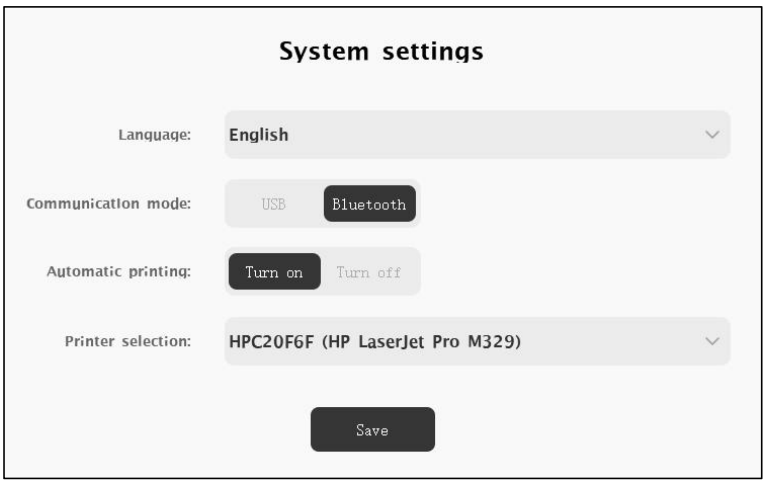
Click the drop-down arrow next to "**Language**" and select the language to be set from the drop-down list to change the system language.

Click **USB/Bluetooth** next to "**Communication mode**" to switch the equipment communication mode.

Click **Turn on/Turn off** next to "**Automatic printing**" to enable or disable the automatic printing function of the printer.

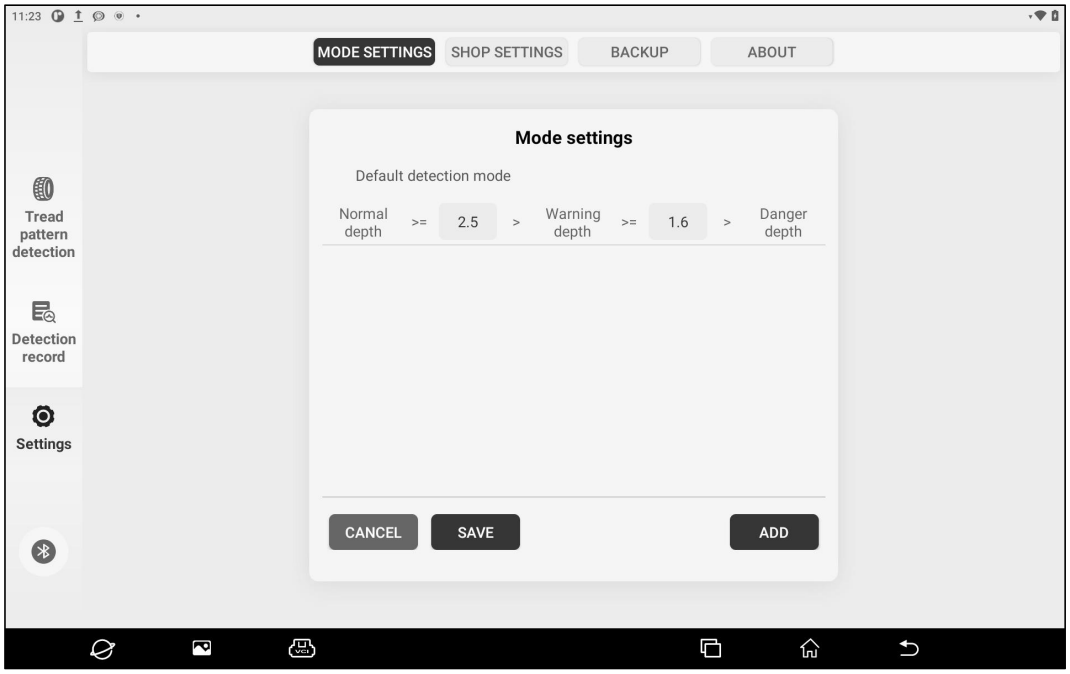
Remarks: The printer must be connected and set to realize the automatic printing function.

Click the drop-down arrow next to "**Printer selection**" and select the printer to be set from the drop-down list to switch the printer to be used.



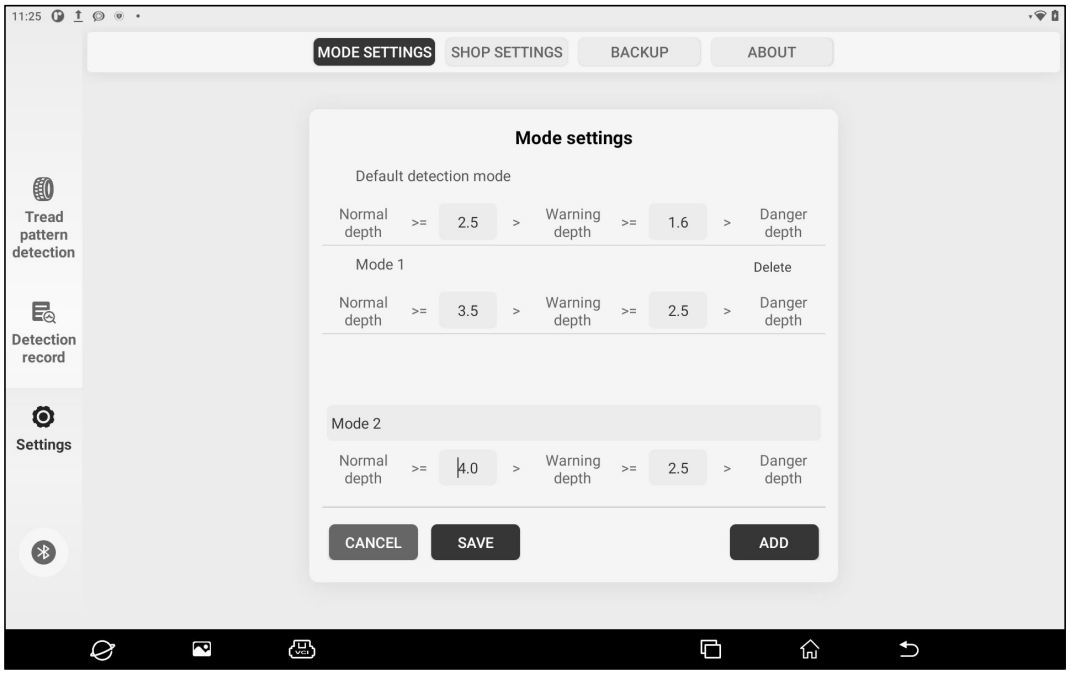
4.4.2 Android Client Settings

Click "**Settings**" on the main page of Android client to enter the following page. Users can set the mode, shop, etc.

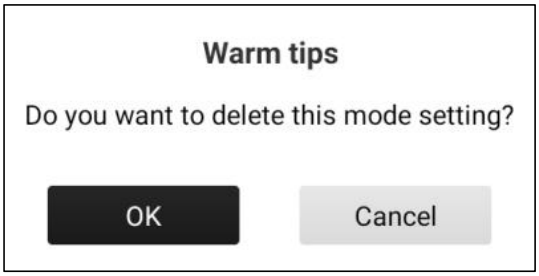


Mode Settings

The system has its own default mode. If you need to add a new mode, click "**Mode Settings**" and then click "**Add**". Set parameters of different depths as required, enter the mode name, and click "**Save**" to add a new mode.



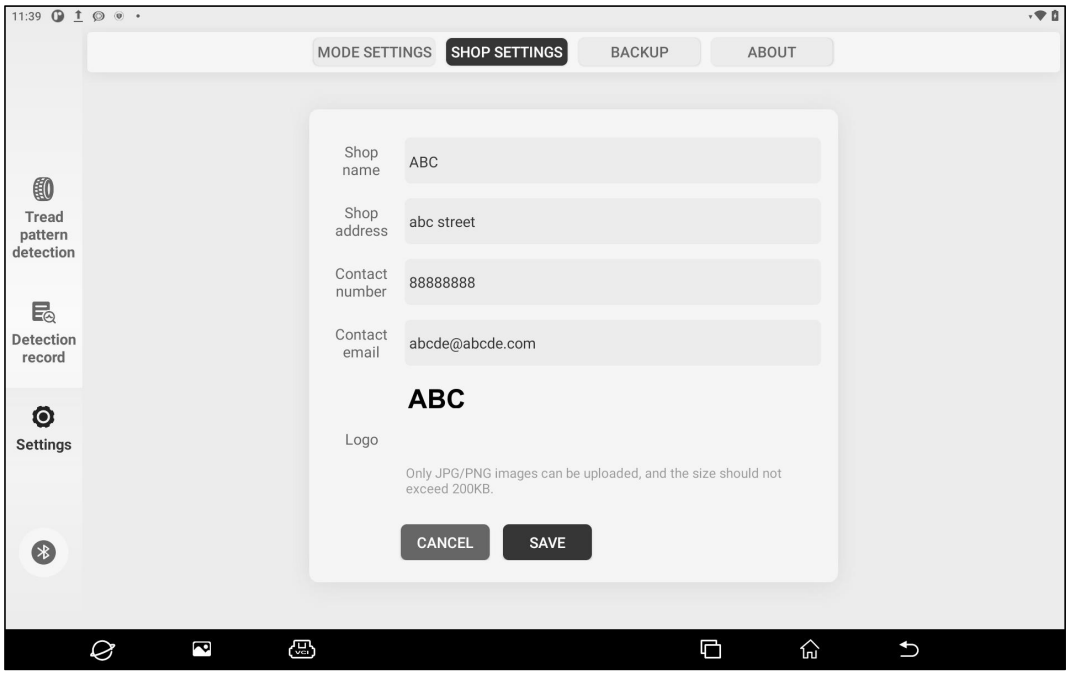
To delete the mode, click "**Delete**" on the right of the mode name.



Remarks: Users can edit the "Default Mode" parameter, but cannot delete the mode.

Shop Settings

Click "**Shop Settings**", enter the store information, and then click "**Save**". The set store information will be displayed on the tread depth detection report.



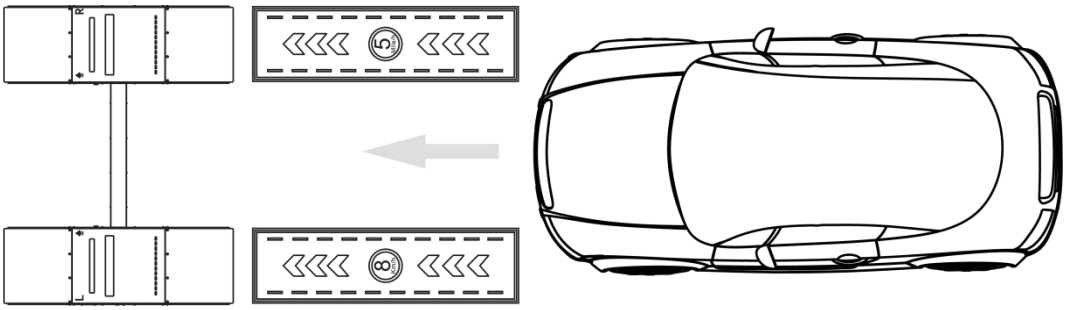
5. Start Measuring

5.1 Precautions

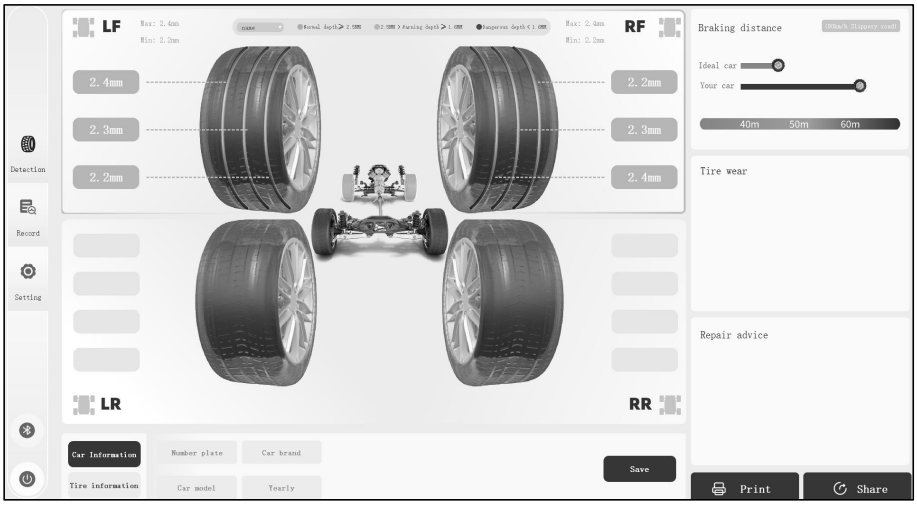
- Sundries such as soil, snow and stones embedded in the tire may affect the measuring results. If the measuring results are abnormal, it is recommended to clean the tires of the vehicle before measuring.
- Water stains and stains on the window glass may affect the measuring results. If the measuring results are abnormal, it is recommended to clean the window glass of the test equipment.
- Vehicles with low chassis (such as refitted vehicles or supercars) shall keep low speed when passing through the measuring equipment to prevent the chassis from being scratched.
- It is prohibited to test overweight vehicles or overloaded vehicles to avoid damaging the measuring equipment. Please refer to the technical parameters of the equipment for the maximum bearing capacity.

5.2 Measuring Procedure

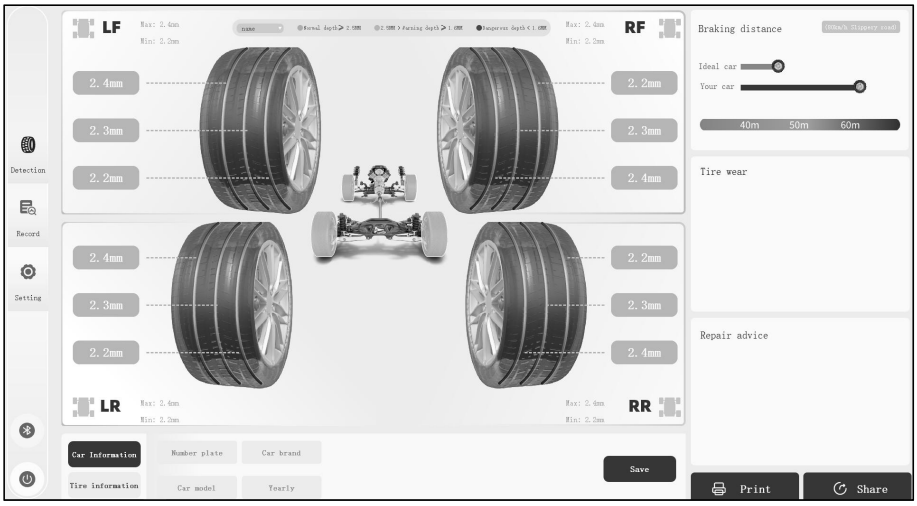
1. Drive the vehicle to be detected at a constant speed in the direction indicated by the arrow on the driving instruction stickers.



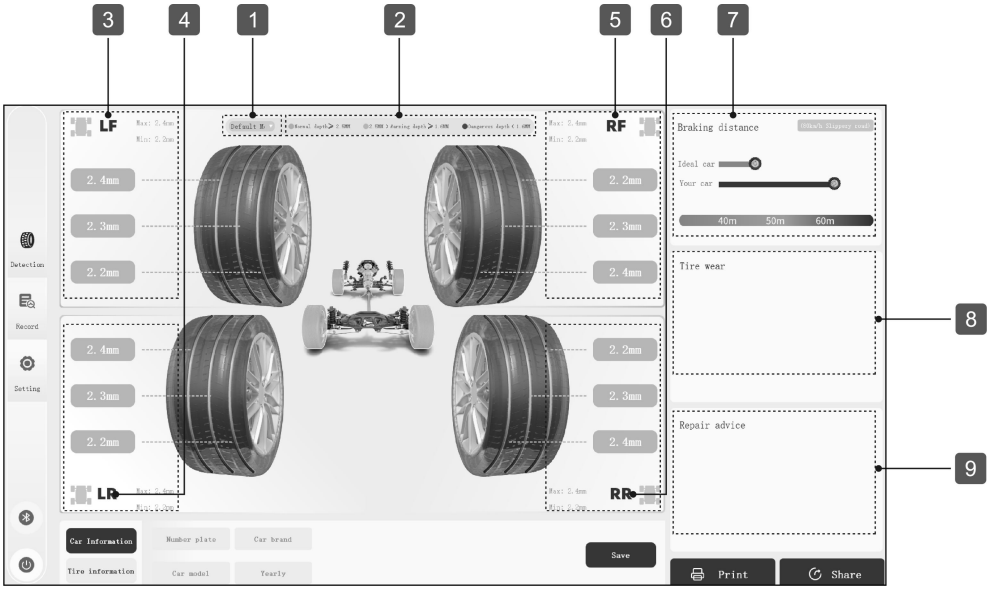
2. After the front wheel of the vehicle presses the trigger switch of the measuring equipment, the equipment starts to detect the groove depth of the left and right front wheels of the vehicle.



3. After the rear wheel of the vehicle presses the trigger switch, the equipment starts to detect the groove depth of the left and right rear wheels of the vehicle, and displays the obtained measuring results on the screen.



4. After the measuring is completed, the tire tread data of all wheels of the vehicle will be displayed on the screen, and the braking distance prediction, tire wear status and maintenance suggestions will be provided.

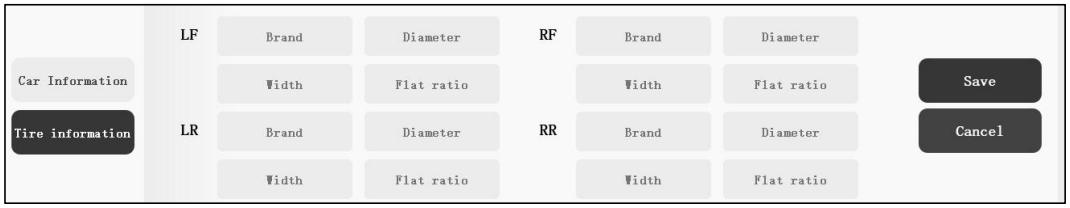


No.	Display Item	Description
1	Mode Selection	Customers can switch the measuring mode to be used as required.
2	Mode Parameter	Displays the parameters set in the current mode, including the numerical range of normal depth, warning depth and danger depth.
3	LF- Left Front Tire Tread Pattern Data	Displays the left front tire tread pattern data, each groove depth data, and lists the maximum and minimum values of all groove depths. Green indicates normal depth, yellow indicates warning depth, and red indicates dangerous depth.
4	LR- Left Rear Tire Tread Pattern Data	Displays the left rear tire tread pattern data, each groove depth data, and lists the maximum and minimum values of all groove depths. Green indicates normal depth, yellow indicates warning depth, and red indicates dangerous depth.
5	RF- Right Front Tire Tread Pattern Data	Displays the right front tire tread pattern data, each groove depth data, and lists the maximum and minimum values of all groove depths. Green indicates normal depth, yellow indicates warning depth, and red indicates dangerous depth.

6	RR-Right Rear Tire Tread Pattern Data	Displays the right rear tire tread pattern data, each groove depth data, and lists the maximum and minimum values of all groove depths. Green indicates normal depth, yellow indicates warning depth, and red indicates dangerous depth.
7	Braking Distance	Predicts the braking distance of the detected vehicle under the limited road conditions and vehicle speed and its comparison with the ideal braking distance.
8	Tire Wear	Displays the wear of the wheels of the currently detected vehicle.
9	Repair Advice	Gives maintenance suggestions on tire replacement and four-wheel alignment according to the measuring data of the current vehicle.

Car Information: Click to input the vehicle license plate number, model year, brand, and model information. Click "**Save**" after input.

Tire Information: Click to input the brand and diameter of each tire, and click "**Save**" after input.



Print: Click this button to print the current detection report.

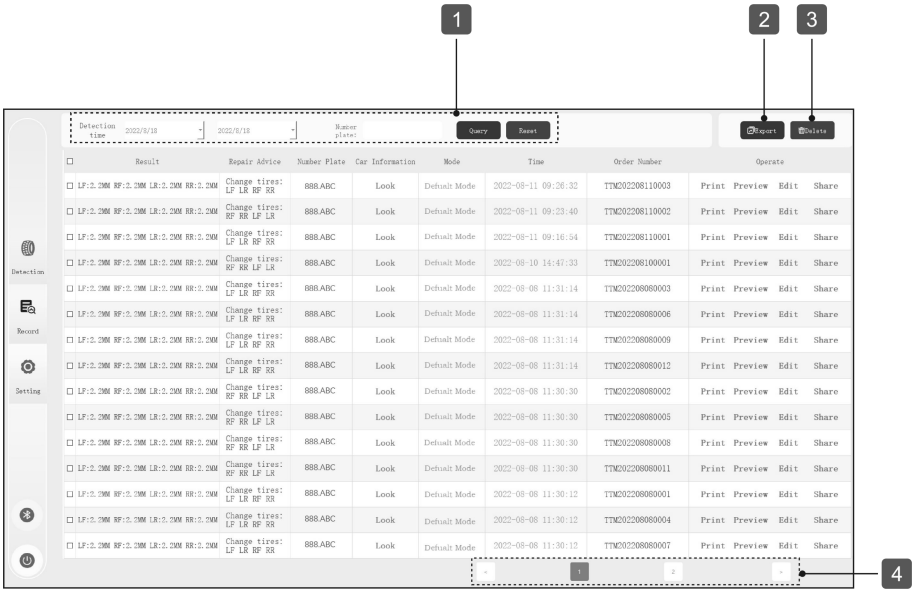
*Remarks: If the customer has connected the printer and set to enable automatic printing, the detection report will be automatically printed after the measuring is completed without clicking the "**Print**" button.*

Share: Click this button to share the detection report via email.

6. Detection Records

6.1 PC Client Detection Records

Click "**Record**" on the main page of PC client to view the historical detection records.



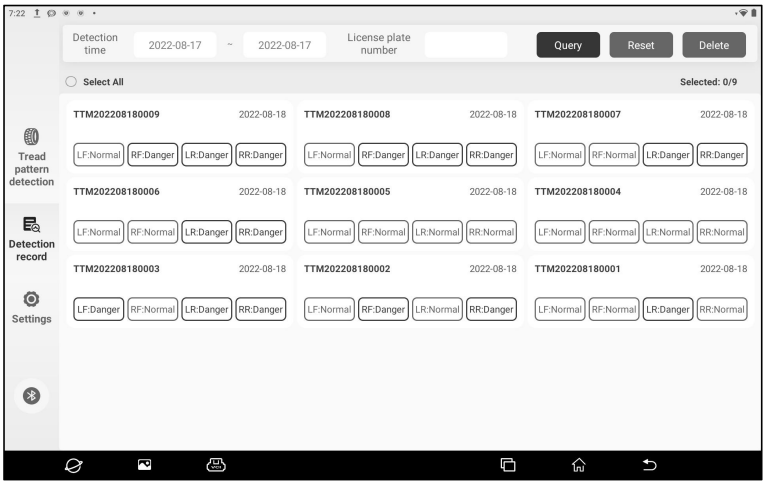
Screen Button Description:

1. Record filtering: select the measuring time interval or enter the license plate number to filter and view the corresponding detection records.
2. Export: click the check box in front of the detection record, click the "**Export**" button, and then select the target folder to export the corresponding detection record to the local folder.
3. Delete: click the check box in front of the detection record and click "**Delete**" to delete the corresponding detection record.
4. Page turning: used for page turning when there are multiple pages of detection records.

Form Option	Function Description
Result	Displays the minimum groove depth in each tire. Different depth types are marked with three text colors: red indicates "dangerous depth", yellow indicates "warning depth", and black indicates "normal depth".
Repair Advice	Gives tire replacement suggestions based on detection results.
Number Plate	Displays the license plate number of the detected vehicle.
Car Information	Click "**Look**" behind the corresponding detection record to view the license plate number, brand, model, model year and tire information of the detected vehicle.
Mode	Displays the measuring mode used by the detected vehicle.
Time	Displays the specific time of vehicle detection.
Order Number	Order number automatically generated by the system according to the measuring date, serial number and other information.
Print	Click "**Print**" after the corresponding detection record to print the detection report.
Preview	Click “**Preview**” to view the detection report corresponding to this record.
Edit	Click "**Edit**" after the corresponding detection record to edit the brand, model, model year, tire and other vehicle information of the detected vehicle.
Share	Click "**Share**" after the corresponding detection record to generate a QR code, and scan the QR code to view and share the detection report.

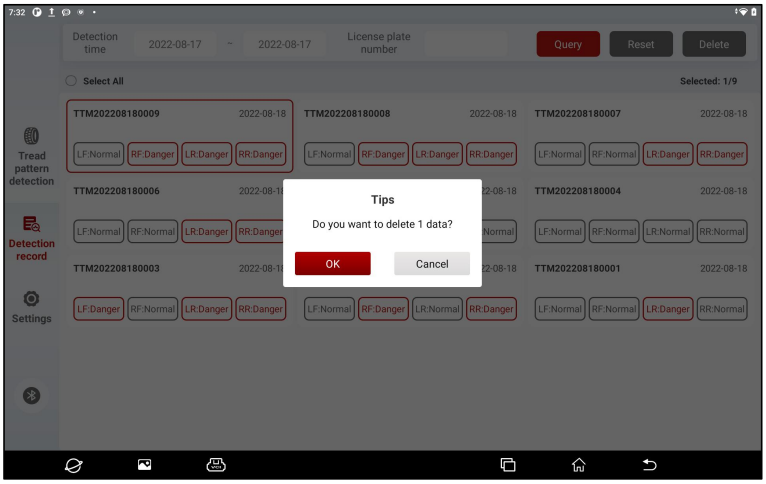
6.2 Android Detection Records

Click "**Detection record**" on the Android application software to view the historical detection records.

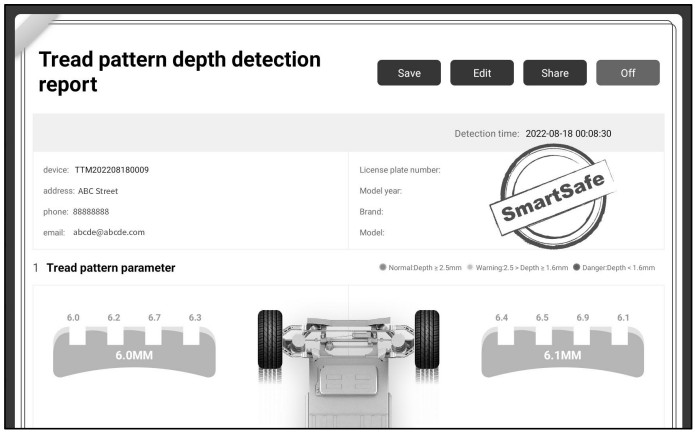


Filter: Select the detection time interval or enter the license plate number to filter and view the corresponding detection records.

Select record and delete record: Long press on a single record to select the record, click **Delete**, and click **OK** in the pop-up dialog box to delete the record. Click "**Select All**" to select all records.



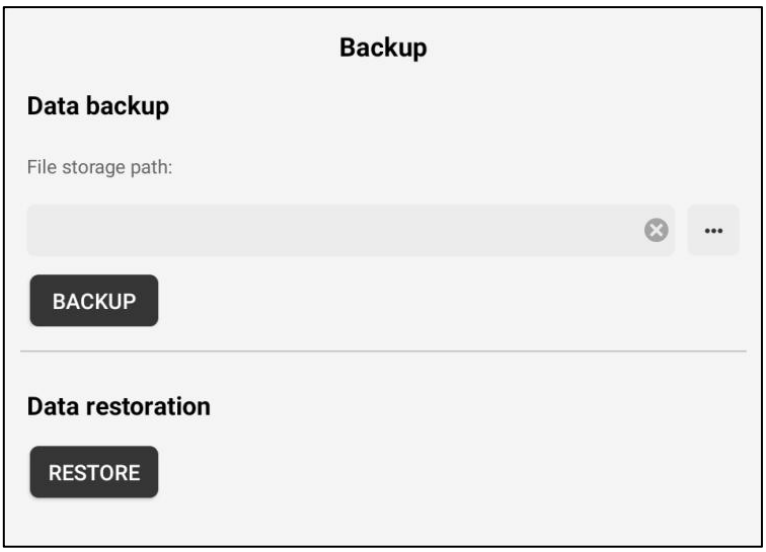
View detection report: Click on a single record to view the detection report of the record. Slide the screen up and down to view more information of the detection report.



Click "**Save**" to save the detection report. Click "**Edit**" to edit the license plate number, brand, model, model year and tire information of the detected vehicle. Click "**Share**" to share the detection report via email.

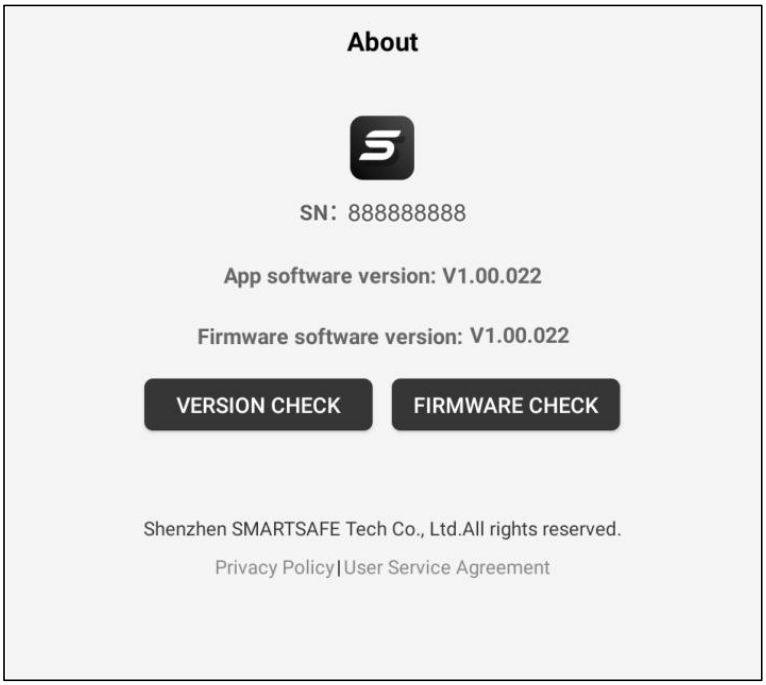
7. Backup and Restoration

This function is used to back up client data and restore client historical data.
On the client main page, choose "**Settings**" > "**Backup and restore**", click "**…**" to select the file storage path, and then click **Backup** to back up the client data.
Click "**Restore**" and select backup data to restore the historical data of the client.



8. About

This function is used to view product serial number, application software and firmware version information, and detect application software version updates.



9. Service and Maintenance

- Regularly clean the laser glass window and camera glass window to keep the window clean so as not to affect the measuring results.
- Regularly check the connecting screws of the reinforcement measuring equipment to prevent loosening and falling off.
- Properly keep the power adapter and power extension cable to prevent water and abrasion.
- If components are damaged, please replace them with original replacement components immediately.

Warranty

This WARRANTY applies only to customers and dealers who have purchased SmartSafe products through normal procedures.

Within one year from the date of delivery, SmartSafe Company shall guarantee the defects of its electronic products caused by materials or processes. Damage of the equipment or components caused by abuse, unauthorized modification, use for purposes other than the design of the product, or failure to operate in the way specified in the instruction shall not be covered by this warranty.

Disclaimer

The warranty mentioned above may supersede any other warranty.

Order notification

The replaceable parts and optional parts can be ordered directly from the dealers authorized by SmartSafe. Please specify when ordering:

- Quantity ordered
- Part number
- Part name

Customer Service Center

If the equipment needs to be repaired, please send the equipment to SmartSafe, together with the purchase invoice and problem description. If the equipment is within the scope of the warranty, SmartSafe offer free maintenance; If the equipment is outside the scope of the warranty, SmartSafe will charge for maintenance and return freight.

Address of SmartSafe Company：

3F Building B, Qiao'an Technology Industrial Park, Guanlan, Longhua New District, Shenzhen, Guangdong, China. Postcode: 518110

Statement: The Company reserves the right to change the product design and specifications without prior notice. The appearance and color of the object may be different from that shown in the instruction manual. The object shall prevail. We have tried our best to make all the descriptions in the book accurate, but there are still some inaccuracies. If you have any doubt, please contact the distributor or after-sales service center. The company will not assume any consequences caused by misunderstanding.