

# Auto Diagnostic Tools

- Wide touch color screen
- Integrated structural design
- Support almost all OBD-II protocols





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### **GDS+ 3** Product Operation Manual Instruction

Before using GDS+ 3 product, please read this manual carefully.



 This manual is based on the current product features and configurations. If adding new features and configuration, this manual will subsequently be amended, the new specification can be download at GreenDS website

Please carefully read the "Note" "Remark" of the user manual to ensure that the user can use our products properly and safely.

### **GDS+ 3** Main Unit Maintenance and Use Attentions

- Do not allow unauthorized demolition.
- Avoid strong impact.
- Avoid closing to the magnetic field.
- Do not put this machine in a hot environment for a long time.
- Do not put this machine at a low temperature environment for a long time.
- Do not click on the screen violently or by using weapon.
- Do not use water and chemical solvents to clean the machine, using a soft clean cloth and neutral detergent to clean.

### **Automobile Inspection Notes**

- Shall operate by adhering to auto repair industry safety rules. Special attention to the impact or damage caused by the environmental factors such as the surrounding pH, poison gas, high pressure heavy.
- Vehicle battery fluid contains sulfuric acid, while sulfuric acid is corrosive to the skin, in operation should
  avoid skin having direct contact with battery fluid. Particularly, be careful not to splash into the eyes. Avoid
  nearing fire.
- Engine exhaust emissions contains a variety of toxic compounds, should avoid inhalation. When operating, the vehicle should be parked in a well-ventilated place.
- When the temperature of the working engine is high, should avoid contact with high temperature components such as water tank and exhaust pipes.
- Before starting the engine, should hold the handbrake, gear lever is placed in neutral (manual transmission) or \( \bigcup P \) gear position (automatic transmission), so as to avoid the vehicle rushing out and cause accident when starting the engine.
- Before repairing the vehicles, hold parking brake well, shift transmission gear into the neutral position or P
  gear, and lower the driver's seat side glass doors and windows.
- If the engine can start, first warm up to normal temperature (water temperature at about 80 °C), and close the auxiliary electrical appliances (such as air conditioning, lighting, sound, etc.).
- Find the diagnostic socket of this car, and check, confirm the diagnostic socket line intact, connecting the
  main unit for diagnosis. Otherwise, do not test, to avoid damage to the main unit, if necessary, using a
  multimeter to measure the voltage of diagnostic socket.



### **Device Use Notes**

- When use GreenDS products for testing, you must handle with care and be away from heat and electromagnetic field, to avoid interference with the main unit.
- The matched touch pen, rather than any other sharp tool, is recommended to click the touch screen.
- When electrical components energized, you can not disconnect the circuit to prevent the self-inductance, mutual inductance attacking sensors and automotive ECU.
- When electrical equipment works, avoid putting magnetic objects close to the vehicle control unit, otherwise the vehicle control unit may be damaged.
- When dismounting vehicle control unit or electrical components, must be carried out 1 minute after turning off the ignition switch.



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### 1.Product Introduction

### 1.1Introduction

GDS+ 3 is a comprehensive vehicle diagnosis device developed and manufactured by GreenDS in accordance with China's 863 plan, mainly focusing on the detection and examinination of electric control system of gasoline engine. The product is suitable for service companies large and small.

With comprehensive software configuration and authoritative vehicle data, the product can fully meet the stringent requirements of customers to detect problems in breadth and depth. The software covers tens of thousands vehicle data of domestic, Europe, America, Japan and provides a powerful data system that allows users to handle problems in practical work quickly and easily to improve the efficiency and technical level, presenting the the advantages of professional technics.

The device is elegantly and impressively designed and equiped with wide color touch-screen. The function of mode setting can meet the needs of different working environments. In addition, X-168 product adopt flexible drive technology and has good extensibility, which fully satisfies the test of all kinds of communication bus of vehicle electronic control system.

### 1.2Feature

The hardcore of GreenDS auto diagnostic computer follows the international advanced modularized design technology, with the excellent performance of high speed, stability, data collection accurate, etc.

With openning structure design and independent operating system, making the future upgrade of system software and diagnostic software more convenient.

Its working power supply is from Vehicle storage battery which can meet the voltage change between 9~27V. Internal power supply adopts separating power supply design which can avoid products to be damaged when vehicle voltage is abnormal.

Good extensibility, its communication interface adopts flexible drive circuit which not only can satisfy the current auto bus type test, but also the auto bus type test in the furture. Built-in high and low speed CAN-BUS supports the CAN-BUS electronic control system vehicles and just only one diagnostic interface can test all of vehicles with CAN-BUS. The products support all OBD-II protocols.

Build-in high speed thermal printer for the convenience of maintenance personnel to record data and save trouble code etc..

Screen follows International standard LED true-color industry touch-screen. It can show clear words even in strong light, is sensitive in touching, and has broad interface and high compressive strength. Therefore, even in bad environment, it can work well.

Multi-language operation edition has been applicable to different countries and areas.



### 1.3 Care and Maintenance

### 1.3.1Storage Environment

- 1) Store GreenDS on a flat and dry place with suitable temperature.
- 2) Never put GreenDS in direct sunlight or near to the heating source.
- 3) Never put GreenDS in the magnetic field.
- 4) Avoid smoke erosion, water and oil splashing into GreenDS.
- 5) Avoid shock, dust, moisture and extremely high temperature.
- 6) Power off the machine and make sure the power cable is removed, then clean the outside surface and touch screen with soft cloth that is dipped with a little water if main unit is dirty.
- 7) Periodically startup GreenDS main unit to avoid moisture if it is not in use for a long time.

#### 1.3.2 Main Unit Protection

- 1) Handle it with care and avoid hitting.
- 2) Be careful to pulg and unplug the main cable and diagnostic connector. Tighten the screw before operation to avoid unexpected disconnecting and/or damage to the diagnostic port
- 3) Put back the machine and cables, connectors etc. accessories to box to avoid loss.

### 1.3.3 Touch Screen Care

- 1) Dust may be accumulated on the LCD screen due to electrostatic. You are suggested to buy the special LCD screen wiper to clean the screen gently.
- 2) Don't wipe the screen with bare finger to avoid fingerprint attached. Never use chemicals to clear the screen.
- 3) Never put GreenDS close to the electromagnetic wave products to avoid any effect on the screen
- 4) Never put GreenDS in direct sunlight or ultraviolet radiation for long time to shorten the service life of screen.

### 1.3.4 Precaution on Operation

- 1) Forbiden to switch main unit frequently and cut off the power suddently, power supply instability and abnormal power supply etc.
- 2) Unplug the power after usage in case of the aging of the products.
- 3) Never insert or pull out SD card when machine is turned on to avoid sd card damage or sd card data loss.
- 4) Don't expose product under the chemical volatility environment to avoid any corrosion of hardware.
- 5) Never clear product with chemical solubility reagents like banana water, engine cleaning agents, gasoline etc..



- 6) Don't put anything on the screen to avoid any damage.
- 7) Periodically startup GreenDS main unit if it is not operated for long time to avoid moisture.

### 1.3.5 SD Card Maintenance

- 1) Do not switch on/off GreenDS main unit frequently;
- 2) Adopting antistatic precautions to avoid static electricity to contact SD card;
- 3) Do not operate SD card during upgrade or connection to main unit until data transmission is completed.
- 4) Do not plug or unplug SD card with electricity or brutal force
- 5) Please remember the password if encrypt the content of card, or not to encrypt data.
- 6) Please use high-quality data transmission device during connection
- 7) Randomly plug and unplug SD card from main unit are strictly prohibited during the operation of main unit.
- 8) Do not use cleaning liquid or water to clean SD card;
- 9) When insert SD card, the insert direction must be correct (Error insertion may lead to damage of
- SD card or SD card slot)
- 10) Do not twist and bend SD card.

### **1.4 Help**

GDS+ 3 product, provided with supporting service, is easy and simple to maintain. From purchase, use, upgrade, to maintenance etc., the marketing network that spread over various regions will provide you with the most convenient and efficient service.

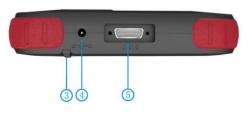
GreenDS Company provides users with online help. If you want to know the company's latest product, or automotive diagnostic information, you can log on "GreenDS" Website via the Internet and contact us.



# 2. Product Configuration



X-168 Main unit (Front side)



X-168 Main unit (Top side)



X-168 Main unit (Right side)

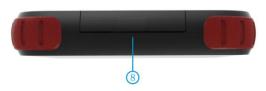


Figure 2.1.1 Main unit structure diagram

### 2.1GreenDS Hardware Introduction

### 2.1.1DSMain Unit Front side Configuration

2.1 Figure 2.1.1 is the frontside structure diagram of GDS+ 3Main unit.

NO.	Name	
1	Printing Paper Out Button	
2	Main unit ON/OFF button	
3	Touch Pen	
4	Power Interface	
5	Main Diagnosis Cable Socket	
6	SD Slot	
7	Printer Cover	
8	Printing Paper Outlet	



Main unit (Back side)





Printer Parameter

Item	Unit/ method	Paramete
		r
Print	Thermal	
method	dot-matrix	
	Printing	
Number of	(dot-matrix / row)	384
rows		
Resolution	(dot-matrix / mm)	8
Paper width	(mm)	58±0.1
Print width	(mm)	48
Print speed	(mm/s)	62.5
Paper feed	Direct in	Bend out
method		
Detection	Thermal-Printing	
mode	head temperature\	
	Heat inductor	



### 2.1.2 Main Unit Parameters Introduction

Main Unit Parameters

Hardware parts	Parameter	Туре
CPU	553MHZ	SAMSUNG ARM 2416
RAM	128M	SMD
Flash memory	SD	Plug type
Power	12V/3A	DC direct voltage
Diagnose interface		DB15
SD card interface		National standard
Display	8-inch LED	TFT LCD Color Touch Screen
Resolution	600*800	dot-matrix
External dimension	282*192*43	mm
Net weight	1390	gram

# 2.2 Printer Parameter Introduction and Printing Paper Installation

### 2.2.1 Printer Parameter

GDS+ 3 main unit with built-in mini thermal printer, adopting the way of direct in and bent out, reduces the risk of printing stuck.

### 2.2.2 Printing Paper Installation

 Put main unit flat on desk or other flat surface, pull outward printer and take out cover plate on the lower part of main unit.





Lift up the Cover



Put in the printing paper. Please be aware that the pringting paper has Face and Back side. If wrongly installed, the paper can't show the words. And you should switch to another side to install again.



Put the Cover back

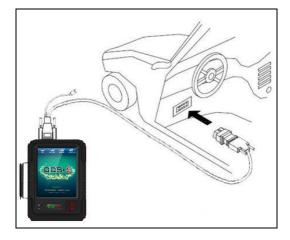


Push the cover upwards to finish the whole Process



### 3. Operation Guide





# 3.1 Power and Testing Cable Connection

### 3.1.1Main Unit Power Supply

GDS+ 3 main unit power supply has four kinds of ways, as shown in Figure 3.1.1

- ① Power supply by power adapter
- ② Power supply by main testing cable, connector and vehicle diagnostic socket
- ③ Power supply by connection of cigarette lighter with vehicle
- ④ Power supply by connection of battery terminal line with vehicle battery

#### 3.1.2Cable Connection Method

- 3.2 If the diagnostic socket is not equipped with power supply, you can choose ① ③ ④ in3.1.1 as one of these three power connection methods to provide power for the main unit.
- 3.3 If the diagnostic socket is equipped with power, you do not need to connect another power cord.

The prerequisites for vehicle:

- 1 Confirm the diagnostic socket location, shape, and whether there is a need for external power supply.
- 2 Select the appropriate connector base on vehicle model and shape of diagnostic socket.
- 3 Connect one end of the main testing line to the other end of main unit diagnostic connector.
- 4 Plug diagnostic connector that connected with the main testing line into the vehicle diagnostic socket.
- 5 Confirm that main unit with power and start it up.

Remark: Diagnostic interface is standard OBD-II interface when connecting, 2 ends of main testing cable are required to separately connect with OBD-II connector and GreenDS main unit, plug OBD-II connector into vehicle diagnostic socket to finish connection. Not all cars are equipped with BOD-II connectors, so the connections shall be subject to the actual connectors.







### **3.1.3 Start Up**

Through any one of the four power supply power ways introduced in 3.1.1 to supply power, press the button [POWER] in the bottom left of the main unit screen. The main unit will be getting started, and then enter into the running state.

### 3.1.4 Shut Down

After usage of this equipment, click touch screen to back to desktop, press the [POWER] key in the bottom left of the main unit screen to shut down.

Notes: When startup or shutdown, the button operation time is generally  $1\sim 2ms$ , long press the On and Off button can cause key failure.

### 3.2 Starting Up Interface

### Introduction

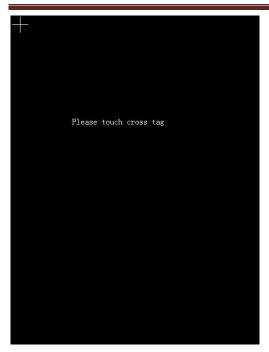
### 3.2.1 Starting Up Interface

Connect the power supply, press the power switch key, GreenDS product identification firstly appears on the screen, then **[** if you want to adjust the touch screen please, click screen directly **]** appears at the top of the starting up progress bar.

Notes: If you need adjust touch screen, please at this time click on anywhere of the screen with the touch pen to enter adjustment mode. During adjustment, you must use touch pen to adjust.

If don't need touch screen adjustment, the system will automatically enter desktop in 2s.





### 3.2.2 Starting Up Screen Adjustment

If you use touch pen to click on anywhere of screen, the main unit menu enter into the touch screen adjusting mode.

The main unit screen prompts 【Please click cross cursor (the more precise click, the better for your adjustment)】, click on the cross cursor appears on the 4 corners of screen in turn with a touch pen counter-clockwisely from top left corner of the screen.

After adjustment, and the main unit shows correct information, then log on to the desktop menu.



### 3.2.3 Desktop Menu Description

When the main unit starts normally, the main unit will enter the desktop menu. The top of desktop is the menu bar. Desktop background displays product models, service hotline update Web site, the service network.

Desktop top from left to right are

1: **【**ASIA**】** 

2: 【EUROPE】

3: 【AMERICA】

4: 【SETTINGS】

Note: The bottom right position of the menu shows \*\*\*\*date \*\* month \*\* year, representing the last update time of the software program.





### 3.3 System Settings

Select the menu 【System settings】 with the touch pen at the top of desktop, then the sub-menu of the system setting menu appears.

[System info]

[Touch adjust]

[User infor]

[System theme]

[Language]

[System active]

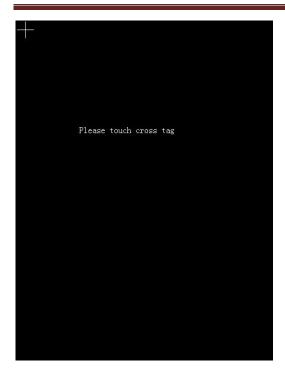
【Clear saved data】



### 3.3.1System Information

Select 【System Information】 and enter, the main menu pop up a dialog box for the hardware information, operating system version, software version, database version, memory information of product. Operating the button【OK】 on the left side of menu to return to previous menu.







### 3.3.2Touch Ajustment

This feature is for screen deviation adjustment in the operation of main unit functions when using touch pen to select the main menu, the menu the main unit entered is not the actual one selected. Operation method is the same to that of starting up screen adjustment.

Note: when you can not adjust through the touch screen adjustment menu, you can adjust it at the time of starting up.

### 3.3.3Unit Activation

Every main unit has not been activated permanently when thay are distributed. Only the users encountering no malfunction of the main unit after using for a period of time can the activate the main unit. Every time the user use the main uint, the prompt"the version you are using now is trial, you can use it for another XX times."

Every starting up and connection to the vehicle would count as one time. When the remaining times decrease to zero, the device needs to be activated.

Activation:

Please sign in Company official website to activate the device.

- 1,First, log in your username and password (username password need to be registered by yourself);
- Enter the interface of activation and input the feature code displayed on your device. Then click Generate.
- 3,Input the newly generated code to your device. You can continue using your device if a prompt informs you that activation has been successful.

Note: If activation failed, it might be caused by the wrong serial number or feature code. Please do it all over again.





### 3.3.4Languge

Multi-language supported. Please mind that the language switch needs rebooting the main unit to come into effect.

Note: Varied language is provided according to different regions and subject to the actual configuration of the product.



### 3.3.5Self Test

This function is used to test the main diagnosis cable and standard OBD-II connector and only can be performed with a fitted self test connector.





### 3.3.6SD Card Testing

Please notice that SD card are divided into Class2 and Class4. The class 4 cards usually have writing and reading speed of 4MB/s.

Usually the position of write –protection swith should be at the side without the word LOCK. If it is at the side with LOCK, then the SD card will be in the write –protection status. Data can only be read. Writing, formatting and undating can not be proceeded.



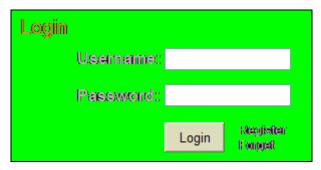
This function can test the performance of the SD card.



# 4. Product Upgrading

The company will continue to update the software program, periodically (eg every three months) to conduct a product software upgrade, the upgrade method is as follows:

1, first sign in Company website to register

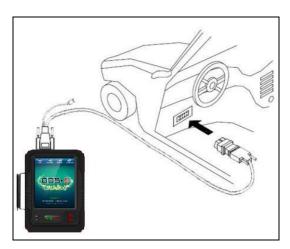


- 2, Then go to the download center to download the full upgrade package on your computer desktop;
- 3, Plug the SD card into your PC (computer) USB socket through a card reader;
- 4,Foemat the SD card and the doule click the upgrade package to upgrade;
- 5,A prompt will pop out once you finished the upgrade;
- 6, Unplug the SD card and Insert back to your main unit.

For more upgrading help please visit our website.



## 5. Vehicle Diagnosis





### 5.1 Connection of OBD-II connector

Choose the proper connectors according to the diagnostic connectors of the to-be-detected vehicles. If the connector of the to-be-detected vehicles is standard OBD-II, you need to connect the two ends of the main test wire with the main unit and OBD-II connector separately, fasten them with bolts and put diagnostic connector into the diagnostic sockets on one side of the vehicle.

### 5.2 Connection of Non-OBD-II Connector

At first, you should confirm that whether the connector of to-be-detected vehicle has the GDS+ 3 decoder. In connecting, you should firstly connect the connector that is exclusive to GDS+ 3 decoder to standard OBD-II connector, and then connect standard OBD-II connector with the main test wire and the main unit of the decoder.

### 5.3 Steps of Vehicle Diagnosis

- 1, Find the location of vehicle diagnostic socket.
- 2, Select the connector according to the vehicle diagnostic socket model.
- 3, Connect the main unit to the wire or connector of the to-be-detected vehicle.
- 4, Connect the testing connector to the vehicle diagnostic socket as shown in Figure 5.2A.

Note: If the power supply of diagnostic socket of diagnostic vehicle is insufficient or its power supply pin is damaged. You can make the decoder obtain power supply by any of the following ways:

- Through the cigarette lighter cord: insert one end of cigarette lighter cord to automobile cigarette lighter hole, the other end of the GreenDS main testing line connect to power plug.
- 2) Through the double-clamp power cord: connect power clamp of double-clamp power cord to the battery positive and negative, insert the other end into the GreenDS main testing line power plug.
- 5. Select the diagnostic program according to different vehicle.



### 6. Warrant Clause

Dear GreenDS users, welcome to choose GDS+ 3 products. In order to better use of the product, we recommend that you should take care of your product well, and operate in accordance with user manual's instructions whenever you use it. If your use meets this requirement, your product will be able to provide you longer-term services.

- 1. In line with the following terms and conditions. And under the premise that you have bought our products and registered in the website of Shenzhen GreenDS Technology Co., Ltd. (hereinafter referred to as "GreenDS Technology"), GreenDS technology will provide free product warranty services by our distributor, if there are defects in materials or workmanship of hardware.
- 2. Confirm that you have carefully read the product warrant clause, otherwise as GreenDS Technology registered your mailed warranty card stub, you will be considered as agreeing to and accepting the terms of this warrant clause.
- 3. Your product must be purchased from product dealer that authorized by GreenDS Technology. To purchase products through the illegal channels, buyers have to bear the cost of product maintenance services and so on and can't get the warranty by GreenDS Technology.
- 4. The following items of products: Items that are easy to wear and tear such as product instructions, inner and outer package box, attached power supply, promotional giveaways, SD card, card reader, touch pen, printing supplies etc. are not under warranty range
- 5. Products from the date of purchase (subject to valid purchase proof and effective warranty card of the product), if the products suffer performance failure caused by non-human factors, you can choose our maintenance services or replace the product with the same model within a month. You can enjoy one year warranty service for main unit, excluding human damage and incorrect operation.
- 6. You will not be able to enjoy free warranty service if the products are in any of the following case,:
- 1) Failure, defect or flaw that do not belong to the quality of GreenDS Technology products: including your use of the product not according to the product instruction, improper operation of the product, crash, fall, disassembly by yourself, connection of improper accessories, damage owing to crash because of improper transport or storage of the product, the erosion and corrosion, etc. that caused by infiltration of liquid or food.
- The natural wear and tear of product: including but not limited to cover, keypad, LCD touch screens, accessories etc.
- 3) Product main unit serial number and warranty card product serial number do not match, and product quality inspection tag or bar code is removed, altered or damaged.
- 4) Maintenance and modification without the approval of GreenDS Technology or GreenDS distributor
- 7. The product quality problem or failure occurring within the warranty period, you can take the following measures:
- 1) You can inspect product by yourself based on products help information. If there are no hardware quality problems, try to upgrade the product program.



- 2) You can dial GreenDS Technology local distributor to obtain the correct service information.
- 8. In the process of product warranty, you can contact with local GreenDS Technology designated distributor and take responsibility of deliverying or shipping to the location.
- 9. If you enjoy your free warranty service under this warrant clause is the only measure for the losses due to product defect within the product warranty period. GreenDS technology shall not be liable for your direct or indirect loss.
- 10. All product warranty information, product features and specification changes will be posted on GreenDS Technology latest promotional materials and Web site without further notice.

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