XHINKCAR | THINKCAR
LEADING TECH IN DIAGNOSTICS

**THINKCAR
CE EVD / EVD Pro**

User Manual

Quick Start Manual

1.1 Initial Use

The following settings should be made when you initially use the device.

1.1.1 Device Power On

After long pressing the power button, the screen displays as follows.

THINKCAR

1.1.2 User Agreement

Please read all the terms and conditions of the User Agreement carefully and check the box "Agree to the above terms".

1.1.3 Create An Account

Enter your cell phone number to register an account. If you already own other products of THINKCAR and have registered, you can directly

use your existing account to log in.

1.1.4 Activate the Device

To activate THINKDIAG 3 by entering its serial number and activation code to bind the device to THINKDIAG 3. If the device is not

activated, you can also tap "Settings" on the homepage and select "My Devices -> Activate Device" to do so.
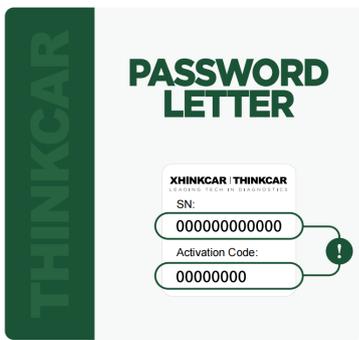
Tips: The activation code is a 8-digit number showing on the "Password Letter

1.1.2 Diagnostic Process

Register/Create Account ->Connect to THINKDIAG 3 --- A Multifunctional Diagnostic Box-> Login -> Bluetooth Connection -> Activate

THINKDIAG 3-> Select diagnostic car model -> Select the function to be diagnosed

1.3 Charging

1.3.1 Device

Use the charger to connect the device and the power socket to charge.

When the battery status icon shows [⚡] , it means charging has started.

When the battery status icon shows [100% 🔋], it means the battery is fully charged.

1.3.2 THINKDIAG 3

When the battery indicator of THINKDIAG 3 is flashing red, it means that charging has started.

When the THINKDIAG 3's battery indicator is green and on, it means the battery is fully charged.

1.3.3 Battery Precautions

If the battery has not been used for a long time or the battery power is depleted, it may not turn on properly when charging, which is a

normal phenomenon. Please charge the battery for a period of time and then turn it on and use it again.

Please use the supplied charger for charging. We will not be responsible for any damage or loss caused by charging with other chargers

not specified by the Company.

The battery can be recharged repeatedly. However, as the battery is a wear and tear item, the standby time of the device will be shortened

after long time use. Please avoid frequent repeated charging to extend the battery life.

Battery charging time varies with temperature conditions and battery usage.

When the device is low on power, the system will pop up a prompt to connect the charger. When the battery power is too low, the device

will automatically shut down.

II. Product Overview

THINKCAR CE EVD/EVD Pro is a multifunctional diagnostic device for diagnosis, detection and measurement of new energy vehicle

faults. It integrates main features/funtions of full system intelligent diagnosis battery pack diagnosis, fast charging detection, electric control

line current detection, voltage detection, circuit signal measurement and intelligent module expansion, covering a comprehensive range of

models, and can provide users with fast inspection and fast repair diagnosis services.

2.1 Main Components

2.1.1 Device
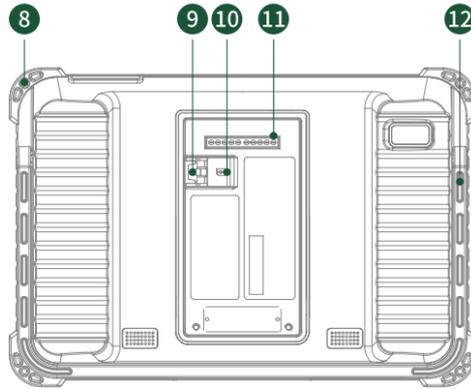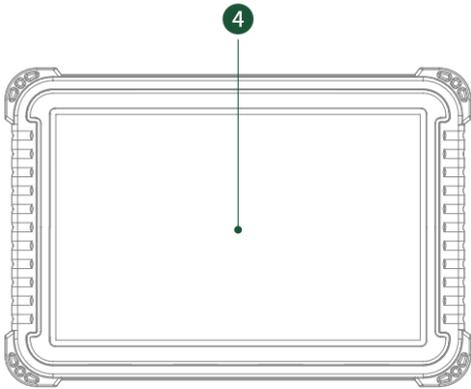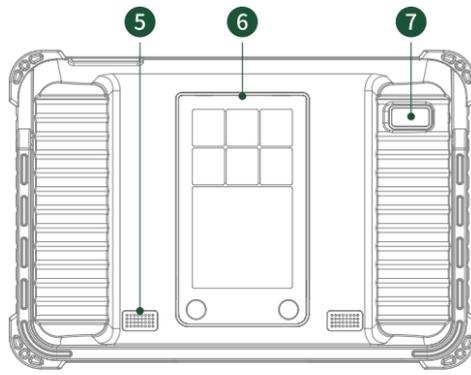
① Power Key

Press the button for 3 seconds to turn on the power;

Press the button for more than 8 seconds to force the power off;

Tap the button to hibernate or wake up.

②Type C port: Use to connect the included charger for charging.

③USB port: Use to connect USB devices or expansion function (optional) modules.

④Display

⑤Speaker

⑥Back panel: Remove the back panel of the device to install the function expansion module on the back side of the device.

⑦ Camera

⑧Rubber corner protector

⑨SIM card

⑩SIM card slot

Pin: Use for communication between the function expansion module and the device.

⑫ Adjustable bracket: 180° free adjustment. Support three modes: hanging, support and normal.

2.1.2 THINKDIAG 3
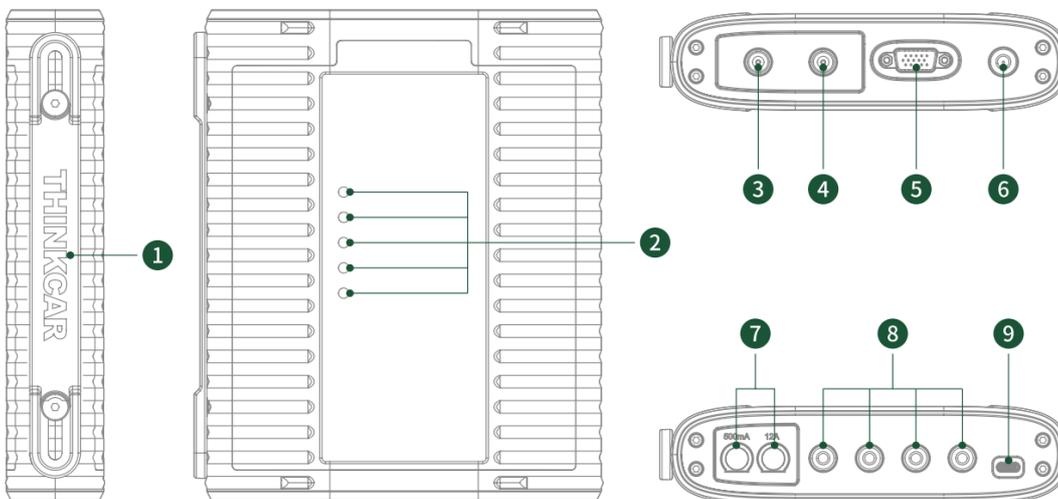
① Handle
② Indicator light
③ Oscilloscope channel 2
④ Oscilloscope channel 1
⑤ DB15 diagnostic port
Vehicle diagnostic data port

⑥ Power on/off
⑦ Fuse
    Current overload protection for
    equipment measurements
⑧ Multimeter interface
⑨ Type C charging port

THINKDIAG 3 Indicator

Icon	Indicator Light	Light Color	Description
⏻	Power supply	Red	Power on normal work always on red
▥	Battery	Red/Green	Flashing red when charging, always green when fully charged
🚗	Diagnostics	Red/blue	Red flashing: device diagnostics via USB Blue flashing: device diagnosed via Bluetooth
🚘	Vehicle	Blue	Flashing blue when the device is communicating with the vehicle
Ⅷ	Measurement	Red/Blue	Red flashing: device measurement via USB Blue flashing: device is measured via Wi-Fi

2.2 Accessories

In order to facilitate users to make quick troubleshooting for battery packs, THINKCAR provides 15 commonly used diagnostic cables for

battery packs, as detailed in the following list.

2.2.1 List Of Battery Pack Diagnostic Cables (Standard)

No.	Identification	Icon	Supported brands and car models
1	BYD-TANG		BYD TANG

No.	Identification	Icon	Supported brands and car models
2	BYD-HAN		BYD HAN
3	BYD-E5		BYD E5
4	JILI-EV450		GEELY EV450
5	WLHG-MINI		SGMW MINI
6	XIAOPENG-P7		XIAOPENG P7
7	CHUANQI-GE3		GAC GE3

8	NEZHA		NEZHA
9	BEIQI-EU		BAIC-EU
10	RONGWEI-EI6		ROEWE Ei6
11	RONGWEI-EI5		ROEWE Ei5
12	BYD-QIN PRO		BYD-QIN PRO
13	CHANGAN-BENBEN		CHANGAN

14	LIXIANG-ONE		LEADING IDEAL
15	XIAOPENG-G3		XIAOPENG G3

2.3 Extension Modules

The device supports modular expansion function, you can choose to purchase different modules according to different usage scenarios, see the expansion list below.

Module Name	Configuration	Diagram	Function
THINKPrinter	Standard		Portable thermal printer, fast and ready to type, can provide printing paper reports, printing repair pictures. Application Scenario: 1. Print diagnostic report 2. Print pictures during repair
THINK Wireless Tire Pressure Diagnostic Module	Standard		Support activation, data reading, learning and programming when the tire pressure sensor is replaced. Application Scenario: 1. Tire pressure sensor replacement 2. Vehicle tire replacement 3. Tire pressure sensor fault detection
THINK work light	Optional		It has 144 bright LEDs and can produce 25000k bright white light. It can work with high brightness for a long time and has a service life of 10000 hours. Application Scenario: 1.Go out for rescue at night; 2.Repair the vehicle without light source.
THINK Video Scope	Optional		Ultra-long custom snake pipeline bend at will durable, adapt to a variety of complex environments, a multi-use, support 720P HD resolution image, 6 high brightness LED auxiliary light, illuminate the brighter In the dark environment can also be used at will. Application Scenario: 1. Confined environment room inspections. 2. Inspection of air conditioning ducts. 3. Tiny and dim vehicle maintenance environment.
THINK Thermal Imaging	Optional		With ultra-high pixel, comes with thermal tracking points for image overlapping view (is the real image captured by the camera and thermal imaging image overlap, more accurate positioning), thermal sensitivity of 0.07°C, more accurate; with a large number of car diagnostic fault thermal comparison charts, you can precisely locate car faults through image comparison. Application Scenario: 1. Cylinder misfires. 2. Generation of electricity by generators. 3. Aging of belts and bearings. 4. Relay overloads. 5. Battery module overheating.

2.3.1 Installation And Use Method

Functional Modules: THINK printer, THINK wireless tire pressure diagnostic module, THINK thermal imaging

The expansion module can be installed on the back of the mainframe. To install the expansion module, please follow the steps below.

(1) Unscrew the backplane screws and remove the backplane of the mainframe.

(2) Insert one side of the expansion module into the device card slot.

(3) Press the side snap of the expansion module and snap it into the device.

(4) Automatic identification of the device and connection when the device is switched on.

(5) Select the appropriate extension module from the "Other -> Modules" of the device to use.

Functional Modules: THINK work light

THINK Work light Module can be installed on the back of the mainframe. To install THINK Work light Module, please follow these steps.

(1) Unscrew the backplane screws and remove the backplane of the mainframe.

(2) Insert the THINK work light module side into the device card slot.

(3) The magnet on the back of the THINK work light can be fastened to the device.

(4) Automatic identification of the device and connection when the device is switched on.

(5) Select the [Work Light] module from "Other -> Modules" in the device to use.

Functional Modules: THINK Video Scope

To install the THINK Video Scope Module, follow these steps.

(1) Unscrew the soft rubber I/O cover on the upper part of the device.

(2) Insert the module into the USB card slot of the device.

(3) Automatic identification of the device and connection when the device is switched on.

(5) Select the [Video Scope] module from "Other -> Modules" in the mainframe to use.

2.4 Parameters

Operating system	Android 10
Internal memory	4G
Storage capacity	128G
Battery	12600mAh
Display	10.1-inch

Camera	Rear 8 megapixel camera
Network	4G / WiFi
Bluetooth	5.0
Operating temperature	0℃ ~ 50℃
Storage temperature	-20℃ ~ 60℃

2.5 Protocols Supporting

• SAE_J1708

• SAE_J1939ISO

• 14230-4(KWP2000)

• ISO 15765-4(CAN)

• ISO 9141-2(IOS)

• ISO14229(UDS)

• SAEJ 1850(VPW&PWM)

• CAN FD

2.6 Device Connection

When you need to use the device to diagnose, test and measure the new energy vehicles, you can selectively connect in four ways.

2.6.1 Full vehicle intelligent diagnosis method
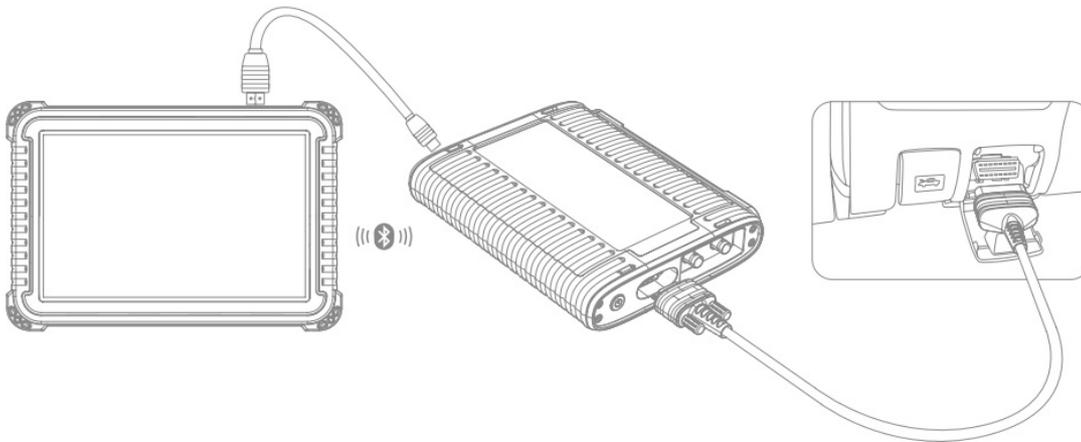
Connection steps:

(1) Connect the THINKDIAG 3 to one end of the DB15 diagnostic cable and tighten the screw

(2) Connect the other end of the DB15 diagnostic cable to the vehicle's OBD connector, which is usually located on the lower part of the   vehicle's instrument panel

(3) Start the EVD/EVD Pro device and connect the device to THINKDIAG 3 via Bluetooth or USB cable

(4) Enter the main interface of the device [Full Vehicle Intelligent Diagnosis] for troubleshooting operation

2.6.2 Fast Charging Interface Mode
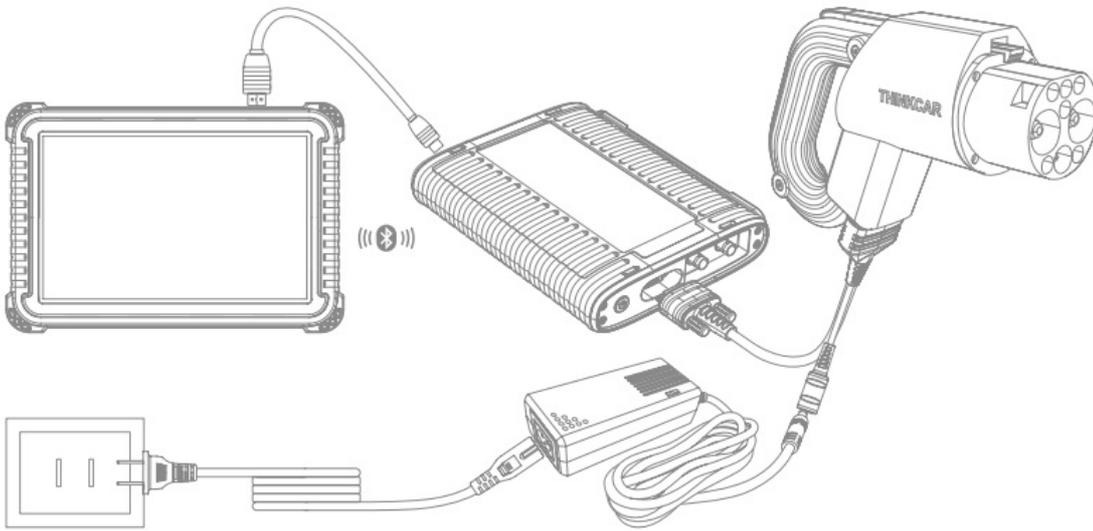
Connection steps.

(1) Connect the THINKDIAG 3 to one end of the fast charging gun diagnostic cable

(2) Connect the DC connector of the DC 12V adapter to the DC port of the fast charging gun, and connect the AC end of the 12V adapter   to the power outlet

(3) The fast charging gun is connected to the vehicle's fast charging port, which is usually located under the vehicle's front bumper logo or   at the fast charging logo port on the left/right side of the vehicle

(4) Start the EVD/EVD Pro and connect the device to THINKDIAG 3 via Bluetooth or USB cable

(5) Go to [Battery Pack Diagnosis -> Fast Charge Data Test] in the main interface of the device for troubleshooting operation

2.6.3 Battery Pack Diagnostic Interface Method
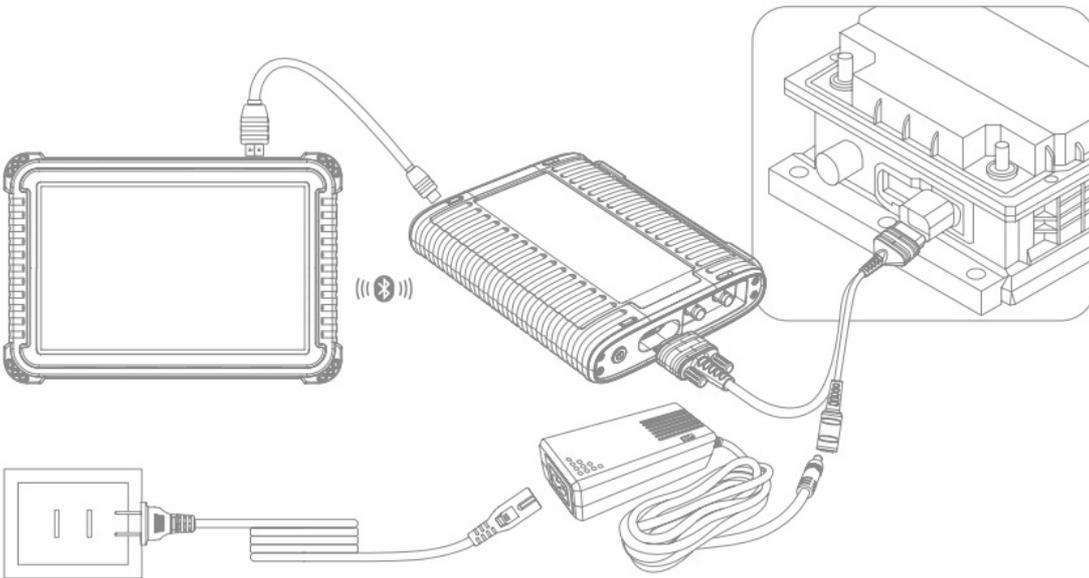
Connection steps.

(1) Connect the THINKDIAG 3 to one end of the dedicated battery pack diagnostic cable

(2) Connect the other end of the dedicated battery pack diagnostic cable to the battery pack's low-voltage diagnostic interface

(3) Connect the DC connector of the DC 12V adapter to the DC port of the special diagnostic cable of the battery pack, and connect the AC

end of the 12V adapter to the power outlet

(4) Start the EVD/EVD Pro diagnostic device host and connect the diagnostic host to THINKDIAG 3 via Bluetooth or USB cable

(5) Enter [Battery Pack Diagnosis] in the main interface of the device for troubleshooting operation

2.6.4 Measurement interface method

The device integrates the detection function of oscilloscope and multimeter, through the digital signal, it can assist you in the diagnosis,   detection and measurement of the vehicle electronic control system, sensors,

wiring and other faults. Specific details refer to the measurement function section introduction.

III. Start Using

The common main functions of the product are divided into 6 categories, mainly including: Diagnosis, Maintenance, Reporting, Upgrade,   Others, and Settings, as described below.

3.1 Diagnosis

It is mainly for new energy vehicles to operate fault code diagnosis, detection and measurement analysis of the whole vehicle. Including

Full vehicle diagnostics, battery pack diagnosis, oscilloscope,* online programming, tire pressure,*ADAS,* current detection,* voltage

detection, multimeter.

*Tip: " * " means only EVD Pro supports this feature*
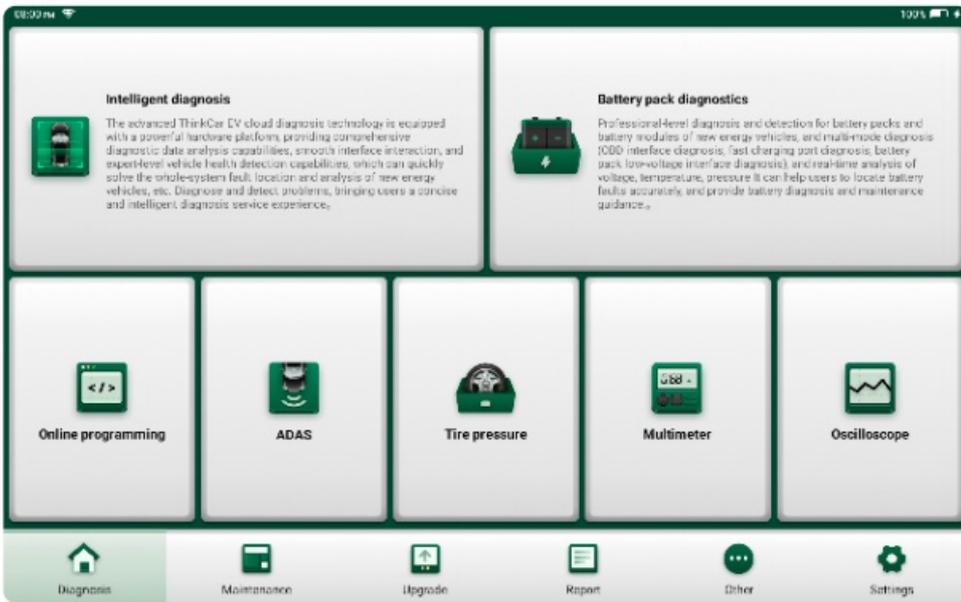
3.1.1 Full Vehicle Intelligent Diagnosis

The whole-vehicle intelligent diagnosis supports fault detection, analysis and diagnosis of up to nearly 100 brand models, and can provide   comprehensive diagnostic data analysis capability and expert-level auto health

detection capability, which can quickly solve the diagnosis and testing problems such as whole-system fault location and analysis of new energy vehicles. Including commonly used brands, TOP20   brands, and nearly

100 new energy brand models such as Audi, BMW and Porsche.
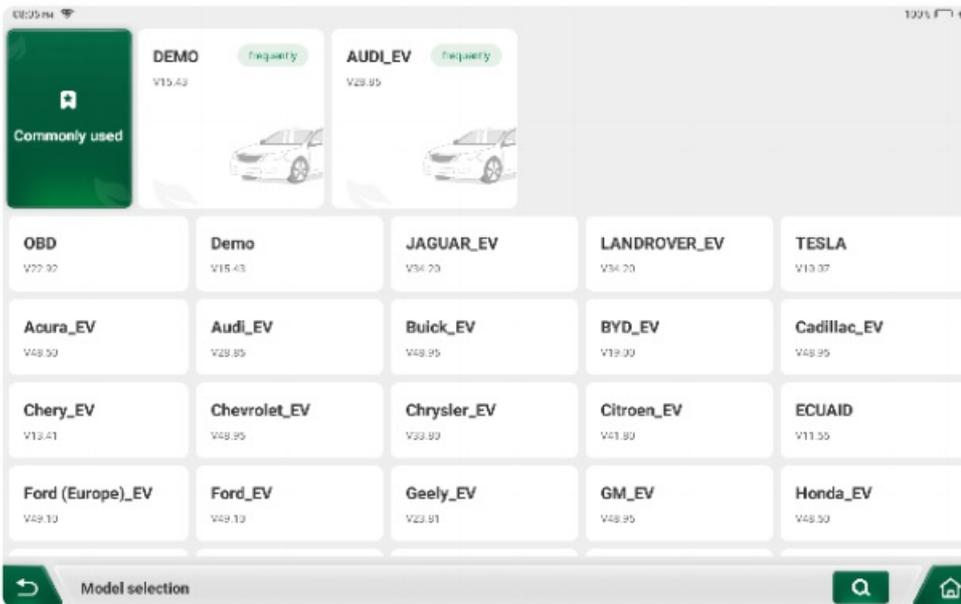
Please connect the vehicle that needs to be diagnosed and tested according to 2.6.1, then select the vehicle you want to diagnose, the   device host will be connected with THINKDIAG 3, after successful connection, it

will enter into the function selection interface as shown below:
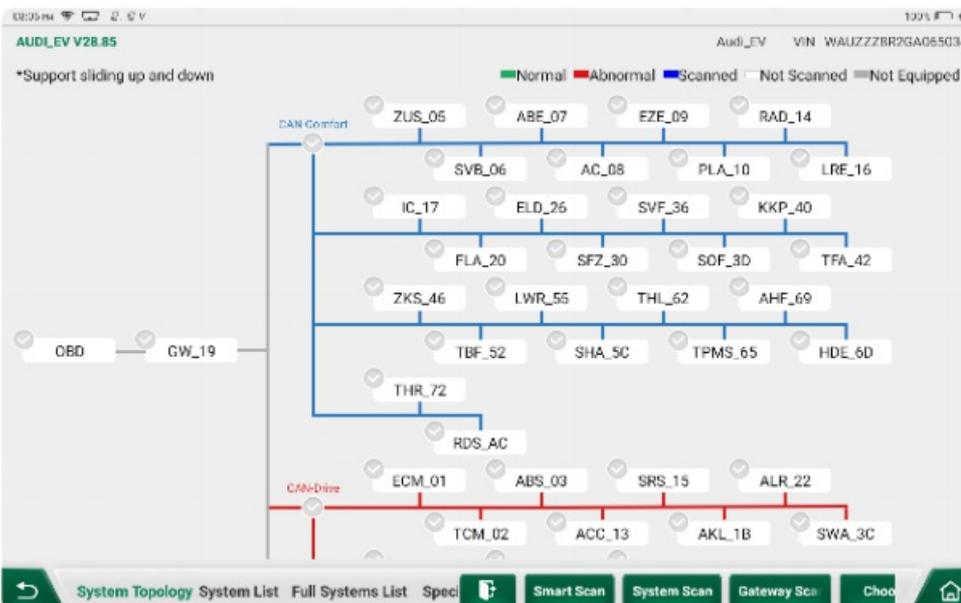
Note: The interface will be different for different models, refer to the actual diagnosed vehicle.

(1) Select the test method: After successful connection, the screen will enter the test item selection interface.

A. Intelligent scan: The device scans the vehicle's electronic control unit and checks whether the electronic control unit is normal by means of an intuitive topology diagram.

B. System scan: The equipment diagnoses the electric control system equipped with the vehicle by means of automatic scanning.

C. Selective scanning: The device diagnoses the vehicle by manually selecting the electronic control system to be scanned.

3.1.1.1 Selecting A Test System

Tap "Smart Scan", the screen will enter the smart scan function interface, and the smart topology map will be used to scan the whole car system.
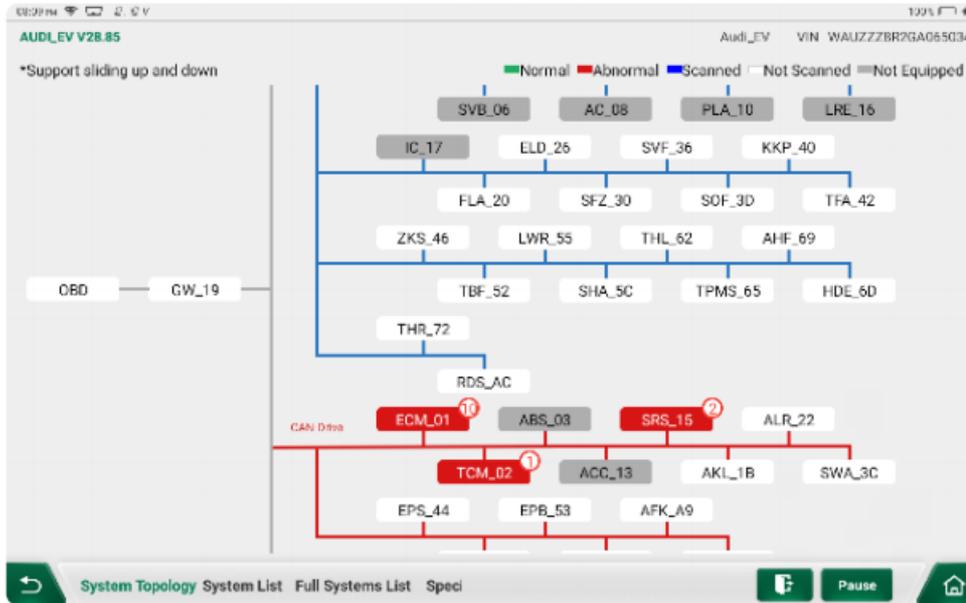
3.1.1.2 Selecting Test Functions

Tap on the name of the test function to be operated to enter the different test systems, the contents of which will vary depending on the model. Tap on the "DC-DC converter module" (as an example):
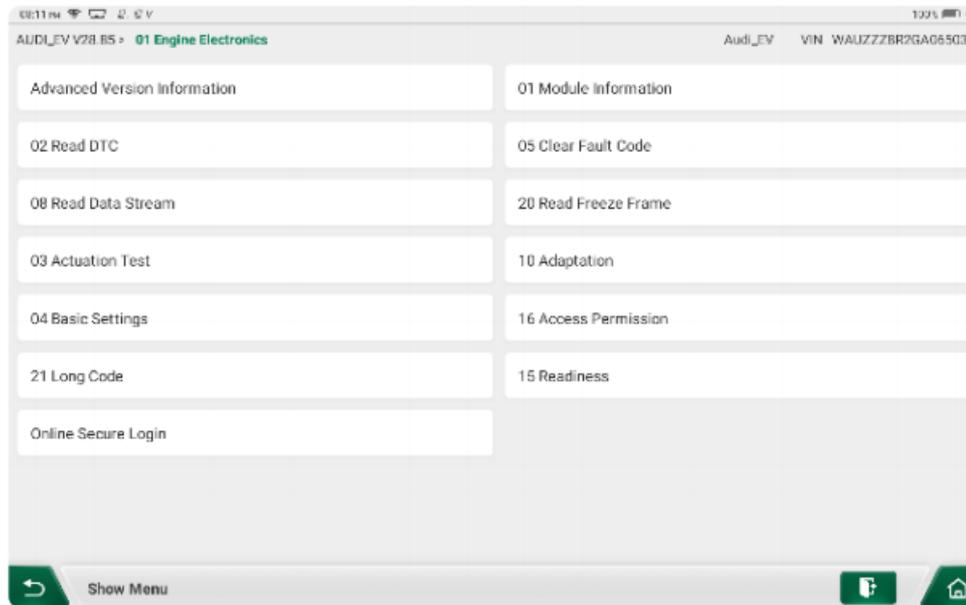
Note: The diagnostic menu may also be different for different models.

(a)Version Information

Tap on "Version Information" to read the version information of the current DC-DC master module of the vehicle.

(B) Reading Fault Codes

This function is used to read the fault codes that are currently present in the vehicle's DC-DC converter bus module. Tap on "Read Fault" on the function selection page and the screen will display the diagnostic results.

P048000	P16BA00	P13D600	U111300	P195000
Cooling Fan 1 Control Circuit	Coolant Pump For Charge Pressure Cooler - Dry Run	Sensor For Internal Pressure Of Cylinder 3 - Implausible Signal	Function Limitation Due To Received Malfunction Value	Coolant Fan For Coolant - Difficulty Of Movement/ Blocked
Active/Static	Passive/Abiogenesis	Passive/Abiogenesis	Passive/Abiogenesis	Passive/Abiogenesis
Code Search	Code Search	Code Search	Code Search	Code Search
Freeze Frame	Freeze Frame	Freeze Frame	Freeze Frame	Freeze Frame
Data Stream	Data Stream	Data Stream	Data Stream	Data Stream

P305400	P019700	P159D00	P011700	P164B00
Starter Does Not Turn - Mechanically Blocked Or Electrical Malfunction	Engine Oil Temperature Sensor Circuit - Low	Oil Level Thermal Sensor - Implausible Signal	Engine Coolant Temperature Sensor 1 - Circuit Low	Oil Pressure Switch - Malfunction
	Passive/Abiogenesis	Passive/Abiogenesis		Passive/Abiogenesis

↩ Diagnostic Trouble Code   🖨 📇 Report Clear DTCs ⌂

Note: Reading fault codes when servicing vehicle faults is only a small step in the whole diagnostic process. The vehicle fault code is only used as a reference and the parts cannot be replaced directly on the basis of the definition of the fault code given. Each fault code has a set of test procedures, and the repair technician must strictly follow the operating instructions and procedures described in the vehicle repair manual to confirm where the root cause of the fault lies.

(c)Clear Fault Code

Tap "Clear Fault Code" in the function selection page, the system will automatically delete the existing fault code and pop up the "Clear Fault Code Success" dialog box.

Note: General models, please strictly follow the conventional order of operation: first read the fault code, then in the clear fault code, test drive, read the fault code again for verification, repair the vehicle, clear the fault code, test drive again to confirm that the fault code no longer appears.

(d) Read Data Stream

This function is mainly used to read and display the real-time operation data and parameters of the automotive DC-DC converter (DC-DC) master module. By looking at these real-time data flow, service technicians can gain insight into the overall performance of the vehicle and provide guidance for vehicle repairs.

Trq Prp High SLONG	4875.88 lb-ft	🔋
Roadway Slope Angle Acceleration Interface, Calculated	⌃	
Angle Rad SWORD	0.0001 rad	🔋
Accelerator Pedal Position	⌃	
Accelerator Pedal Position D	0.0 %	🔋
Accelerator Pedal Position 2	⌃	
Accelerator Pedal Position E	0.0 %	🔋

↩ Data Stream   Report Record ⌂
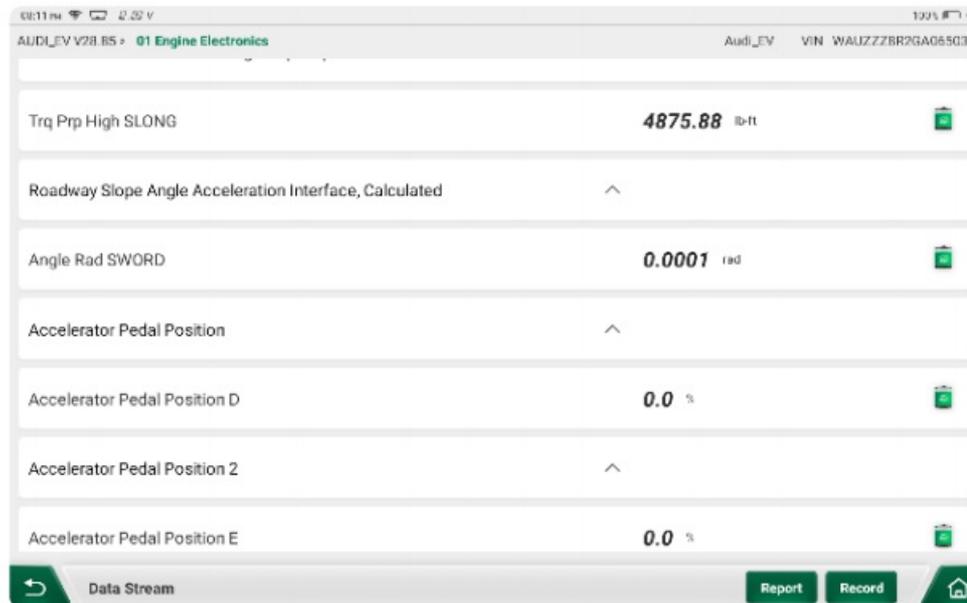
Note: In order to perform a vehicle troubleshooting you must drive the vehicle, please get someone else to help you. Driving and operating diagnostic equipment at the same time is dangerous and can cause serious traffic accidents.

3.1.2 Battery Pack Diagnosis

In this way, it can conduct professional-level diagnostic testing for new energy vehicle battery packs and battery modules, and provide multi-mode diagnosis (OBD interface diagnosis, fast charging port diagnosis, battery pack low-voltage interface diagnosis), and help users to conduct accurate battery fault location and provide battery diagnosis and maintenance guidelines through real-time analysis of voltage, temperature, differential pressure and other important data of battery cells.

ACURA V13.13	AUDI V13.13	BENTLEY V13.13	BENZ V13.13	BYD V13.13
CITROEN V13.13	GM V13.13	HONDA V13.13	HYUNDAI V13.13	INFINITI V13.13
KIA V13.13	LEXUS V13.13	MITSUBISHI V13.13	NISSAN V13.13	OPEL V13.13
PEUGEOT V13.13	PORSCHE V13.13	RENAULT V13.13	SKODA V13.13	SMART V13.13
SPRINTER V13.13	SUBARU V13.13	TESLA V13.13	TOYOTA V13.13	USAFORD V13.13
VW V13.13				

All   Passenger car   Battery pack bran

3.1.3 Oscilloscope

The device integrates the function of oscilloscope, which can assist users to determine vehicle maintenance problems such as sensors, actuators, control modules or wiring through THINKDIAG 3 using a visual graphical interface, as shown in the following figure.

3.1.4 * Online Programming

Online programming is the use of electronic communication transfer technology to input the relevant control information from software into the programmable EPROM or FLASH of the car computer. Common makes and models are supported, as shown below.

* Indicates features and accessories supported by THINKCAR CE EVD Pro.

Note: This function is only required if any of the following conditions apply.

(1) A new control unit module was replaced.

(2) When the control unit module does not function properly.

(3) When a version update upgrade of the control unit module is required.

(4) If the vehicle fault cannot be resolved after the vehicle has completed routine self-diagnosis (reading and clearing fault codes, reading data streams and action element testing).

ⓘ Note that not any fault can be solved only by programming. If there is a hardware fault in the working components of the vehicle systems or in the computer itself, it is pointless to work on programming the car computer.

Check the following carefully before proceeding with programming.

• Check the vehicle, turn off the engine and leave it in the non-ignition state.

• Place the transmission in the P/N position.

• Turn off all electrical devices, such as: air conditioning, headlights, turn signals, audio, etc. Otherwise, any unstable car current may cause programming interruption.

• Connect the vehicle to an approved programmed (or stable) battery charger to ensure that the battery voltage is between 13V and 14V.

• Diagnose the vehicle, troubleshoot possible problems and clear vehicle fault codes.

• Do not turn on or move any part of the vehicle related to programming when programming, as doing so may cause programming to be interrupted. Damage to the related module may result.

• Make sure the THINKCAR CE EVD Pro host is fully powered.

• To ensure communication and program stability, connect the THINKCAR CE EVD Pro main unit and the THINKDIA 3 multi-function diagnostic box with a wired connection.

• Programming is at your own risk. In addition not all vehicle problems can be programmed to solve, so please choose carefully.

The process of executing this function must not be abnormally interrupted artificially, otherwise it will cause serious consequences such as the engine control unit being unusable. General programming of the car computer needs to go through the following steps (depending on the specific vehicle, the process of programming different vehicles may be more complex, strictly follow the screen prompts). Whether the specific operation is required, subject to the diagnostic report provided.

```
Tap "Online Programming"            →    Please read carefully the precautions and risks of
          ↓                                         brush writing
Select specific model software                        ↓
          ↓                              Start downloading programming files from
Select diagnostic software version                    the server
          ↓                                           ↓
     Select System                      Start programmingfrom the server
          ↓                                           ↓
Select the "Online Programming" function menu →   End of programming
```
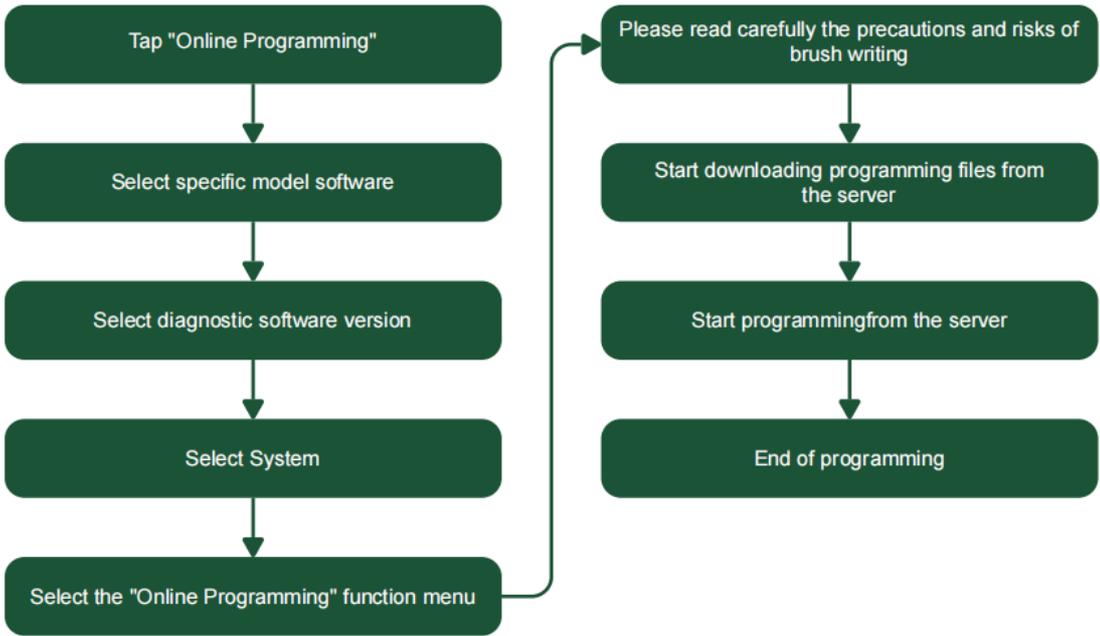
3.1.5 Tire Pressure

THINKCAR CE EVD/EVD Pro with THINK Wireless Tire Pressure Diagnostic Module enables TPMS activation, programming and learning functions.
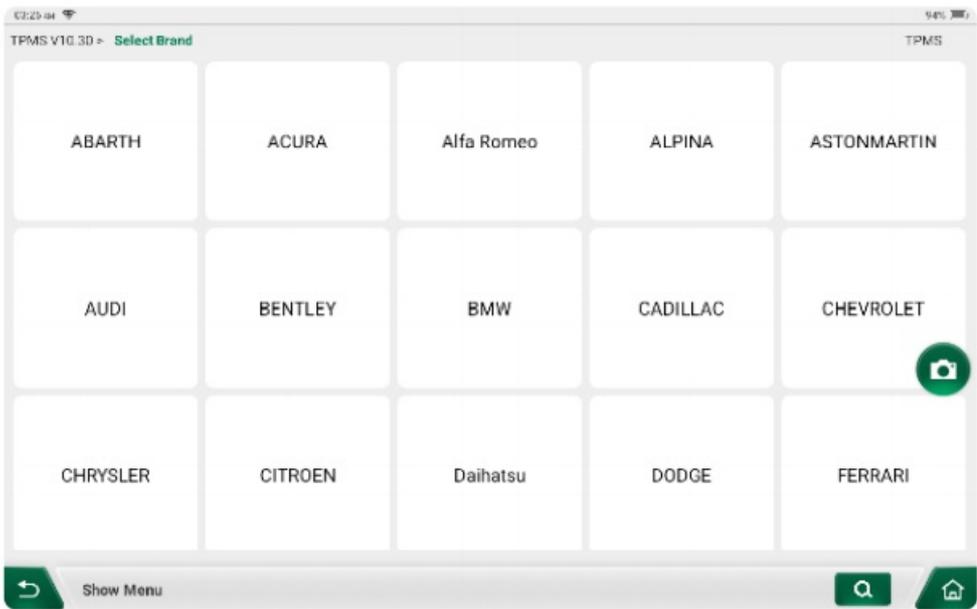
(a) Activation: This function allows you to activate the sensor ID, wheel pressure, sensor frequency, tire temperature and battery status.
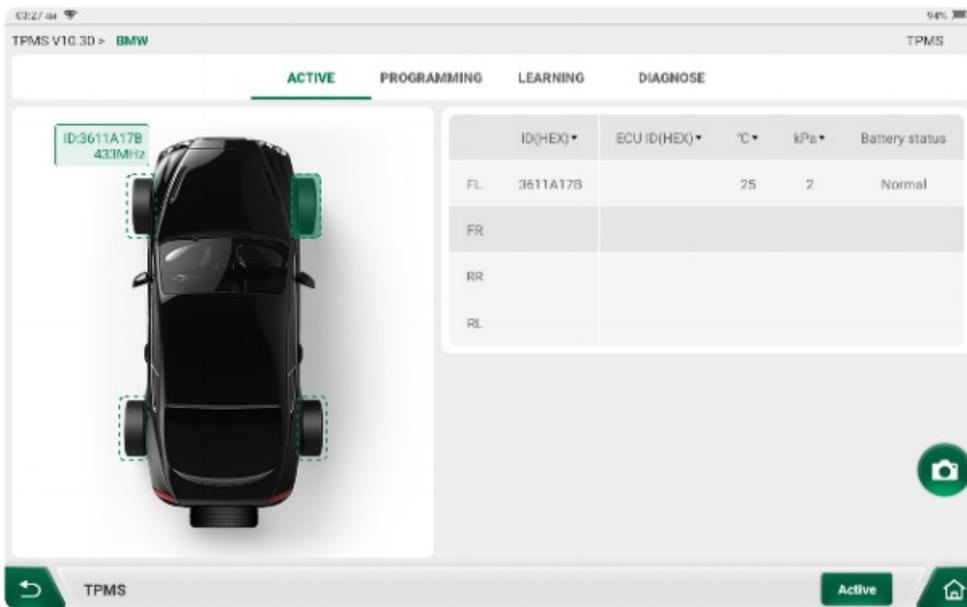
(b) Programming: This feature can be used to program sensor data to a blank THINKCAR sensor to replace a sensor that is low on power and not functioning properly. A total of three sensor programming methods are available : automatic, manual and copy by activation.
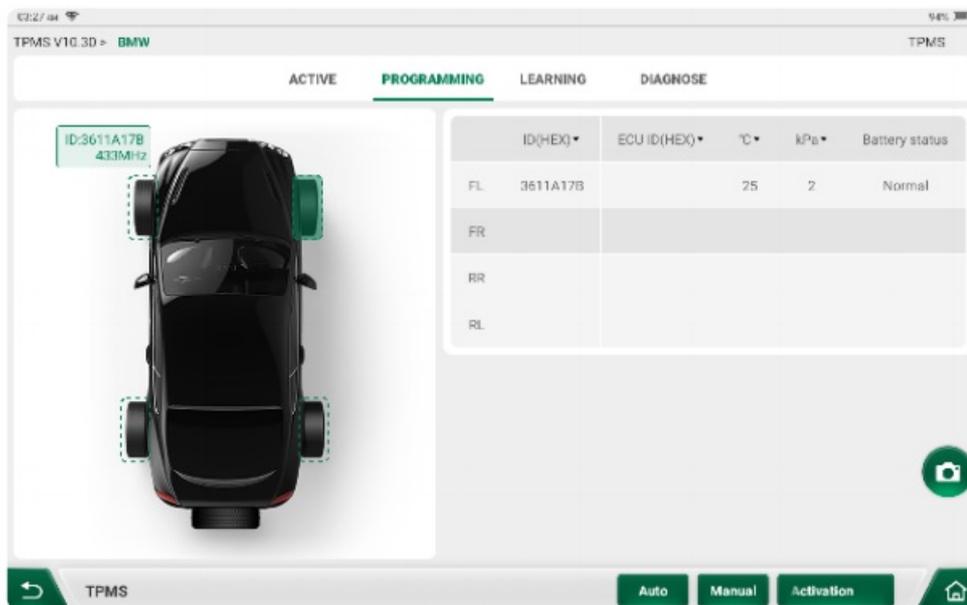
(c) Learning: This function allows you to write the sensor ID to the vehicle ECU for sensor.
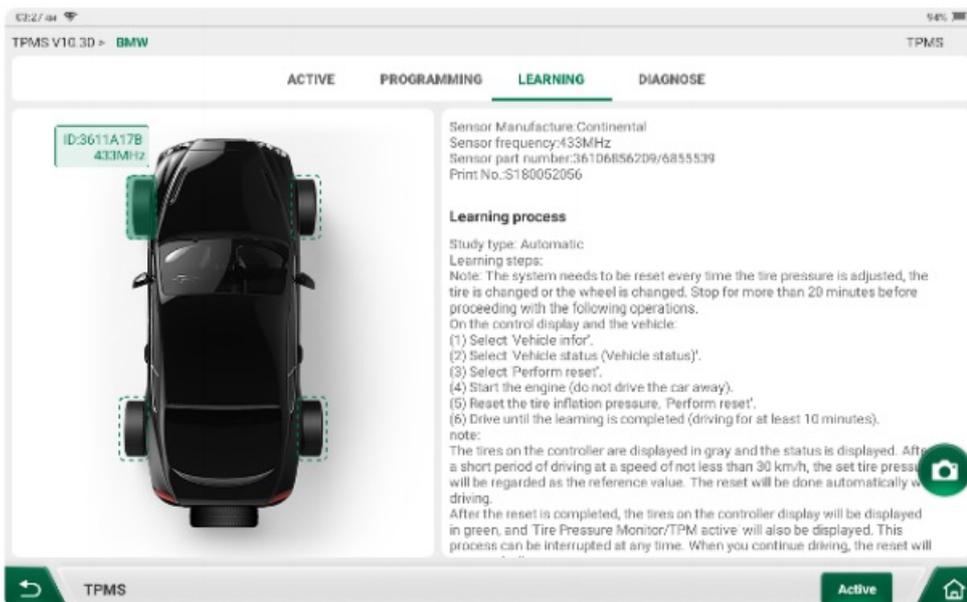
(d) Diagnosis: you can use this function to read the fault information of tire pressure system.

Read DTC

Clear DTC

Show Menu
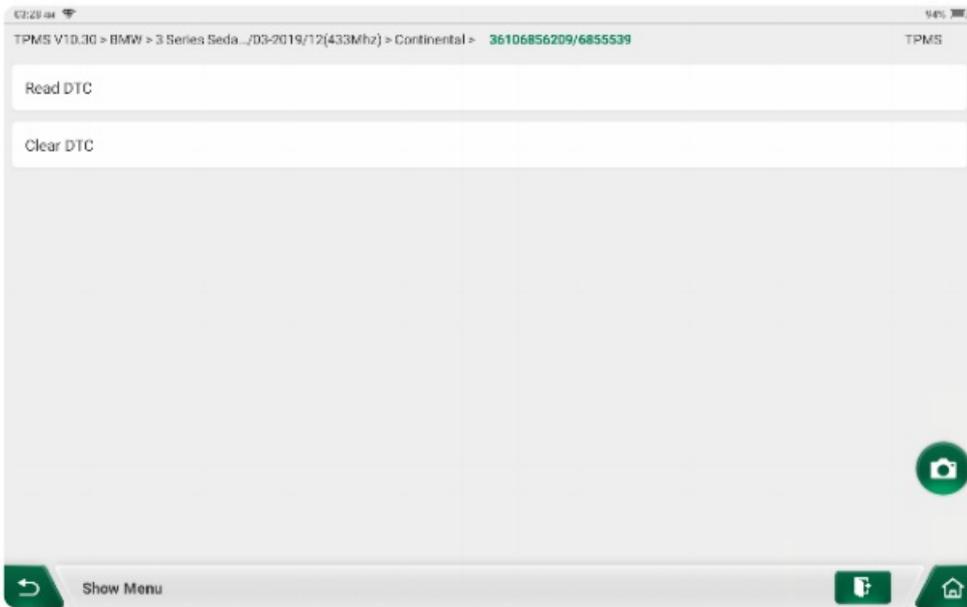
3.1.6 *ADAS

Advanced Driver Assistance Systems (ADAS) are electronic components in a vehicle that include various safety features of the vehicle   such as Automatic Emergency Braking (AEB), Lane Departure Warning (LDW), Lane

Keeping Assist, Blind Spot Elimination, Night Vision Cameras and Adaptive Lighting.

* Indicates that THINKCAR's ADAS calibration tool is an optional tool.

ADAS Calibration   Adjustment steps   ADAS Vehicle Coverage
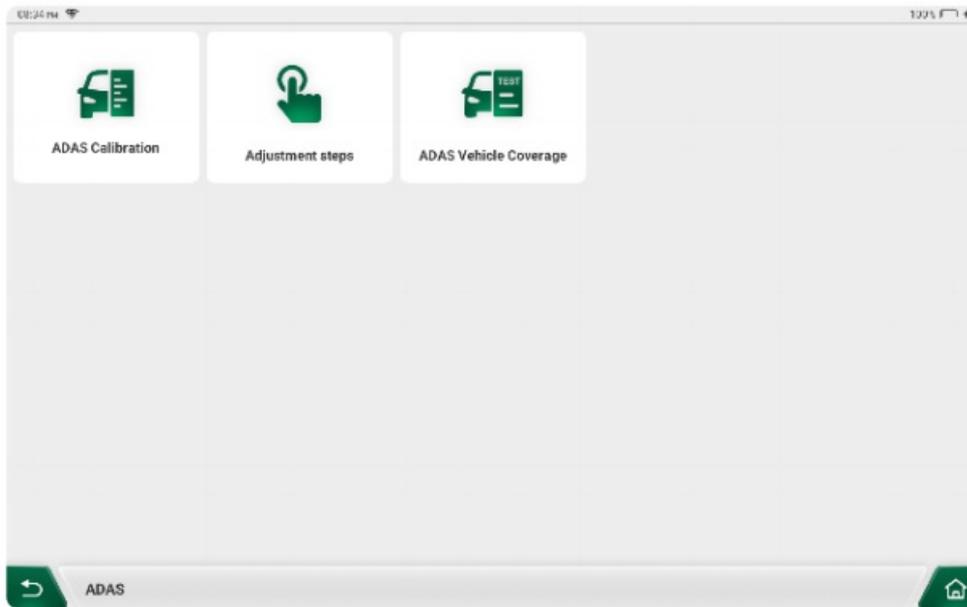
ADAS

This feature is disabled by default on the device and users need to purchase the ADAS calibration tool from THINKCAR and then use the   activation card to activate the feature before it can be used. It is mainly used to

calibrate various cameras and radars for driver assistance systems, such as front cameras for lane departure warning systems, radar sensors for ACC (Adaptive Cruise Control) or cameras for   adaptive headlights.

3.1.7 * Voltage Detection

The device is connected to the current clamp by wireless means. The user only needs to connect the two red and black wires of the current   clamp to the two ends of the circuit to be measured, the electronic control

unit and the sensor, respectively, without disconnecting the working circuit, to measure the voltage on the electronic control unit, the sensor and other circuits.

* Indicates features and accessories supported by THINKCAR CE EVD Pro.

N waveform mode　　Numerical mode　　Waveform mode

Connected

V̄ DC voltage

Stop

save waveform

V 0.030v

Max: ⠿mv　Vp-p: ⠿mv
Min: ⠿mv　Avg: ⠿mv

waveform recording
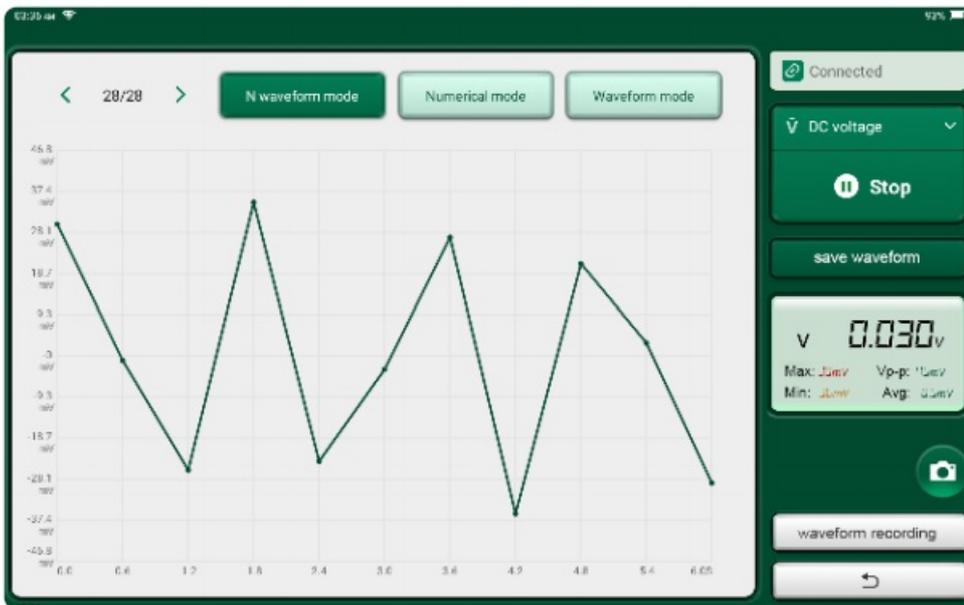
3.1.8 * Current Detection

The device is connected to the current clamp by means of wireless. The user only needs to open the clamp probe and clamp the wiring   harness around the electrical equipment, without disconnecting the working circuit, to measure the current on the electric control unit and circuit.

* Indicates features and accessories supported by THINKCAR CE EVD Pro.

3.1.9 Multimeter

The device integrates the functions of a multimeter and can measure a wide range of electronic components and electrical parameters   such as AC current, DC current, AC voltage, DC voltage, resistance, diode, on-off test, etc. with the THINKDIAG 3. The functional interface is shown in the figure below.

N waveform mode　　Numerical mode　　Waveform mode

Connected

V̄ DC voltage

Stop

save waveform

V̄

-0.014v

Max: 39mv　　Vp-p: 72mv
Min: -33mv　　Avg: -0.7mv

waveform recording
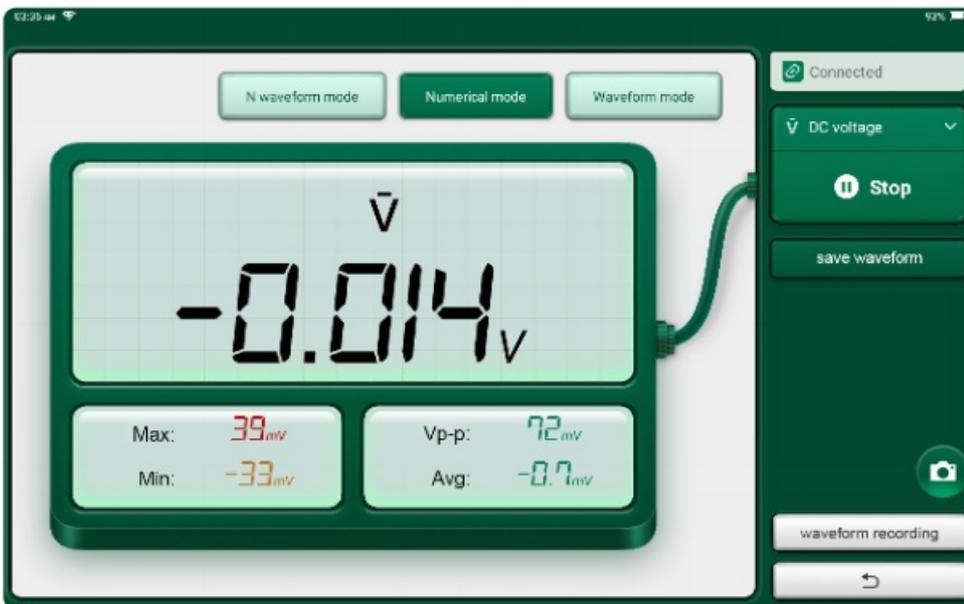
3.2 Reporting

Record, view, send, and print diagnostic reports for vehicles that have been diagnosed by the device.

3.2.1 Diagnostic List

The diagnostic report is displayed in a list according to the same VIN code, and the interface is shown below after entering.
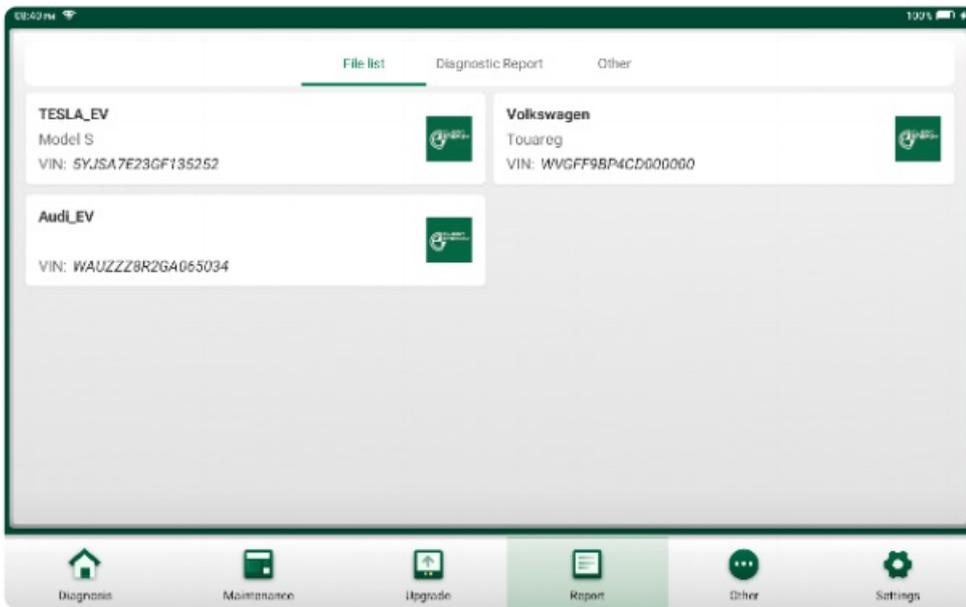
3.2.2 Diagnostic Report

The diagnostic reports are displayed in order by date, and the access screen is shown below.
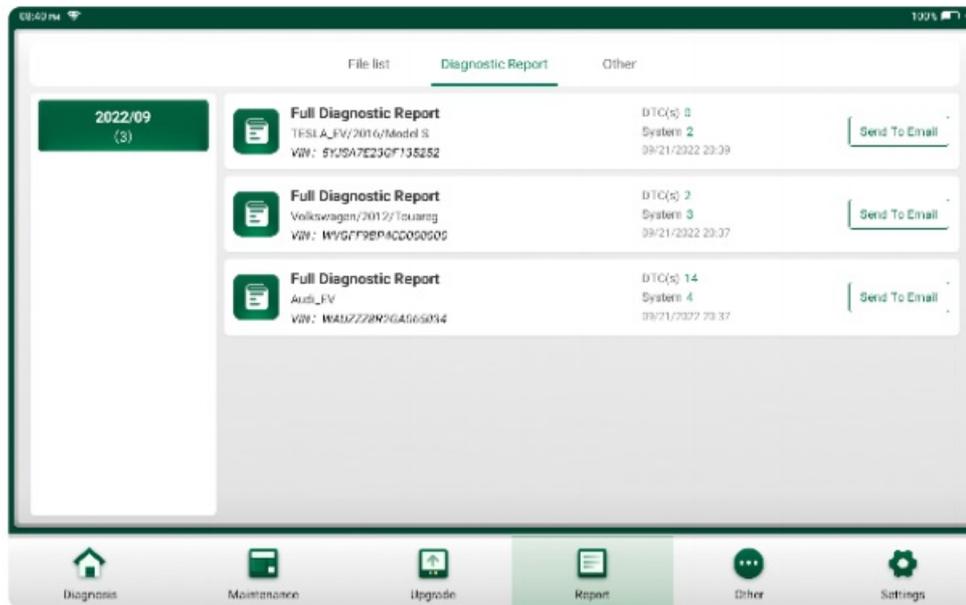
3.2.3 Others

The diagnostic reports for vehicles with unrecognized VIN codes are sorted and displayed, and the access screen is shown below.
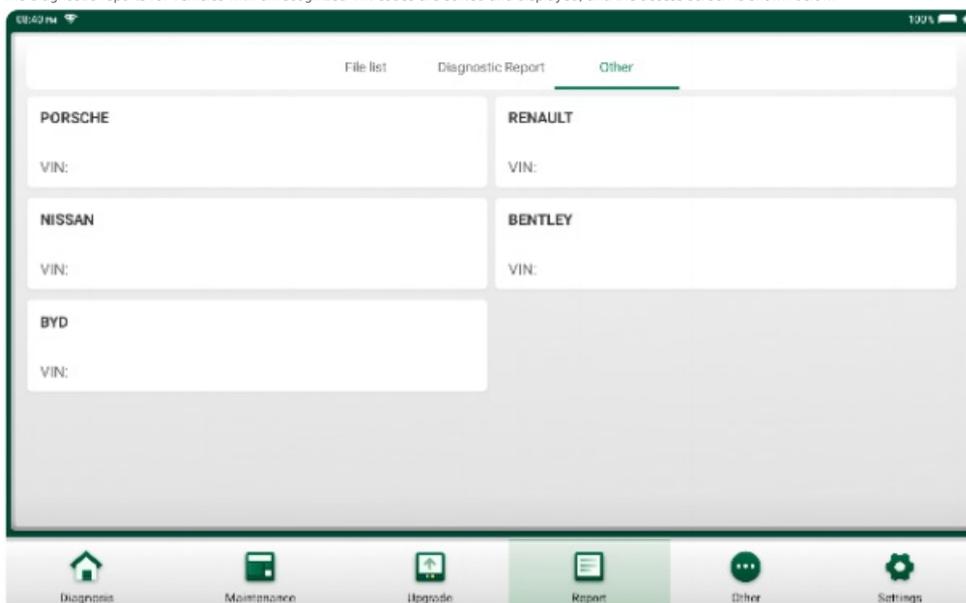
3.3 Maintenance

THINKCAR CE EVD/EVD Pro supports matching, coding, programming and 24 common maintenance services for electronic control units   and control systems of new energy vehicles.
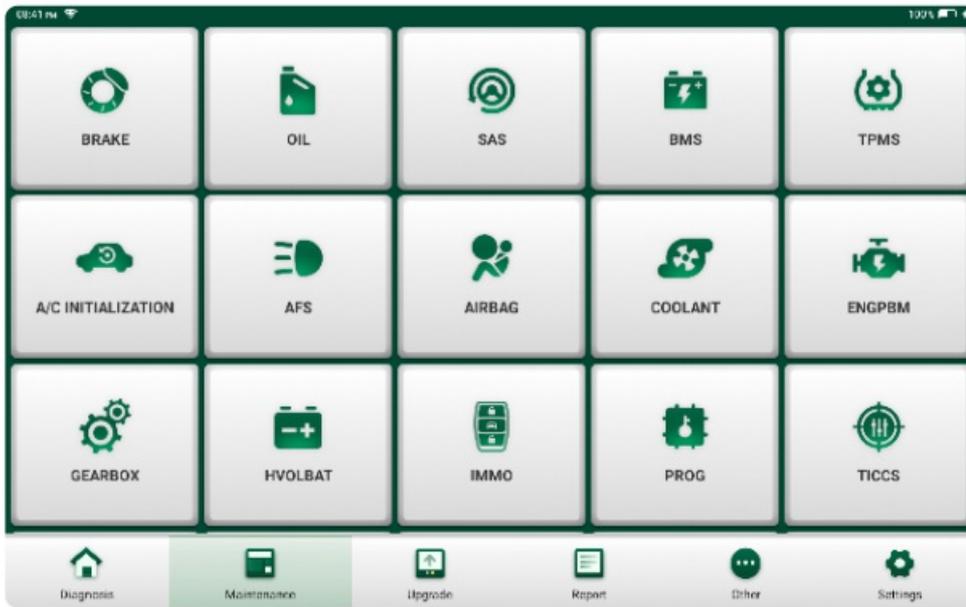
3.3.1 Brake-pad Reset

If the brake pad wears the brake pad sense line, the brake pad sense line sends a signal sense line to the on-board computer to replace   the brake pad. After replacing the brake pad, you must reset the brake pad.

Otherwise, the car alarms.

Reset must be performed in the following cases:

a. The brake pad is replaced or brake pad wear sensor.

b. The brake pad indicator lamp is on.

c. The brake pad sensor circuit is short, which is recovered.

d. The servo motor is replaced.

3.3.2 Zeroing Out The Maintenance Light

The car maintenance light comes on to indicate that the vehicle is in need of maintenance and servicing. After the maintenance is done,   you have to reset the mileage or driving time to zero setting, then the

maintenance light will go off and the system will enable a new maintenance cycle.

3.3.3 Steering Angle Reset

The steering angle reset is to find the relative zero position of the car to keep driving in a straight line, using this position as a reference,   the ECU can calculate the exact angle of left and right steering. Generally, after

replacing the steering angle position sensor, replacing the steering system mechanical parts (such as: steering gear, steering column, cross tie rod ball head, ram's horn), doing four wheel alignment,   body repair, etc., it

is required to do the steering angle reset to zero.

3.3.4 Battery Matching

This function enables you to perform a resetting operation on the monitoring unit of vehicle battery, in which the original low battery fault   information will be cleared and battery matching will be done.

Battery matching must be performed in the following cases:

a. Main battery is replaced. Battery matching must be performed to clear original low battery information and prevent the related control   module from detecting false information. If the related control module detects

false information, it will invalidate some electric auxiliary functions, such as automatic start & stop function, sunroof without one-key trigger function, power window without automatic function.

b. Battery monitoring sensor. Battery matching is performed to re-match the control module and motoring sensor to detect battery power   usage more accurately, which can avoid an error message displaying on the

instrument panel.

3.3.5 TPMS Reset

When the car tire pressure fault indicator light is on, after the repair is carried out, the tire pressure needs to be reset by the tire pressure   reset function to extinguish the tire pressure fault indicator light. When the tire

pressure is too low or leaking, replacing or adding tire pressure monitoring equipment, replacing tires, damaging tire pressure sensors, and replacing tires in cars with tire pressure monitoring   function, tire pressure

reset should be performed on the car after the repair is completed.

3.3.6 A/T Learning

This function completes the gearbox self-learning to improve gear shifting quality. When the gearbox is disassembled or repaired (after   some of the car battery is powered off), it will lead to shift delay or impact

problem. In this case, this function needs to be done so that the gearbox can automatically compensate according to the driving conditions so as to achieve more comfortable and better shift quality.

3.3.7 Motor Angular Position Sensor Calibration

The zero offset angle of the motor position sensor (i.e., the spin-change zero offset angle or initial angle) is critical to the accuracy of the   motor output torque. According to the vector control of permanent magnet

synchronous motor, in order to maximize the torque output of the motor. So much so that the deflection angle of the rotational sensor is not consistent for each motor. Therefore, each motor needs to be   calibrated for

the zero deflection angle of the rotation sensor when it is tested off-line.

3.3.8 Electronic Pump Start

Use this function to activate the electronic water pump before the cooling system is exhausted.

3.3.9 Engine Power Balance

During the power stroke of each cylinder, the power balance monitors the crankshaft acceleration, thus determining the relative power   provided by each cylinder.

3.3.10 * Anti-theft Programmer

This feature requires the purchase of an anti-theft adapter PROG to be available to users.

3.3.11 Anti-theft Matching

In order to prevent the car from being used by illegal keys, the anti-theft key matching function enables the immobilizer control system on   the car to identify and authorize the remote control key before the car can be

opened and used normally. In addition, when replacing the ignition switch key, ignition switch, combination instrument panel, engine control unit (ECU), body control module (BCM) and remote control battery, the anti-theft key matching is required.

3.3.12 High-Voltage Battery Health Testing

For high voltage battery diagnostics and status information detection.

3.3.13 Unwinding Transport Modes

When the vehicle in order to reduce power consumption, the vehicle speed limit, door open network does not change wake, remote key disabled and other situations arise, at this time need to lift the transport mode, so that the vehicle back to normal.

3.3.14 Tire Modification

Tire size parameter setting after tire modification or replacement.

3.3.15 Door And Window Calibration

Perform door and window matching to restore the ECU's initial memory and restore the auto-up and auto-down functions of the power windows.

3.3.16 Airbag Reset

This function can reset the airbag data and clear the airbag collision fault indicator; when the vehicle collides and the airbag deploys, the corresponding fault code of the collision data will appear and the airbag indicator light will be on and the fault code cannot be cleared. As the data inside the airbag computer is disposable, all new parts must be replaced according to the requirement, but the data of the airbag computer can be restored after executing this function, and the fault code can be cleared, the airbag indicator light will be off, and the airbag computer can continue to be used.

3.3.17 Start/Stop Settings

The vehicle is hidden by swiping the trip computer to open or close the auto start/stop function (provided that the vehicle has the hidden function and the hardware supports it).

3.3.18 Sunroof Initialization

This function allows you to set sunroof locking shut, closing in case of rain, memory function for sliding/tilting sunroof, outside temperature threshold, etc.

3.3.19 Suspension Matching

This function adjusts the body height. When the body height sensor in the air suspension system is replaced, after the control module or the car is leveled incorrectly, this function needs to be executed to adjust the body height sensor for level calibration.

3.3.20 Instrument Tuning

(a) Gauge mileage adjustment is the copying, writing or rewriting of the mileage. That is, the data of the chip in the meter is copied, written or rewritten with the car diagnostic computer and data cable to make the meter display the actual mileage.

(b) Usually, mileage adjustment is done after the repair is completed when the speed sensor is damaged or the instrumentation is faulty resulting in inaccurate mileage.

3.3.21 Language Settings

Change the language of the vehicle's central control system.

3.3.22 Intelligent Cruise Control System

Used for vehicle intelligent cruise module replacement and matching after repair.

3.3.23 Automatic Air Conditioning Initialization

Air conditioning initialization learning performed when the electronic control unit is replaced, the actuator is replaced, or the memory of the electronic control unit memory is lost in the vehicle air conditioning.

3.3.24 Seat Calibration

For seat replacement with memory function, matching after repair.

3.4 Upgrade

To ensure that you enjoy better functionality and upgrade services, we recommend that you perform software upgrades from time to time. You will be prompted to upgrade when a newer software version is available.
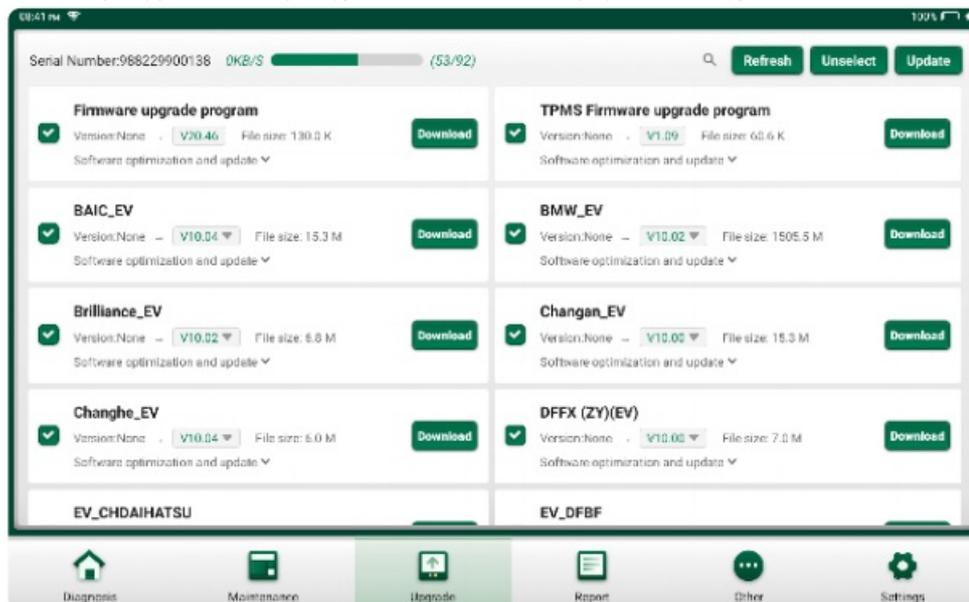
Tap "Upgrade" to enter the software upgrade center, where you can select the feature packages available for download, with three feature tabs.

Refresh: refreshing the information of the package according to the serial number of the device.

Select all: check all packages that can be upgraded.

One-click upgrade: select all the upgrade packages and Tap "One-click upgrade", the device can automatically download all the packages

for installation and upgrade.

ⓘ *Note: During the upgrade process, please make sure the network connection is normal. In addition, due to the large number of software, the time required to download may vary, so please be patient.*

To deselect a software, Tap the checkbox in front of the software.

3.5 Others
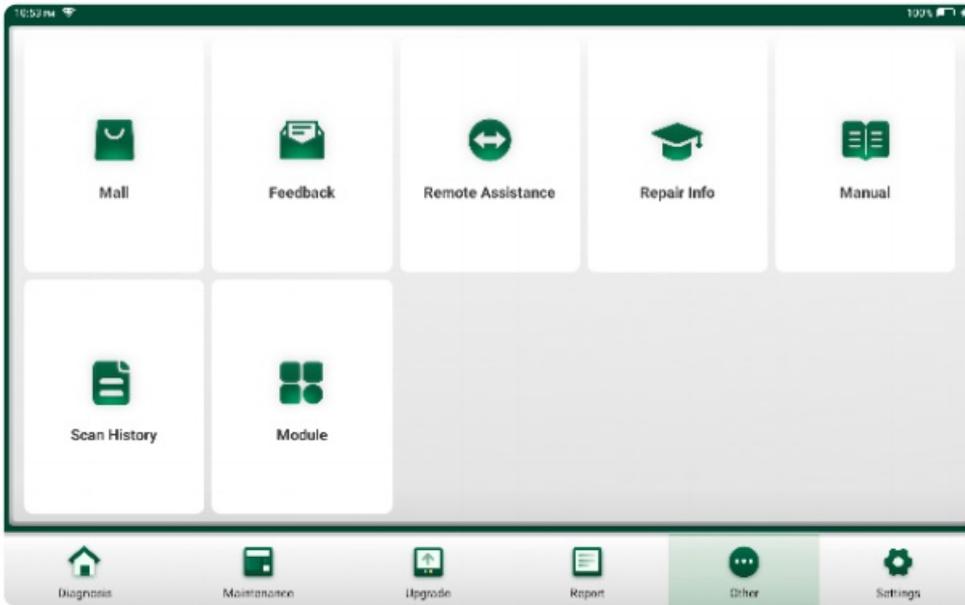
3.5.1 THINKCAR Mall

THINKCAR Mall is a store containing THINKCAR diagnostic products for purchase launched by THINKCAR Technology. Each product has detailed feature descriptions and also supports online purchase.

3.5.2 Diagnostic Feedback

If you encounter unsolvable problems in diagnostics or diagnostic software issues, you can send your last 20 test records back to THINKCAR. After we receive your feedback, we will follow up and deal with it in time, so as to improve our product quality and user experience. Tap "Diagnostic Feedback", the following dialog box will pop up.
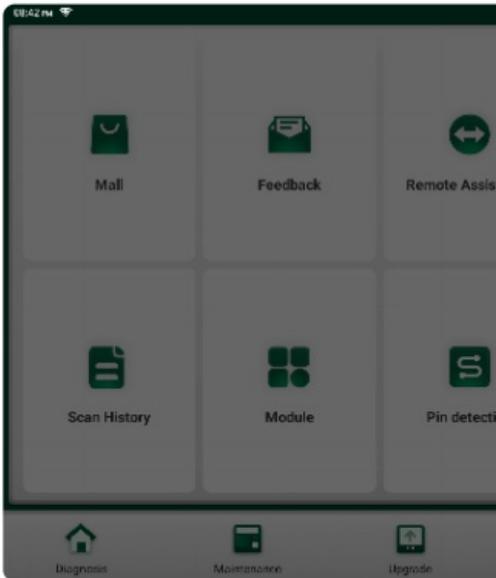
Tap "OK" to enter the vehicle diagnostic record feedback selection screen. There are 3 actionable options as follows.

HYUNDAI_EV	LEXUS_EV	HONDA_EV	KIA_EV	GM_EV
LANDROVER_EV	VW_EV	TESLA	AUDI_EV	

↩ **Feedback**　　History　　Offline-list　　🏠
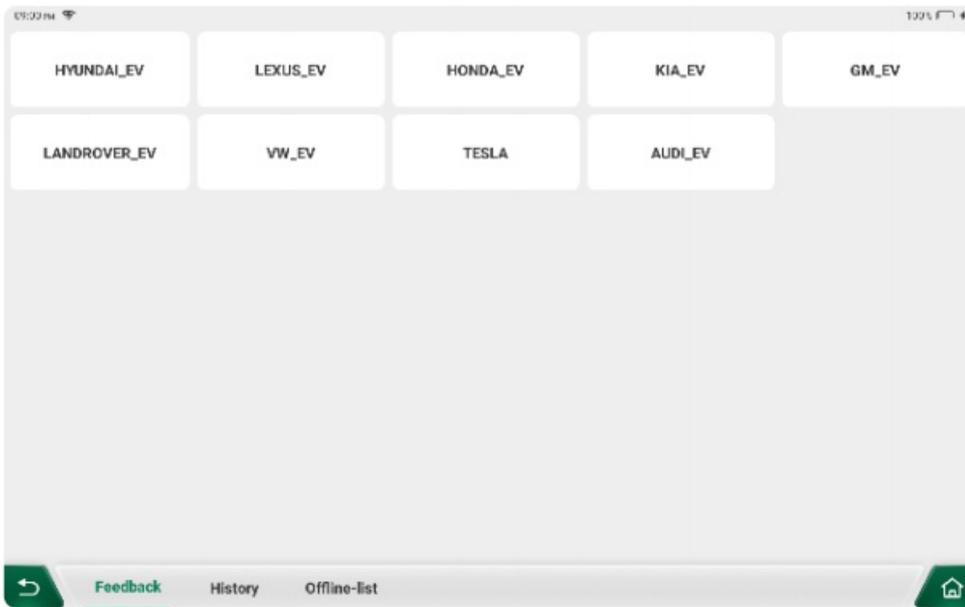
Diagnostic Feedback : Displays a list of diagnosed features and diagnosed models.

Feedback History : Display the list of all models that have been fed back, Tap to view the processing progress of all submitted diagnostic   feedback.

Offline list : Tap to view the diagnostic feedback of failed uploads due to network problems. Once the network is restored, the system will   automatically upload to the server side.

Under the "Diagnostic Feedback" tab, Tap on the diagnostic record of the corresponding model or special feature to enter.

AUDI_EV

(Current software version) *V28.85*
(Latest software version) *V10.08*

Make:　　　　EV_AUDI
Model:　　　　–
Year:　　　　–
VIN:　　　　–

1.Choose feedback log　　　　　　　　　　Choose file

988229900138_EV_AUDI_20220921200508 ⊗

2.Choose feedback problem type

○ Consult or error

○ Special functions

○ System or function access failed

○ Others

Add image (optional, provide problem screenshot)

📷

Add data stream files (optional)　　　　　　Add files

↩ Feedback　　　　　　　　　　　　　　Submit Result　　🏠

Tap "Select File" to open the target folder, select the diagnostic log that needs feedback, and then select the corresponding diagnostic   feedback problem type. In the text box, enter the specific fault description and the specific contact information of the person giving feedback. Then Tap "Upload Log" to send it to us.

We will follow up your feedback report after receiving your fault feedback, please note the progress and results of the diagnostic feedback   in the "Feedback History".

3.5.3 Remote Assistance

A third-party component, TeamViewer, is assembled in the device to provide remote assistance to users in case they encounter a problem   with their car that they cannot solve.

Activating TeamViewer...
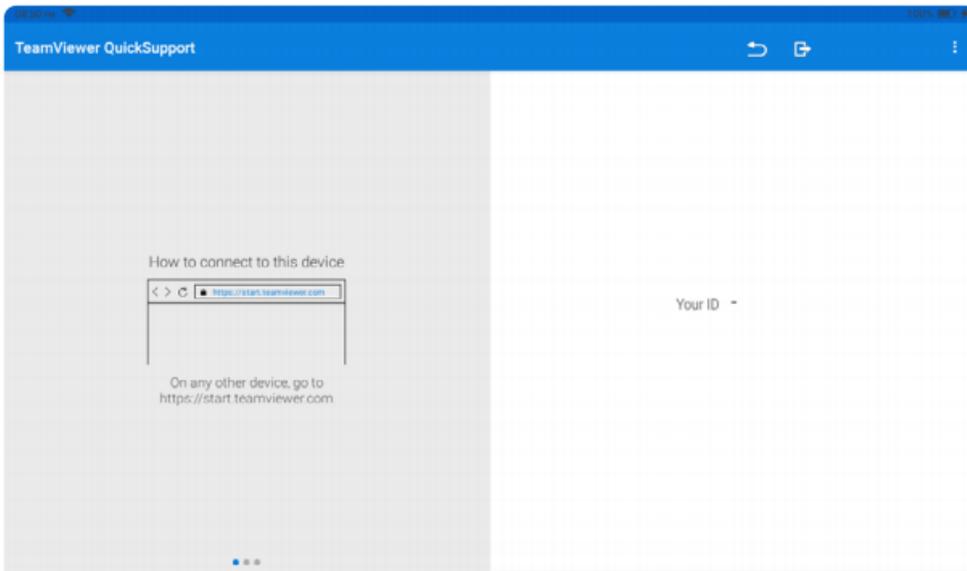
3.5.4 Repair Info

3.5.4.1 Video

View the introduction of THINKCAR CE series new energy diagnostic products and updated video materials about new energy products.

3.5.5 Instruction Manual

An electronic version of the manual is provided so that users can view a detailed description of the device's features, how to use it, and   frequently asked questions.

3.5.6 Maintenance Records

Used to record and create a file of diagnosed vehicles. It will be created according to the time of vehicle inspection and contains diagnostic   reports, data flow records, pictures.

2022/09 (4)	☐	BYD_EV	Systems:1 DTC:0 2022-09-21 09:02:53PM	Quick Access
	☐	TESLA_EV VIN 5YJSA7E23GF 135252	Systems:2 DTC:0 2022-09-21 09:02:16PM	Quick Access
	☐	VW_EV VIN WVWECM20T DI01104L	Systems:2 DTC:2 2022-09-21 09:01:05PM	Quick Access
	☐	AUDI_EV VIN WAUZZZ8R2G A065034	Systems:5 DTC:15 2022-09-21 08:06:25PM	Quick Access

Scan History — Select All Delete Cancel
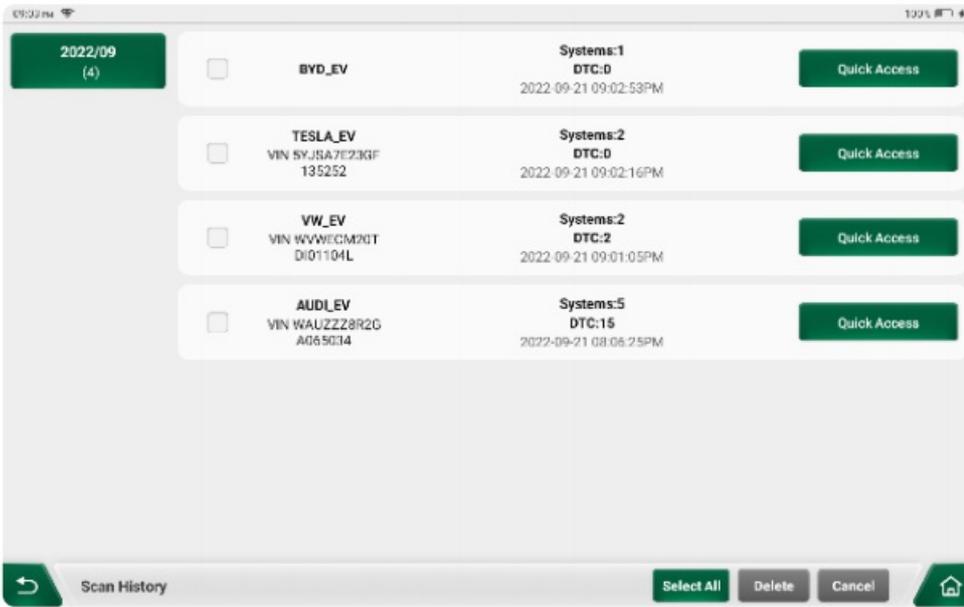
3.5.7 Modules

Mainly through the expansion interface or USB interface on the back panel of the device, you can use different functions of the THINKCAR expansion modules in different maintenance scenarios. Such as printing paper reports, fill light in dark environment, powertrain and HVAC heat distribution, etc.

Module — PRINTER | WORK LIGHT | THERMAL IMAGER | VIDEO SCOPE | Coming Soon
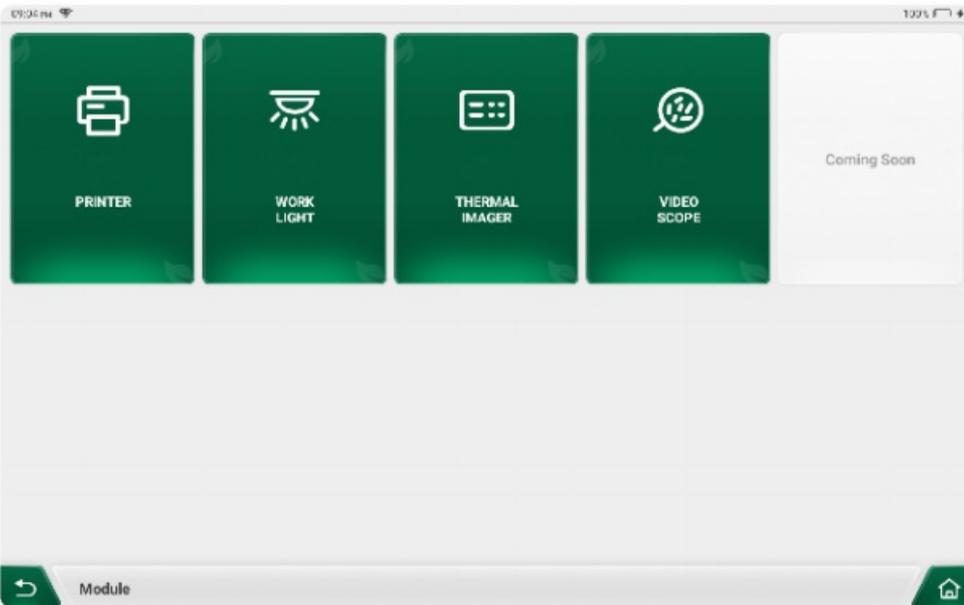
3.5.7.1 Printers

Go to the "Other -> Modules -> Printers" module, scan the printer module, connect and access the printer.

THINKPRINTER	M18-00000001

PRINTER
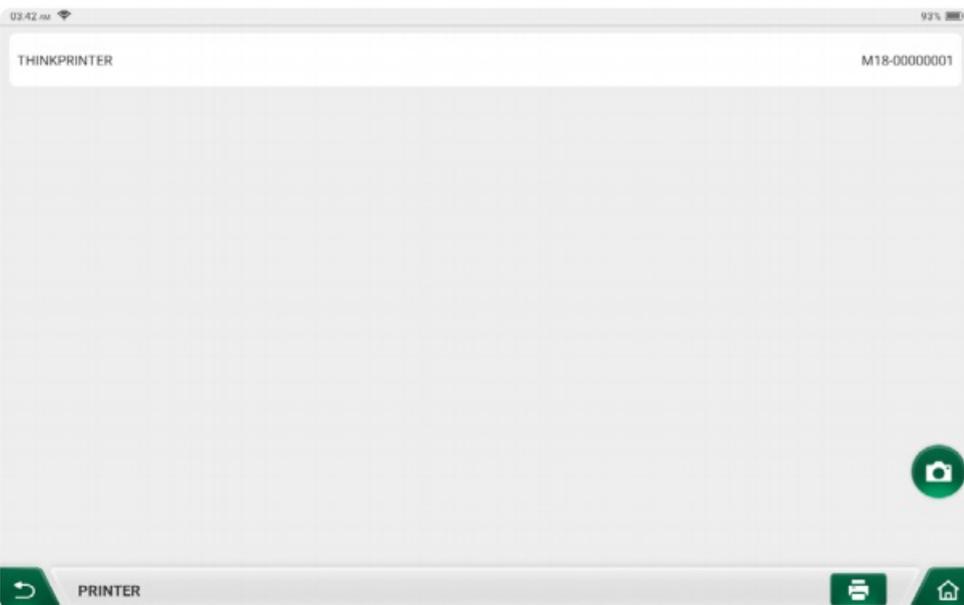
3.5.7.2 Working Lights

Access the THINKCAR work light module through the interface on the back of the device, and enter the work light operation function interface from "Other -> Module -> Work Light", as shown in the figure below.

3.5.7.3 Thermal Imaging

Access the THINKCAR thermal imaging module through the interface on the back of the device, and enter the operational interface of thermal imaging from "Other -> Modules -> Thermal Imaging", as shown in the figure below.
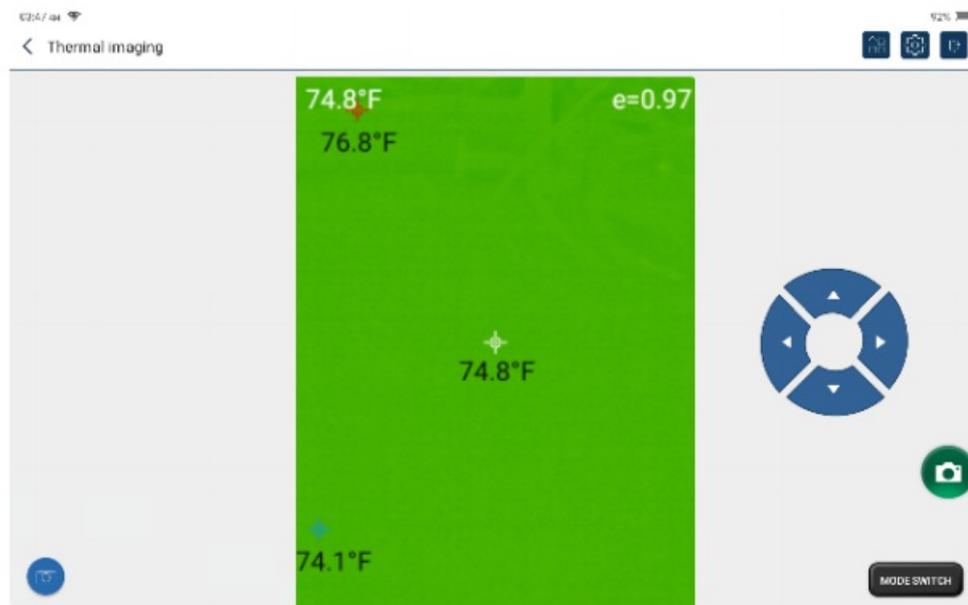
3.5.7.4 Video Scope

Access the THINKCAR video scope module through the USB port of the device, and enter the operating function interface of the video scope from "Other -> Module -> Video scope", as shown in the figure below.

3.6.1 My Device

If there are multiple THINKDIAG 3 registered under the same THINKCAR CE EVD/EVD Pro account, use this item to select the

corresponding THINKDIAG 3.
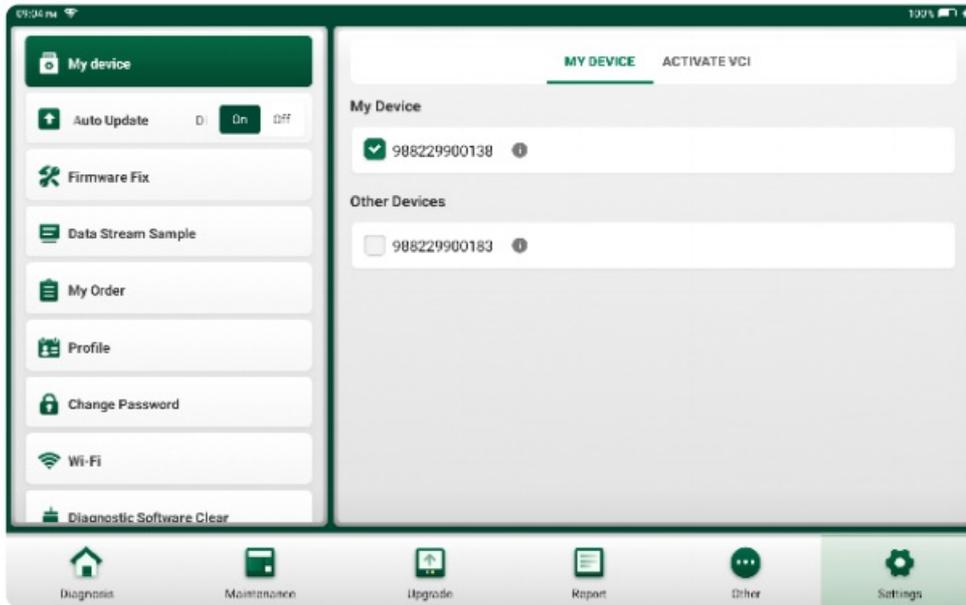
3.6.2 Automatic Upgrade

The user can choose whether the device needs to be automatically upgraded with the software package while connected to the network. The default automatic upgrade of the device is on, and when the automatic

upgrade switch is off, the device software update will need to be upgraded manually.

3.6.3 Firmware Repair

For repairing the firmware of THINKDIAG 3. If the THINKDIAG 3 does not work properly, please connect the THINKDIAG 3, download the latest version of firmware, and then tap Firmware Repair, please do not power off

or switch the interface during the firmware repair process.

3.6.4 Customizing the Standard Data Stream

Use to manage recorded sample data stream files.

3.6.5 My Orders

Use to view order details.

3.6.6 Personal Information

For setting and managing personal information.

3.6.7 Change User Password

Use to reset the user password.

3.6.8 Wi-Fi

Settings for the Wi-Fi network to which the device can connect.

3.6.9 Diagnostic Software Cleanup

Clear the diagnostic packages stored on the device.

3.6.10 Merchant Management

Add the information of the merchant to which the host belongs, which will be displayed to the owner in the diagnostic report.

3.6.11 Customer Management

Manage the customer information of all diagnosed vehicles, displayed here in order.

3.6.12 Albums

Management equipment to capture and intercept the picture data.

3.6.13 Screen Recording

Manage the video materials captured and recorded by the equipment.

3.6.14 System Settings

Manage current device and system related setting options. Includes time system, mode switching, restoring factory settings, etc.
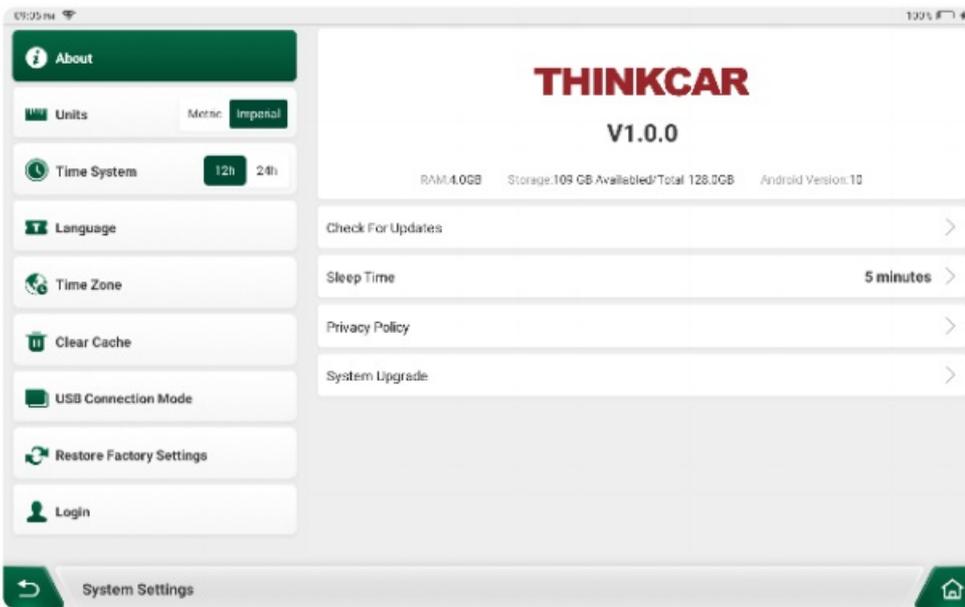
3.6.14.1 About

Mainly device hardware configuration, system information, including running memory, space used/storage, OS version, check for updates,   device hibernation time, and privacy policy.

3.6.14.2 Diagnostic Unit System Settings

Sets the unit of mileage representation in diagnostic data and diagnostic reports. The default is metric system.

3.6.14.3 Timing

Set the time representation, including 12-hour and 24-hour. The default is the 12-hour system.

3.6.14.4 Clearing the Cache

Clean up cache fragmentation files during device operation to optimize storage space.

3.6.14.5 Traffic Queries

Query the information about the data traffic card currently used by the device, including the ID, package and usage of the traffic card.

3.6.14.6 Mode Switching

Set the operating mode of the device, including DEVICE mode and HOST mode. The default is HOST mode.

DEVICE mode: For devices connected to a PC, which can transfer pictures and video data inside the device.

HOST mode: for devices connected to extension modules such as THINK printer module, THINK wireless tire pressure diagnostic module,   THINK work light, THINK Video Scope, THINK thermal imaging.

3.6.14.7 Restore Factory Settings

So that the device can be automatically restored to the factory state, please use with caution, the use of the device will clear all the cache

data saved in the device, including account numbers, reports, maintenance records, pictures, videos and other information materials.

3.6.14.8 Logging in / Out of Current Account

Users can log in to an account they have created or log out of their current account.

IV. Measurement operation

4.1 Multimeter

4.1.1 Interface Diagram
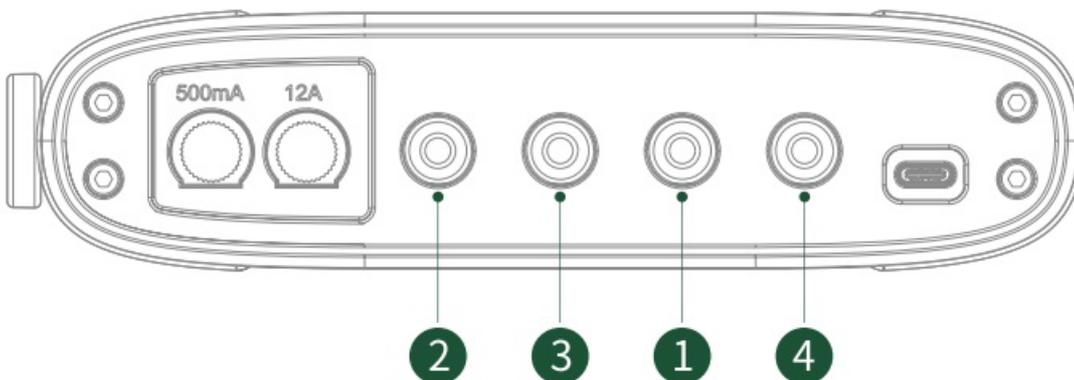
4.1.2 Operation Method

(1) Press the THINKDIAG 3 power switch, the measurement indicator will be always on during normal operation.

(2) Start the device and open the "multimeter" in the main interface of the device to enter the operation interface.

(3) Connect the THINKDIAG 3 to the device via WiFi, and make sure the connection is successful. When using USB wired connection, you   need to connect the THINKDIAG 3 to the device via USB cable first, and then

open the "Multimeter" in the main interface of the device.

(4) Drop down to select the parameter to be measured and tap "Start".

(5) According to the parameters to be measured, connect the black meter pencil line to the black 1 hole and the red meter pencil line (2, 3, 4)   to the corresponding marked holes, and then use the pen tip to touch the

measurement position respectively for measurement.

4.1.3 Technical Parameters

DC Voltage	Auto range , test range: ±600V
AC voltage	auto range , test range: ±600V
DC current	automatic range, test range: ± 10 A. (large range current need to connect external sensors)
AC current	auto range, test range: ± 10 A. Average value measurement. (Large range current need to connect external sensor)
Resistance	Auto range, testing range: 0~6MΩ
On-off	Less than 30Ω chirps
Dipole	0.5V—2.0V
Battery	3100mAh

4.2 Oscilloscope

4.2.1 Interface Diagram:
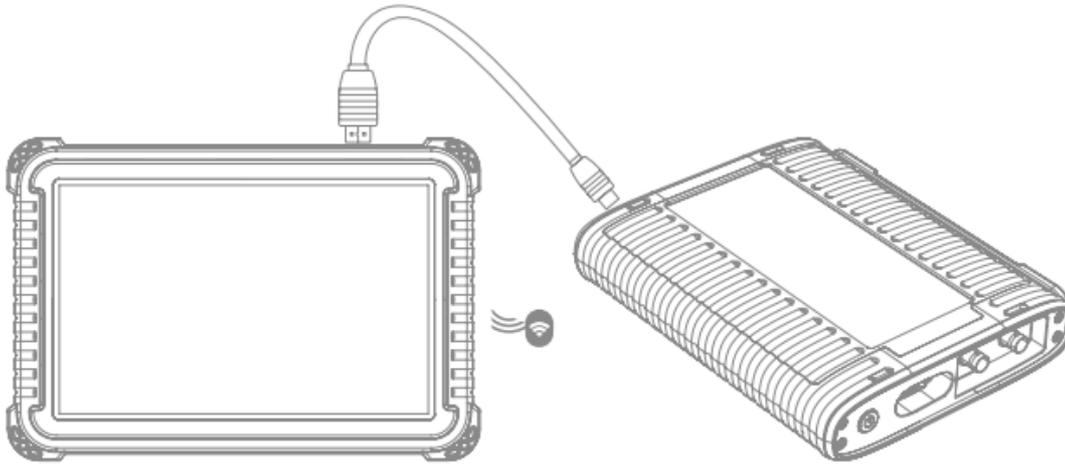
4.2.2 Operation Method

(1) Press the THINKDIAG 3 power switch, the measurement indicator will be always on during normal operation.

(2) Start the device, open the main interface of the device "oscilloscope" to enter the operating interface.

(3) Connect the THINKDIAG 3 to the device via WiFi, and Tap "Connect" to make sure the connection is successful. When using USB   wired connection, you need to connect the THINKDIAG 3 and the device via USB cable first, and then open "Oscilloscope" in the main interface of the device to operate.

(4) Select the channel corresponding to the measured signal on the right side of the device interface.

(5) According to the signal channel identification of THINKDIAG 3, insert the BNC connector of the oscilloscope probe into the corresponding identification hole, and then connect the black alligator clip of the oscilloscope probe to the ground, and the probe hooks the   test point to be measured.

(6) Parameter adjustment by using the shortcut operations on the top, bottom and right side of the oscilloscope interface with a view to   achieving the best signal observation mode.

4.2.3 Technical Parameters

Bandwidth	4MHz
Channel	2 analog channel
Real-time sampling rate (Max)	50MS/s (dual channel)
Sampling method	1us/div to 10s/div, step by 1 to 2 to 5 progressions
Sampling method	Normal sampling, peak detection, average value
Storage depth	1M
Input coupling	DC, AC, ground
Input impedance	1MΩ±2%, connected in parallel with 15pF±5pF
Vertical sensitivity	10mV/div ~ 10V/div
Vertical resolution	8bits

Maximum input voltage	40V peak (DC + AC peak)
Probe attenuation factor	1X
Trigger type	Edge trigger, level trigger
Trigger mode	Automatic, normal, single
Automatic measurement	Peak - peak, average, maximum, minimum, frequency, period

4.3 Current clamp

THINKCAR CE EVC101 current clamp (hereinafter referred to as current clamp) is a detection tool for measuring AC current, DC current   and DC voltage of new energy vehicles. It needs to be used with THINKCAR CE EVD Pro diagnostic host device. Using CT and digital integration technology, non-contact measurement, no need to disconnect the line, fast, safe and reliable. It has the characteristics of small   size, high precision and strong anti-interference ability.

4.3.1 Interface Diagram
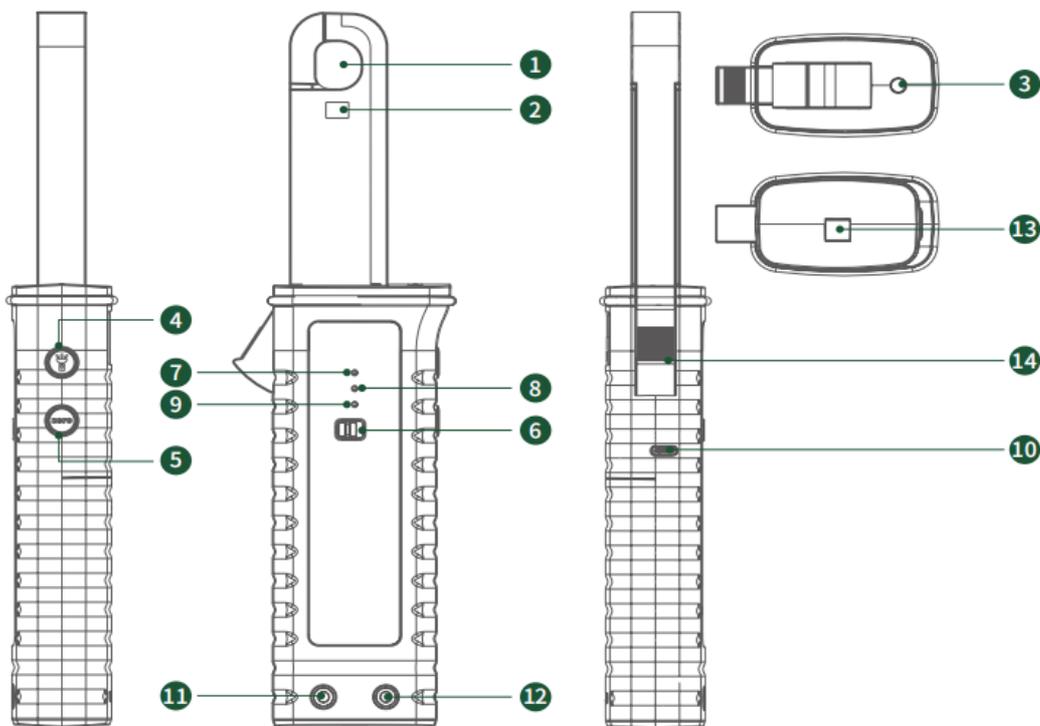
① Jaws: Put the tested wire.

② Indicator of the DC current.

③ Fill light: When the light is dim.

④ Fill light button: Switch button of the fill light.

⑤ Zero button: Zero button for clearing the external electric field during measurement.

⑥ Power Switch

⑦ Power indicator

⑧ Bluetooth indicator: The status indication of the Bluetooth connection between the device host and the current clamp.

⑨ Battery Indicator: Battery power indicator.

⑩ Type-C charging port: for current clamp charging.

⑪ Negative voltage (black): When measuring voltage, access to the negative terminal of the circuit under test.

⑫ Positive voltage (red): When measuring voltage, access to the positive terminal of the circuit under test.

⑬ Lanyard

⑭ Trigger: Controls the opening and closing of the jaws.

4.3.2 Operation method

4.3.2.1 Measuring DC current / AC current:

(1) Turn the power switch of the current clamp to the ON position, and the power indicator light will always be green during normal   operation;

(2) Connect the banana head of the red/black test line to the red/black socket of the current clamp, connect the black alligator clip to the

ground point, and connect the red alligator clip to the point under test;

(3) Start the EVD Pro diagnostic equipment host, and connect the EVD Pro equipment host with the current clamp via Bluetooth;

(4) Enter the "Voltage Detection" on the main interface of the EVD Pro device to operate;

4.3.2.2 Measure DC voltage:

(1) Turn the power switch of the current clamp to the ON position, and the power indicator light will always be green during normal   operation;

(2) Connect the banana head of the red/black test line to the red/black socket of the current clamp, connect the black alligator clip to the

ground point, and connect the red alligator clip to the point under test;

(3) Start the EVD Pro diagnostic equipment host, and connect the EVD Pro equipment host with the current clamp via Bluetooth;

(4) Enter the "Voltage Detection" on the main interface of the EVD Pro device to operate;

4.3.3 Technical parameters

Battery	9V dry battery
Test method	Clamp CT, non-contact measurement
Jaw size	φ16mm×18mm (outer diameter of clampable wire)
Input range	0~200A AC/DC
Resolution	1mA AC/DC

Output gear	10mV/A(0~20A); 100mV/A(0~200A, two gears correspond to output)
Output range	Full range, digital output
Accuracy	±3%FS(23°C ±5°C , below 75%rh)
Phase error	≤ 3° (AC 50Hz/60Hz; 23° C ±2° C)
Vertical resolution	8bits
Maximum Input Voltage	40V peak (DC + AC peak)
Probe attenuation factor	1X, 10X, 100X (probe support required)
Trigger type	edge trigger, level trigger
Trigger mode	automatic, normal, single
Automatic measurements	peak-to-peak, average, maximum, minimum, frequency, period
Zero adjustment	adjust the ZERO key to zero, to eliminate the interference of the earth's magnetic field and external electric field
Frequency response range	DC ~ 10kHz
Wire position	The detected wire is in the center of the jaw
Measuring voltage	DC±48V
Working current	≤ 50mA

4.4 *Insulation Resistance Tester

THINKCAR CE EVC201 insulation tester (hereinafter referred to as insulation tester) is an instrument for measuring the insulation   characteristics of power motors, power batteries, power cables, high-voltage switches,

transformers and other components of new energy vehicles. Using high-performance embedded processor and real-time operating system, it has the characteristics of high degree   of automation, strong anti-

interference ability, and automatic calculation of absorption ratio and polarization index. It is suitable for checking the necessary insulation characteristics during the maintenance of new energy vehicles, reducing the

safety risks caused by insulation problems such as aging and damage when users are maintaining and testing various equipment, and improving the efficiency of   maintenance work.

* Indicates the functions and accessories supported by THINKCAR CE EVD Pro.

⚠Safety warning

The design, manufacture and testing of this instrument all meet the IEC61010 safety standard (safety requirements for electronic   measurement products). This manual includes warnings and safety regulations that

users must abide by to ensure the safe use of the instrument and the safe state of the instrument. Please read the following instructions carefully before use for clarification.

⚠Warning

• Please read and understand this instruction manual carefully before using the instrument.

• Always follow the requirements of this manual and keep it for reference at any time.

• When testing the instrument, wrong operation will lead to accidents and damage to the instrument.

• Usage agreement.

This manual uses the following conventions.

⚠Danger

In order to avoid serious or fatal damage that may be caused under certain conditions and operations.

• Do not measure circuits with AC/DC voltage above 600V.

• Do not test in flammable places, sparks may cause explosion.

• Do not operate the instrument in a humid environment or where there is obvious water condensation.

• When measuring, do not touch the conductive part of the test pen.

• Do not press 【TEST】key when the test line is short-circuited to the instrument.

• When performing insulation measurements, do not touch the line under test.

⚠Warning

Indicates to avoid the risk of electric shock.

• Do not use the instrument if it is broken or has exposed metal parts.

• After grounding is done, the charge stored in the circuit under test must be discharged.

• Make sure that all test leads are securely connected to the instrument's test ports.

• The instrument is a sealed unit with no end-user serviceable parts inside, do not attempt to disassemble it yourself. All interior repairs   must be performed by an authorized repair facility or technician. Attempts to take

apart or modify the device will void the warranty.

①Notice

Helpful information to avoid damage to the instrument and to make accurate measurements.

• Before measuring resistance, the circuit under test must be completely discharged and completely isolated from the power circuit.

• If the test lead or power adapter is damaged and needs to be replaced, it must be replaced with a test lead or power adapter of the same   model or with the same electrical specification.

• Do not use the instrument if the battery indicator shows empty.

• Do not store or use the instrument in high temperature, high humidity, flammable, explosive and strong electromagnetic field

environments.

• Please use a damp cloth or detergent (no clear water residue) to clean the instrument case, do not use abrasives or solvents.

• When the instrument is wet, dry it before storing it.
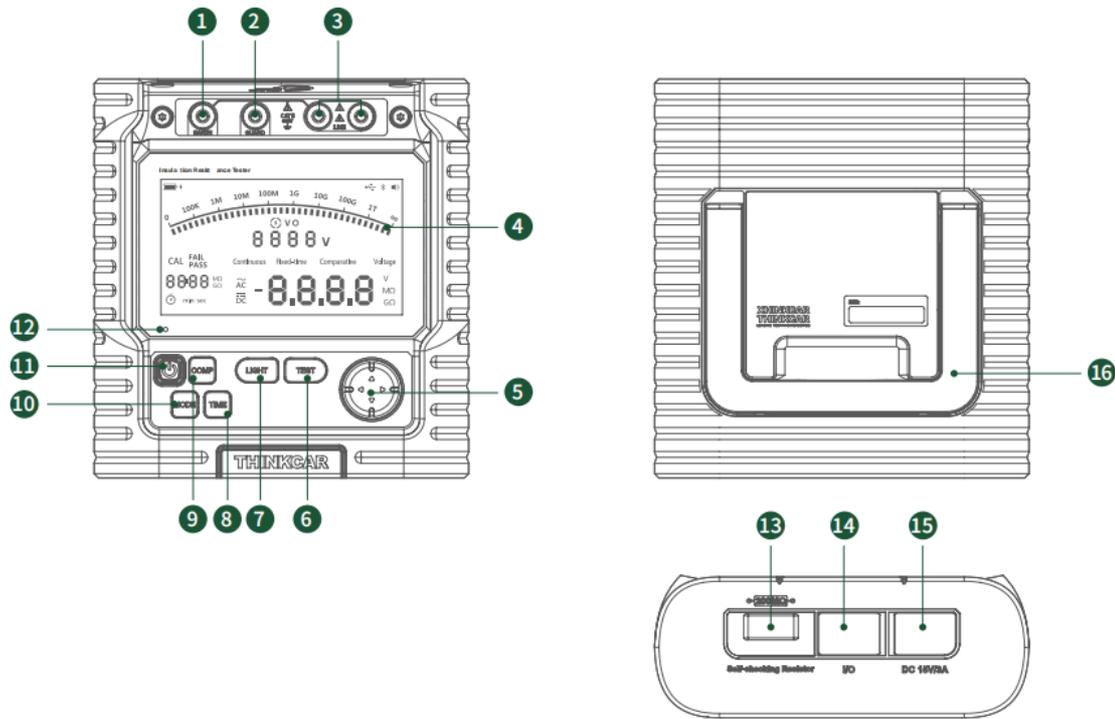
① EARTH port: grounding jack (single-ended black wire)

② GUARD port: protection jack (single-headed green wire)

③ LINE port: voltage output jack (double-headed red wire)

④ LCD screen: For the specific screen display logo, please refer to Chapter 4.4.2.2 "LCD Screen Display"

⑤ Select button

△ / ▽ : Test voltage output value selection key during insulation resistance test

◁ / ▷ : comparison/timing value selection key

△ / ▽ : When the insulation resistance measurement is not started, it is used to select the measurement output voltage value.

◁ : When the insulation resistance is measured regularly, it is used to decrement the setting time; when the comparison function is used to measure the insulation resistance, it is used to decrement the resistance comparison value

▷ : When the insulation resistance is measured regularly, it is used to increase the setting time; when the comparison function is used to measure the insulation resistance, it is used to increase the resistance comparison value

⑥ TEST (test) button: used to turn on and off the insulation resistance measurement (at this time, the test lead has high voltage output)

⑦ LIGHT (backlight) button: Backlight on and off button.

⑧ TIME (timing) timer button: set the insulation resistance measurement to enter or exit the timing measurement mode

⑨ COMP (comparison) function key

⑩ MODE (mode) button:

Resistance/voltage measurement mode key.

The default is the insulation resistance measurement mode (continuous measurement state) when starting up. Press this button to switch to the DC voltage measurement mode; press it again to enter the AC voltage mode, and press it again to exit the voltage measurement mode and return to the insulation resistance measurement mode. cycle selection

⑪ Power button

• In the off state, long press this button until the TEST button lights up, the device enters initialization and starts up

• In power-on state, press this key for 3 seconds to power off

• The instrument will automatically shut down after 15 minutes of inactivity

⑫ Charging indicator light: red when charging, green when fully charged

⑬ Standard resistance test terminal: used for instrument verification test and standard resistance calibration operation

⑭ USB jack: used to upgrade firmware and transfer data with APP

⑮ DC IN power socket

Warning:Please use the supplied power adapter for charging. Our company will not be responsible for any damages and losses caused by charging with other power adapters not specified by our company.

Note: In order to protect personal safety when charging, the device will be prohibited from working.

⑯ Instrument rear support: used for support during instrument operation.

4.4.2 Operation method
4.4.2.1 Charging and Power On/Off:

Note:After using the instrument for the first time or after not using it for a long time, the instrument may not turn on, which may be caused by low battery power. Please fully charge the instrument before trying to turn it on.

In the off state, press and hold the [Power] button on the instrument until the [TEST] button lights up, the device enters initialization and starts up, and the system will prompt with a buzzer.

If the power is insufficient, please charge it as follows:

Plug one end of the power adapter into the DC IN charging jack of the instrument, and connect the other end to an AC power outlet. If the charging indicator light on the instrument is red, it means it is charging. When the charging indicator light turns green, it means charging is complete, disconnect the instrument from the power adapter.

To shut down, press and hold the [Power] button on the instrument for 3 seconds until the screen turns off.

The instrument will automatically power off after 15 minutes of inactivity.

Note: In order to protect personal safety when charging, the instrument will automatically shut down.

4.4.2.2 LCD screen display
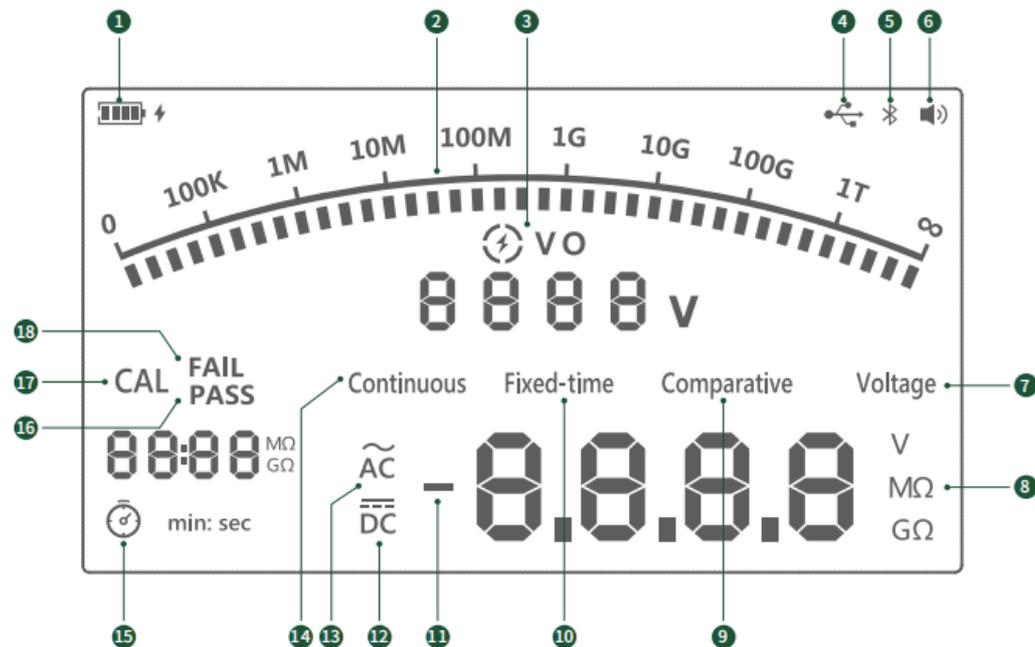
① Battery symbol

② Bar graph

③ High voltage prompt

④ USB connection symbol

⑤ Bluetooth Prompt

⑥ Buzzer symbol

⑦ Voltage measurement prompt

⑧ Unit Symbol

⑨ Prompt for comparison measurement function

⑩ Timing measurement prompt

⑪ Negative symbol

⑫ DC voltage symbol

⑬ AC voltage symbol

⑭ Continuous Measurement Prompt

⑮ Timer symbol

⑯ PASS (comparison function passed) prompt

⑰ Calibr   ation Identifier

⑱ FAIL (comparison function failed) prompt

4.4.2.3 Measurement mode

Preparation before measurement:

1. Press the [Power] button to turn on the machine, and the preset test voltage is 500V for continuous measurement of insulation   resistance.

2. Please ensure that the instrument has sufficient power (if the battery mark shows a space, it means that the battery power has reached   the minimum limit, please charge it in time).

4.4.2.3.1 AC/DC voltage measurement

(1) The AC/DC voltage measurement needs to be switched with the [MODE] button on the instrument. The default is the insulation   resistance measurement mode (continuous measurement state) when starting up. Press the [MODE] button to switch to the DC voltage measurement mode, and then press it to enter the AC voltage mode.

Voltage

V

$\overline{\underline{\overline{DC}}}$

Voltage

V

$\widetilde{AC}$
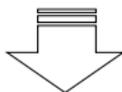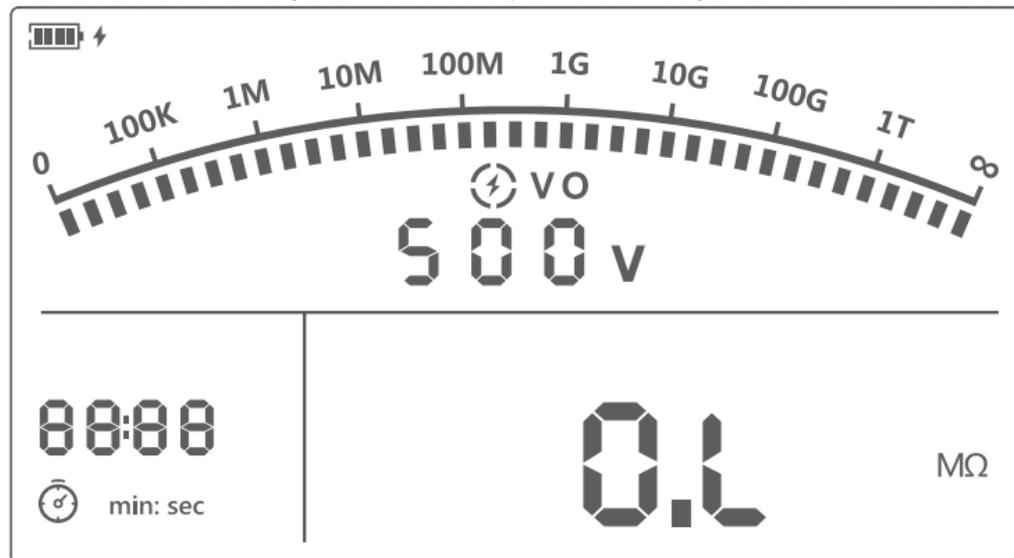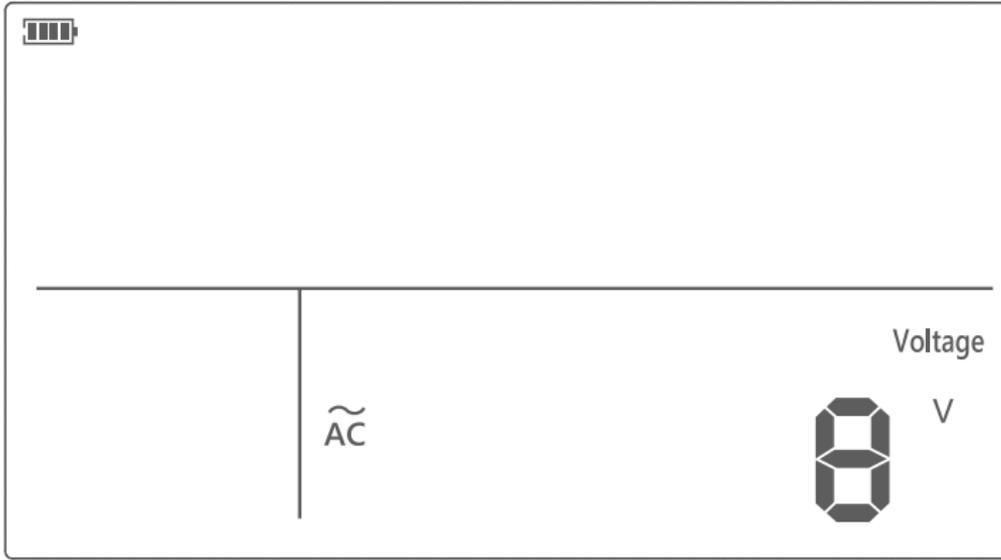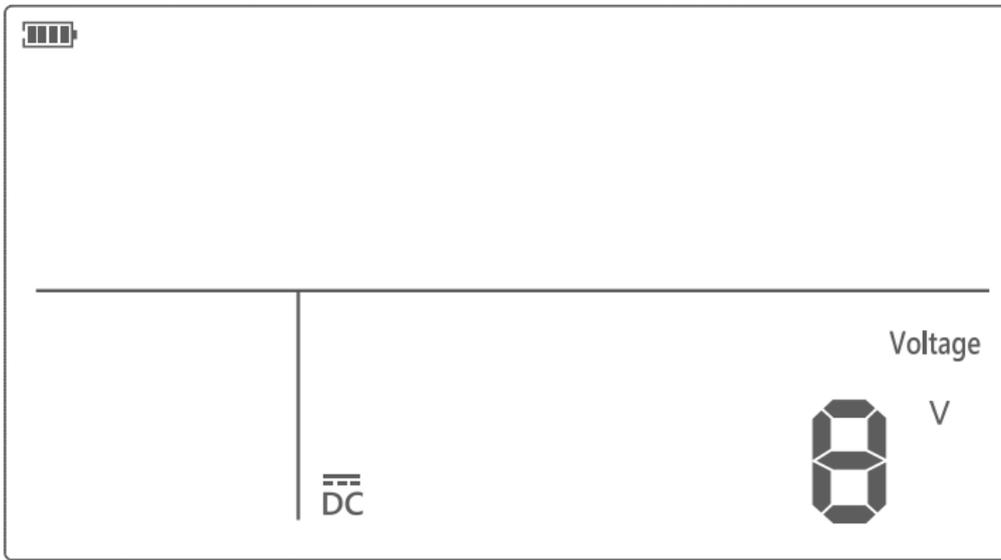
(2) Insert the red test wire into the LINE port on the instrument, and insert the black test wire into the EARTH port on the instrument. (3) **Connect the red and black alligator clips to the circuit under test. When measuring DC voltage, if the red test line is a negative voltage, the "-" negative sign will be displayed on the LCD screen.**

Red test line

R

Black test line

THINKCAR
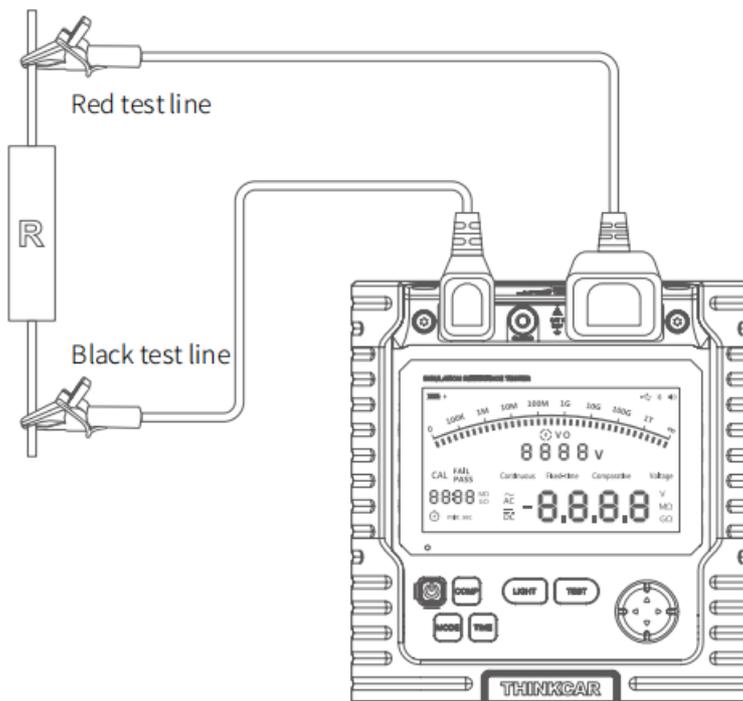
Notice:

• Do not input voltage higher than 600V or 600Vrms. Measuring higher voltages risks damaging the instrument.

• When measuring high voltage, pay special attention to avoid electric shock.

• After completing all measurement operations, disconnect the test leads from the circuit under test and remove the test leads from the   input terminals of the instrument.

• If the measured voltage exceeds the maximum range, the buzzer will sound to prompt.

4.4.2.3.2 Insulation resistance measurement

Note: The default is the insulation resistance measurement mode (continuous measurement state) when starting up.
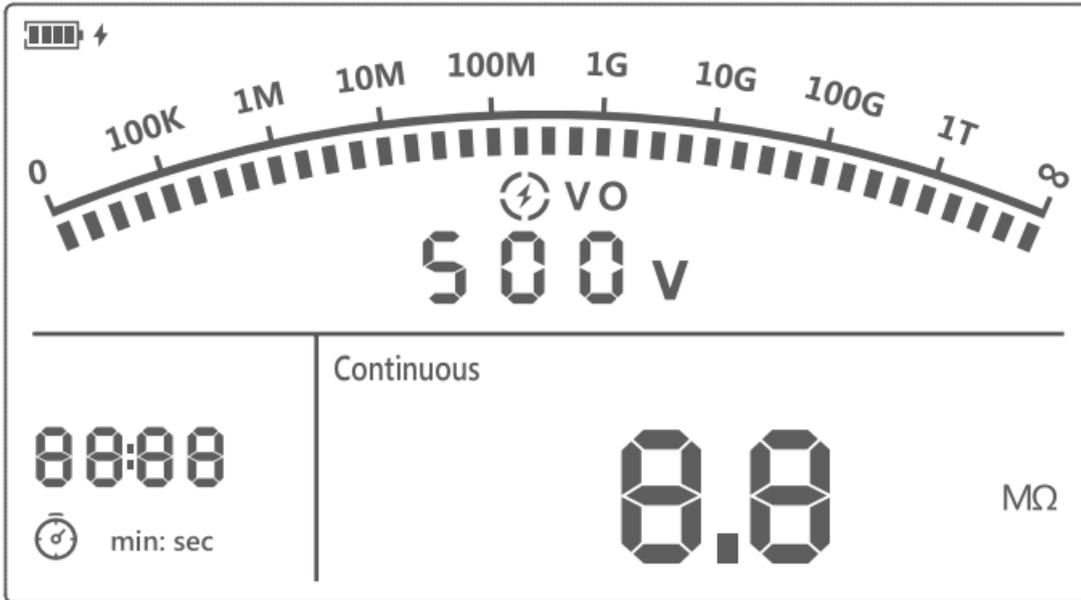
(1) Before measuring the insulation resistance, the circuit to be tested must be completely discharged and completely isolated from the power circuit.

(2) Insert the red test wire into the LINE input port, the green test wire into the GUARD input port, and the black test wire into the EARTH   input port.

(3) Connect the red and black alligator clips to the circuit under test, and the high voltage terminal is output from the LINE terminal.
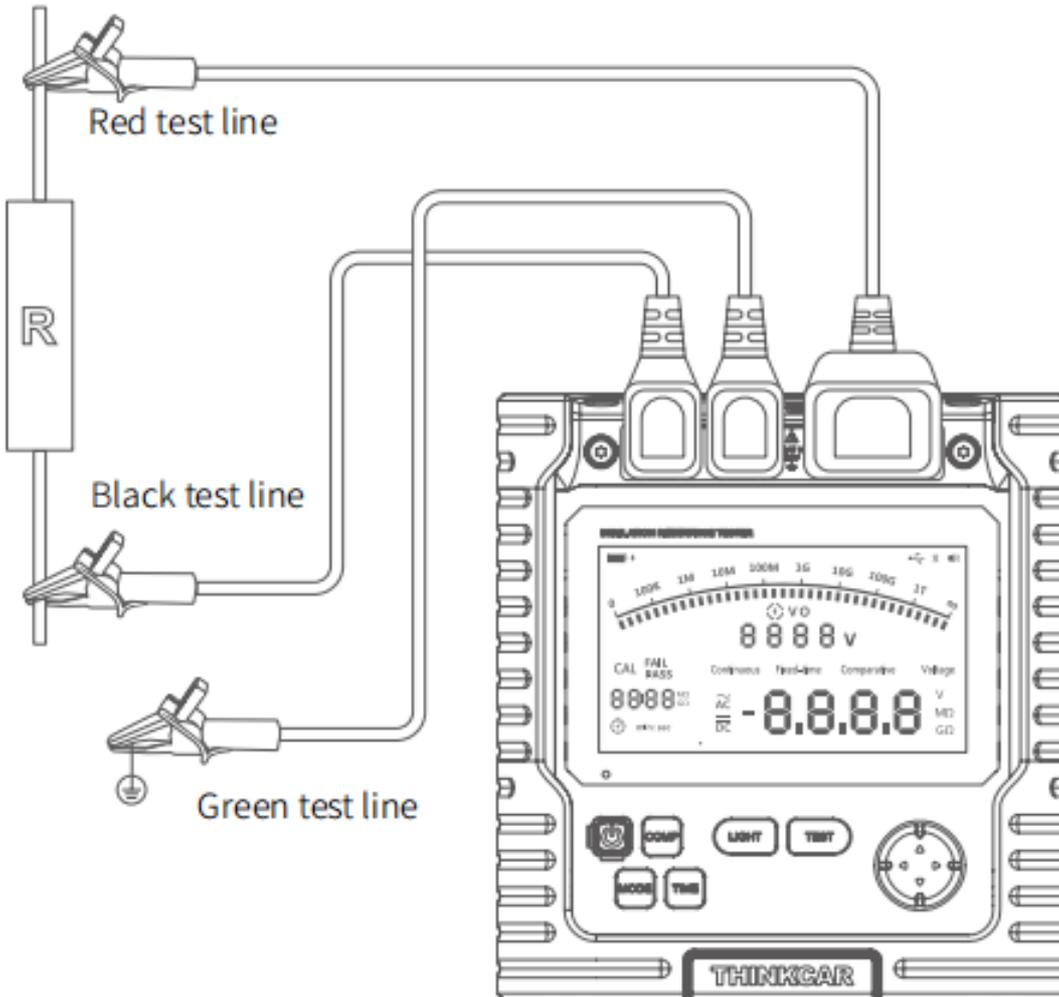
(4) Select the following insulation resistance measurement modes:

• After power on, the system enters the state of continuous insulation resistance measurement by default, press the △ / ▽ key to   select the output voltage value, press the [TEST] key for 1 second to start measurement, and the buzzer will beep for a long time. The measured insulation resistance value will be displayed on the LCD screen.

• Press the [TIME] key to select the timer measurement mode, the LCD will display the timing measurement symbol and the   timer symbol, press the △ / ▽ key to select the output voltage value, press the ◁ / ▷ key to set the timing duration (00:10-00:55, step by 5 seconds within 1 minute, 01:00-15:00, step by 30 seconds within 1 minute). Press【TEST】key for 1 second to start   timer measurement. The timing area of the LCD screen starts to display the countdown. When the set time is up, the system will automatically end the measurement.

• Press 【COMP】 key to enter the measurement mode of insulation resistance comparison function, and the comparison　measurement mark on the screen will light up. Press △ / ▽ key to select output voltage value, press ◁ / ▷ key to set comparison resistance value (10MΩ, 20MΩ, 30MΩ, 40MΩ, 50MΩ, 60MΩ, 70MΩ, 80MΩ, 90MΩ, 100MΩ, 200MΩ, 300MΩ, 400MΩ, 500MΩ, 600MΩ,　700MΩ, 800MΩ, 900MΩ, 1GΩ, 2GΩ, 3GΩ, 4GΩ, 5GΩ, 6GΩ, 7GΩ, 8GΩ, 9GΩ, 10GΩ, 20GΩ, 30GΩ, 40GΩ, 50GΩ, 60GΩ, 70GΩ, 80GΩ, 90GΩ, 1200GΩ, 400GΩ, 500GΩ, 600GΩ, 700GΩ, 800GΩ, 900GΩ). Press 【TEST】 key for 1 second to start measurement. When the insulation measurement value is smaller than the resistance comparison value, the "FAIL" prompt will be displayed in the lower left corner of　the screen, otherwise the "PASS" prompt will be displayed.

ⓘNotice:

• Before testing, make sure that the circuit under test is not live, and do not measure the insulation of live equipment or live lines.

• During testing, the instrument has dangerous voltage output, so be careful when operating it. Make sure that the circuit under test is firmly clamped, and after the hand has left the test clamp, press the [TEST] key to output high voltage.

• Do not measure the insulation resistance after short-circuiting two test leads or high-voltage output in the state of high-voltage output,　otherwise sparks will easily be generated and cause fire, and the instrument itself will be damaged.

• When the 500V measurement resistance is lower than 2MΩ, the 1000V measurement resistance is lower than 5MΩ, the 2500V　measurement resistance is lower than 10MΩ, and the 5000V measurement resistance is lower than 20MΩ, do not measure for more than 10 seconds.

• If the measured value of the resistance exceeds the maximum range, the buzzer will sound to prompt.

Schematic diagram of insulation resistance measurement mode switching.
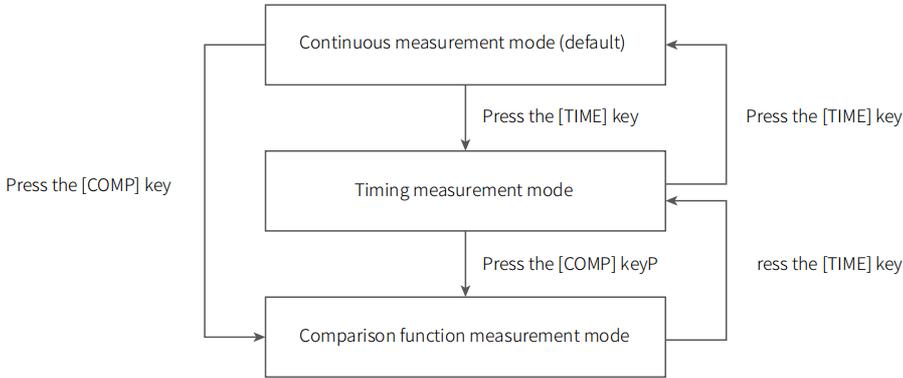
4.4.2.3.3 Standard Resistance Calibration

After the instrument has been used for a period of time, it is recommended that the user perform a standard resistance calibration operation　on the body. Specific steps are as follows:

1. Connect the test leads to the resistance test terminals on the instrument as shown in the figure below.

Black test line　　Red test line
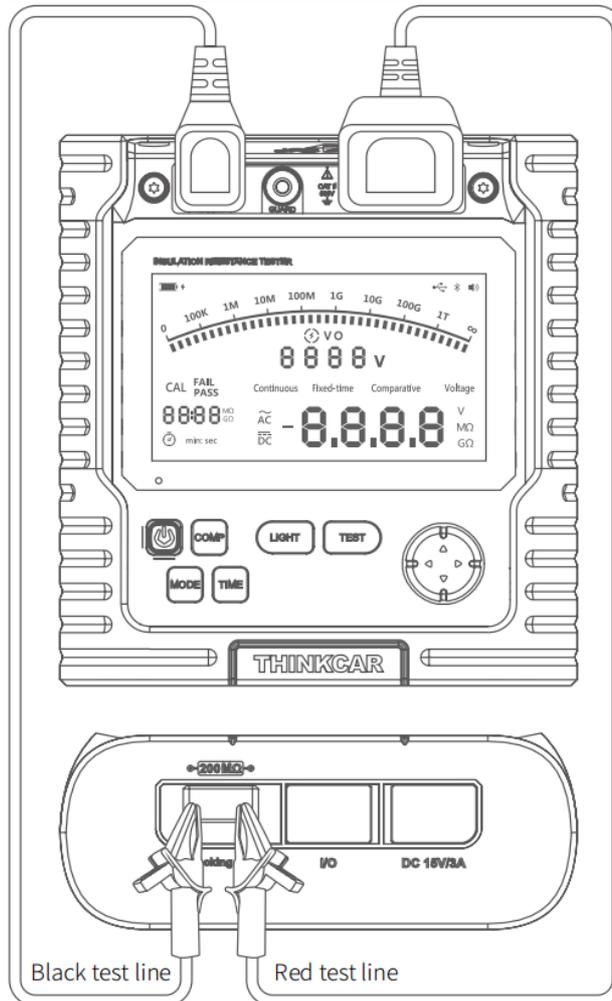
2. In the power-on state, press and hold the [COMP] button to enter the 200MΩ resistance calibration state, and the screen will display the　character "calibration" and the 200MΩ resistance value.

3. Long press the [TEST] button to start measurement, and press the [TEST] button to end the measurement after the value stabilizes.

4. Press and hold the [COMP] button for 5 seconds to exit the calibration, and the calibration is now complete.

4.4.3 Technical parameters

• Insulation resistance test

Test voltage	500V	1000V	2500V	5000V
Measuring range	0.0MΩ~20GΩ	0.0MΩ~40GΩ	0.0MΩ~100GΩ	0.0MΩ~1000GΩ
Open Circuit Voltage	DC500V 0~20%	DC1000V 0~20%	DC2500V 0~20%	DC5000V 0~20%
Measurement accuracy	0.0MΩ~99.9MΩ: (3%+5)	100MΩ~9.99GΩ: (5%+5)	100MΩ~9.99GΩ: (5%+5)	100MΩ~9.99GΩ: ±(5%+5)
	10.0GΩ~20.0GΩ: ±(10%+5)	10.0GΩ~40.0GΩ: ±(10%+5)	10.0GΩ~100.0GΩ: ±(10%+5)	10.0GΩ~99.9GΩ: ±(10%+5)
				>100GΩ: ±(20%+5)
Short circuit current	<3.0mA			

• AC/DC voltage test

Voltage type	DC voltage	AC voltage
Measuring range	±30~±600V	30~600V(50/60Hz)
Resolution	1V	1V
Measurement accuracy	±3%	±3%

Notice:Under any test voltage, if the measured resistance is lower than 10MΩ, the continuous measurement shall not exceed 10   seconds.

Display: LCD display, displaying a maximum reading of 9999

Overrun indication: "OL" mark appears on the insulation resistance range

Unit display: with function, power unit symbol display

Working temperature: 0℃ ~ 50℃

Storage temperature: -20°C ~ 70°C

V. Convenient Operation
5.1 Sliding Operation

Swipe your finger from the left side of the screen to the right or from the right side of the screen to the left: return to the previous screen   Finger swipe down from the top side of the screen: brings up the current status

of the device and shortcuts, see below for common shortcuts

5.2 Common Shortcuts

By sliding your finger down the screen, shortcut functions pop up from the top of the screen, including: Wi-Fi, 4G network, Bluetooth,   recording, screenshot, taking pictures, screen flip, brightness and sound. As shown

in the picture below.
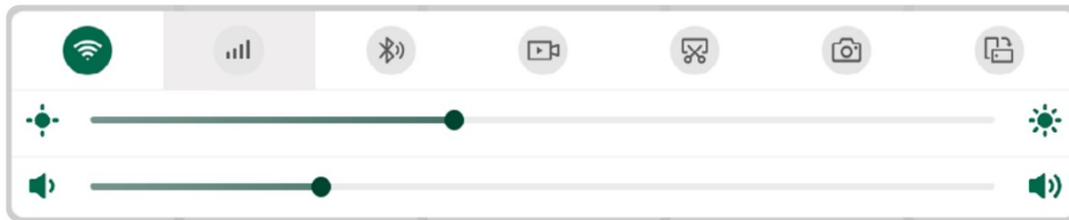
Figure	Description
(Wi-Fi icon)	The status of the device's connection to Wi-Fi
(4G icon)	The status of the 4G traffic card while the device is in use
(Bluetooth icon)	Bluetooth connection status between device host and THINKDIAG 3
(video icon)	Open the screen video recording tool
(screenshot icon)	Open the Screenshot tool
(camera icon)	Turn on the device's camera to take pictures
(flip icon)	Device screen for flipping
(brightness icon)	Adjust the brightness of the screen
(volume icon)	Adjust the speaker volume of the device

VI. FAQ

1. Q: Is it possible to use the same type of charger to charge the device?

A: No, please use the charger that comes with it for charging. We are not responsible for any damage or financial loss caused by using adapters not provided by THINKCAR.

2.Q: How do I save power?

A: Turn off the screen when you are not using the device. Shorten the screen standby time. Reduce the screen brightness.

3. Q: The host can not be turned on after charging ?

Possible causes	Solution
The equipment has not been used for a long time, the battery is in a state of power deficit	Charge it for more than 2 hours first, then turn it on.
Adapter problem	If there is a quality problem, please contact your dealer or THINKCAR Technology after-sales service to solve it.

4. Q: Why can't the product be registered?

Possible causes	Solution
The device is not connected to the network	Verify that the device network is connected properly.
Cell phone number has been registered	Log in with a new cell phone number or use the one you registered with (if you forget it, you can retrieve it with your cell phone number).

No SMS verification code received by cell phone during the registration process	Confirm whether the cell phone number is correct; reacquire the verification code.

5. Q: The product cannot be logged in ?

Possible causes	Solution
The device is not connected to the network	Verify that the device network is connected properly.
Incorrect username or password	Confirm that the username and password are entered correctly; contact THINKCAR customer service or regional sales to retrieve the username and password.
Server problem	Server maintenance, please try again later.

6. Q: Product activation was unsuccessful?

Possible causes	Solution
The device is not connected to the network	Verify that the device network is connected properly.
Serial number and activation code are entered incorrectly	Verify that the serial number and activation code are correct (12 digits for serial number and 8 digits for activation code).
Activation code is invalid	Contact THINKCAR after-sales service or regional sales.
Tip configuration is empty	Contact THINKCAR after-sales service or regional sales.

7. Q: When I upgrade the software, it indicates that it is not activated?

Possible causes	Solution
THINKDIAG 3 may not be activated at the time of registration	To activate the device with the product serial number and activation code, proceed as follows: Tap [Settings]-[My Device]-[Device Activation], enter the correct serial number and activation code in the interface, and Tap [Activate].

8. Q: Software upgrade failure

Possible causes	Solution
The device is not connected to the network	Verify that the device network is connected properly.
Username or password is incorrect	[Refresh] - Select the software you want to download and Tap [Download].
Server problem	Server maintenance, please try again later.

9. Q: THINKDIAG 3 does not power up when connected to the vehicle

Possible causes	Solution
Insufficient contact with the THINKDIAG 3	Please re-connect the THINKDIAG 3 .
Vehicle diagnostic seat wiring contact is poor	Please check if the diagnostic seat pins are normal.
The vehicle battery itself has a serious power loss	Please replace the battery.
THINKDIAG 3 is damaged	Contact THINKCAR Aftermarket Customer Service or Regional Sales.

10. Q: The device is not connected to the THINKDIAG 3

Possible causes	Solution
THINKDIAG 3 is not inserted properly	Please re-connect the THINKDIAG 3.
THINKDIAG 3 is not connected	Cancel the Bluetooth pairing of the THINKDIAG 3 and re-pair the connector automatically with the software.
Firmware not repaired	Go to Settings and Tap [Firmware Repair] to upgrade the firmware.

11. Q: THINKDIAG 3 cannot communicate with the car ECU?

A: Make sure the THINKDIAG 3 is properly connected. Make sure the vehicle ignition key is turned on. If you confirm that all checks   are normal, please send us the following information via the [Diagnostic Feedback] function module: car VIN, model and year.

12. Q: Can't access the car ECU system?

A: Make sure the car is equipped with this system. Make sure that the system is electronically controlled. Make sure the THINKDIAG 3   is properly connected. Make sure the vehicle ignition key is turned on.

13. Q: THINKDIAG 3 is missing, how to deal with it?

A: Contact THINKCAR customer service or regional after-sales service staff to deal with it.

14. Q: There is an exception when using the diagnostic software.

A: Tap [Diagnostic Feedback] to give us feedback on the specific problem for improvement. Long press the icon of the model to delete   the diagnostic software, then go to the upgrade center to download the diagnostic software.

15. Q: The downloaded diagnostic software does not match the serial number.

A: There are multiple THINKDIAG 3 registered under the device account, and the corresponding THINKDIAG 3 serial number is not   selected.

Go to Settings - [My Devices] and select the corresponding THINKDIAG 3 serial number. Then enter the upgrade center to re   download the diagnostic software.

Warranty Terms

This warranty applies only to users and distributors who purchase THINKCAR products through normal procedures.

Within one year from the date of delivery, THINKCAR warrants its electronic products for damages caused by defects in materials or   workmanship. Damages Damages to the equipment or components because of abuse, unauthorized modification, use for non designed purposes, operation in a manner not specified in the Damages to the equipment or components because of abuse, unauthorized   modification, use for non designed purposes, operation in a manner not specified in the instructions, etc. are not covered by this warranty.

Customer Services

If you encounter any problems during the operation of the equipment, please contact Thinkcar Tech Inc.

• Service Line: 1-909-757-1959

• Service Email: support@thinkcar.com

• Official website: www.thinkcar. com

• For tutorials on the use of the product, more questions and answers, and a specific list of models covered, please visit the official   website.

Follow us @ thinkcar global