1. Document Statements

Please read the following instructions carefully:

The manual may help you learn about how to use GT100+ AUTO TOOLS OBD II Breakout Box ECU Connector in a faster pace. Please observe your local national laws and regulations. In case of illegal use of equipment, the user shall bear all risks and the company shall not assume any liability.

GT100+AUTO TOOLS OBD II Breakout Box ECU Connector Operation Manual is compiled by No company or individual may copy or backup this manual in any form (electronic seal, mechanical, photocopy, recording, picture or other forms) without the written consent of The document shall not be used for commercial purposes.

2. Trademark Copyrights

has been registered as a trademark in China and several overseas countries.

Disclaimer and limitation of liability

All information, specifications and images included in the manual are latest information as of the date of publication. reserves the right to make changes without prior notice. The contents in the manual have been carefully reviewed, but no warranty is given as to its completeness and accuracy of contents (including specifications, functions and images). does not bear any direct or indirect compensation for damages or economic damages.

Notes: before operating or maintaining the equipment, please read the manual carefully, especially the safety precautions.

3. Safety Precautions

In order to protect the safety of yourself and others and prevent damaging the equipment and vehicles, please read the safety precautions carefully.

Since various programs, tools, parts and techniques are used for the vehicle maintenance and different operators may have different operations, due to various kinds of diagnostics compliers, the manual cannot predict every situation and provide related safety suggestions.

Vehicle service technicians are in charge of fully learning about the system under tests, and applying appropriate repairing approaches and testing programs.

When conducting tests, it's necessary to apply proper operations to avoid personal safety risks to yourself and other people inside the working area and prevent damages to the equipment in use or vehicles under tests.

Before starting to use the equipment, please refer to and observe the safety information provided by the vehicle or equipment manufacturer and applicable testing programs. Please

use the equipment according to the Operation Manual, read, understand, and observe all safety information and instructions included in this manual.

Please at least observe the following safety precautions working at the vehicle:

- Please work at a safe environment where it's essential to keep the working area ventilated since the vehicle exhaust is harmful to human bodies.
- Wear goggles that meet the ANSI standard
- Set the gear to P (auto) or N (manual) and guarantee the parking brake is enabled (hand brake pulled)
- Make sure your clothes, hair, hands, and tools stay away from the operating engine parts or hot engine parts
- Place bricks before each wheel to prevent the vehicle from moving accidentally
- The vehicle must be attended during testing and operating
- Pay special attention when working around the ignition coil, distributor cap, ignition wire, and ignition plug for that these parts can generate dangerous voltages
- Make sure fire extinguishers suitable for the gas/chemicals/are electrical provided at the site
- Do not plug or unplug the equipment when the ignition switch is on or the engine is working
- Keep the equipment dry, clean, and avoid touching oil, water or grease. Use a clean cloth to clean the equipment.
- Do not operate the diagnostic equipment during driving to avoid accidents owing to the distraction.
- Please refer to the maintenance manual when maintaining the vehicle and operate strictly according to the precautions, otherwise it may cause human injury or damages to the diagnostic equipment.
- Do not place the diagnostic equipment onto the distributor of the vehicle for that strong EMI may damage the equipment.
- When replacing the battery with GT100+, do not switch on the ignition switch or start the vehicle.

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5. Feature Overview

GT100+ is a new ECU connector and protocol communication testing equipment. It's convenient for users to individually connect the ECU module to diagnose, program and code. It may also be used for testing whether the diagnostic / programming /coding tool can send communication signals.

See the detailed functions as below:

Gt100+ OBDII Protocol Detector and Protocol Communication Diagnosis

GT100+ Short circuit to forcibly activate the instrument and immobilizer.

GT100+ Voltage / Current Value Display

GT100+ OBDII Display custom CAN protocol communication

GT100+ ECU Connection

GT100+ Expanded Connection

GT100+ OBD1 Diagnostic Interface Converted to Standard OBD2

GT100+ Multi-ECU Connection Mode

GT100+ Extension cable Function

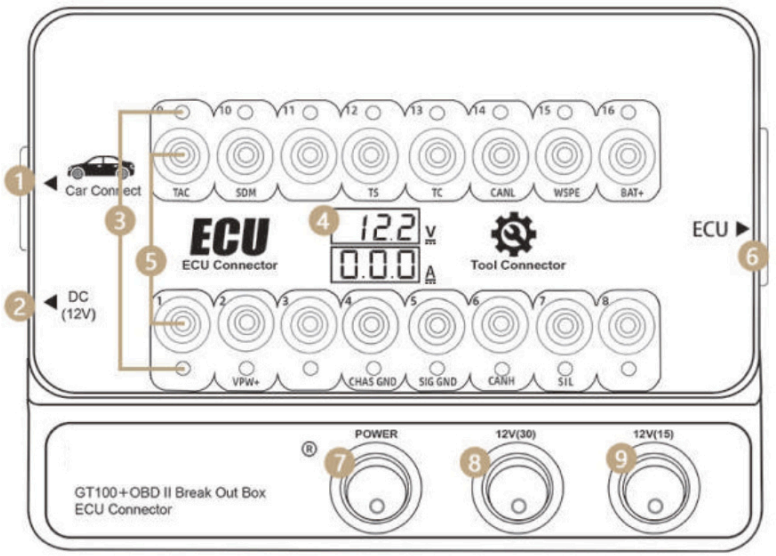
GT100+ Power the Car When Replacing the Battery

GT100+ Optional dedicated Adapter

GT100+ Work with CAS4/CAS4 + Programming Test Platform

GT100+ Work with FEM/BDC Programming Test Platform

6. Outlook



①OBD2-DB15 diagnostic main cable

②DC12V interface

③Indicators

④Working voltage and current value display

⑤Banana plug interface

⑥DB25 color jumper ECU dedicated interface

⑦Power switch

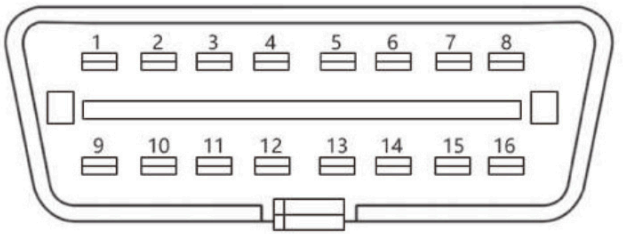
⑧12v (30) power switch.

⑨12v (15) power switch

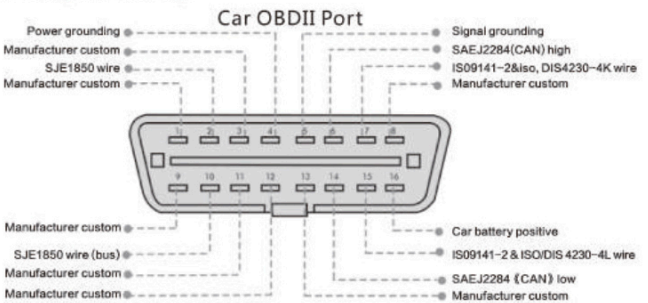
7. Functions and How to Use

OBDII Protocol Detector and Protocol Communication Determination

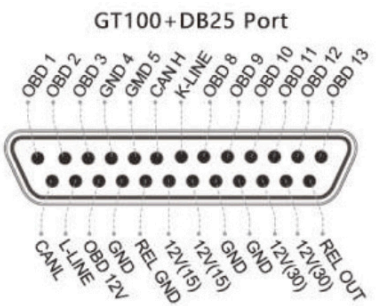
Standard OBDII interface protocol



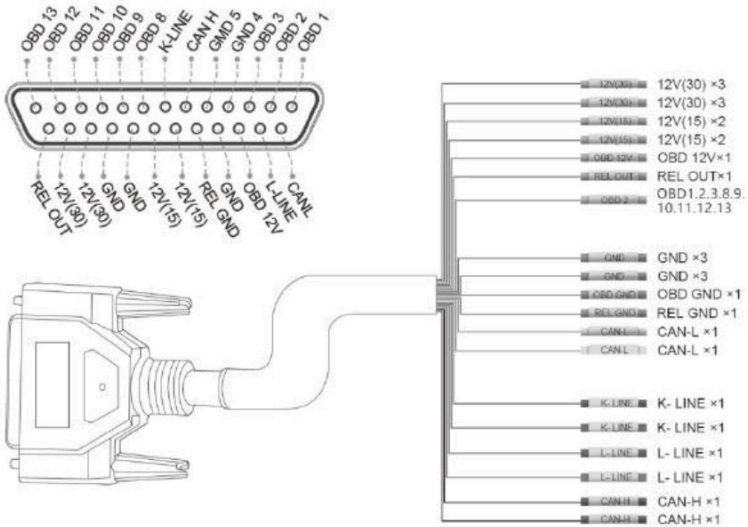
Indicator Light Meaning



1. Manufactory custom
2. SJE1850 wire <bus+>
3. Manufactory custom
4. Power grounding
5. Signal grounding
6. SAEJ2284 <CAN> high
7. ISO9141-2 & iso, DIS4230-4K wire
8. Manufactory custom
9. Manufactory custom
10. SJE1850 wire<bus->
11. Manufactory custom
12. Manufactory custom
13. Manufactory custom
14. SAEJ2284 <CAN> low
15. ISO9141-2 & ISO/DIS 4230-4L wire
16. Car battery positive



DB25 Color jumper Cable



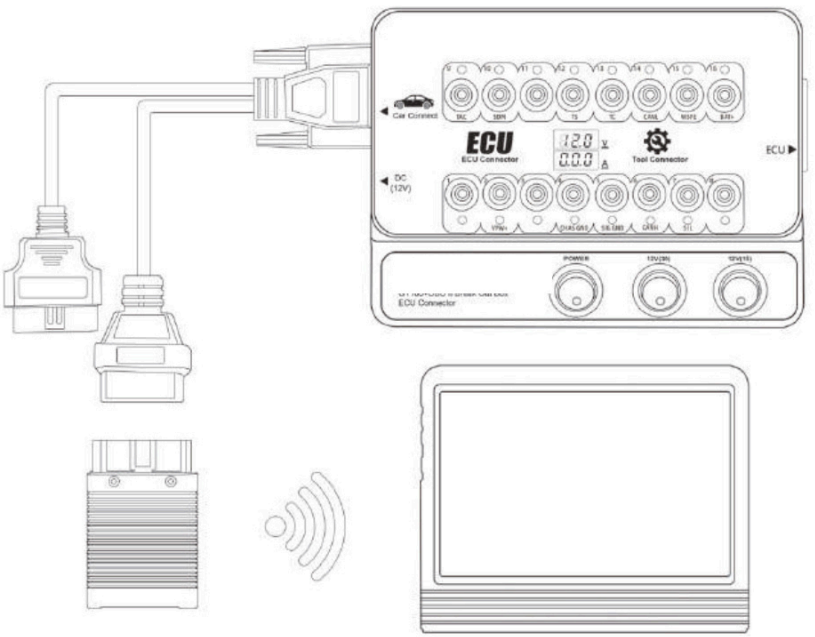
Tips on Using DB25 Color Jumper Cable:

1. 12V (30) defined as car positive (+)
2. 12V (15) defined as car ignition with power supply
3. OBD 12V directly connected to the vehicle OBDII diagnostic port 12V
4. OBD 1.2.3.8.9.10.11.12.13 are correspondingly connected to the 1.2.3.8.9.10.11.12.13 pin port.
5. Once REL GND and GND are connected, REL OUT outputs 12V vehicle battery positive electricity.
6. K-LINE L-LINE are correspondingly connected to the 7.K-LINE and 15. L-LINE port.
7. CAN-H and CAN-L are correspondingly connected to the 6.CAN-H and 14.CAN-L port.

√ By connecting the vehicle and the diagnostic tool via OBDII, GT100+ can check whether the communication of the vehicle OBDII diagnostic port is normal.

√ To monitor and display in real-time the voltage of vehicle OBDII interface. If the voltage is lower than 11V, please stop diagnosing and programming, otherwise the car will fail to start, the data is lost, the module is locked etc because of low battery.

1.) Used to check whether the diagnostic / programming / coding tool can send communication signals.

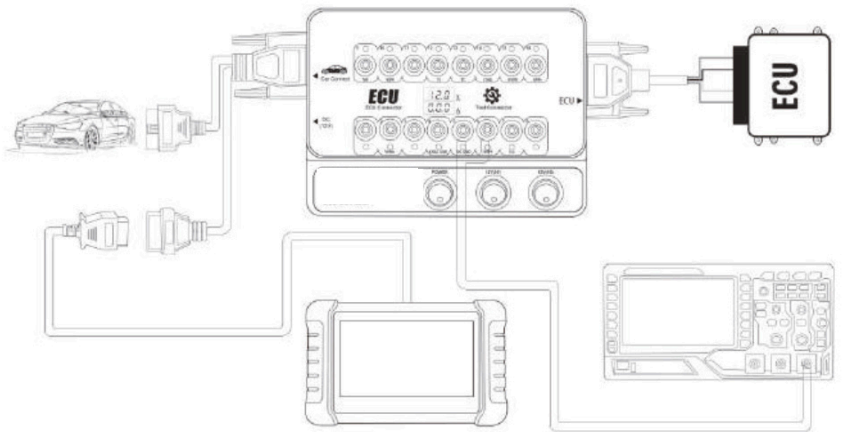


①Connect the diagnostic / programming / coding tool to the OBD2 port of GT100+. (Do not connect it to the vehicle)

②Select the vehicle model and functions to operate.

③If the device can send the communication signals, the corresponding protocol indicators on the GT100+ will be ON or blink. If the device can't send the communication signals, there will be no indicator light on, it means the device has a connection problem or is damaged.

2.) Test the communication status between the code reader and the vehicle protocol



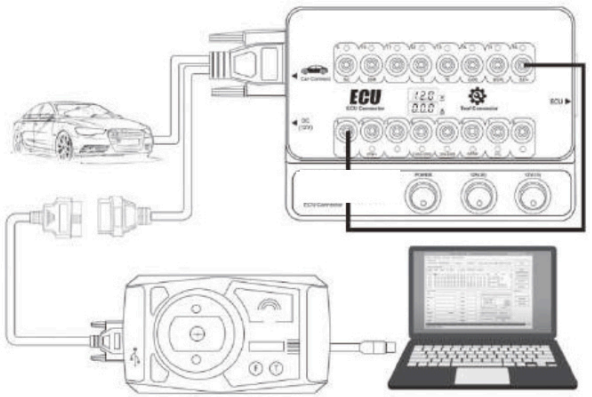
①GT100+ is connected to the vehicle OBD2 port.

②Start the Power switch, and GT100+ will display the current accumulator voltage. (If no voltage is displayed, please check the vehicle diagnostic interface and the cable. If the voltage is lower than 10V, please do not start the vehicle or go ahead for function operation, Please charge the car with a car charger.)

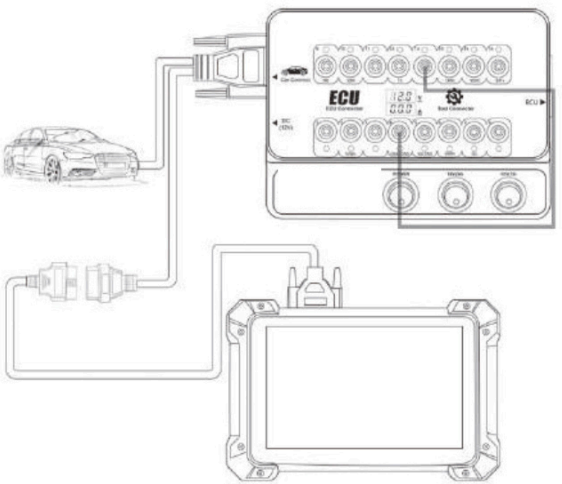
③Connect the diagnostics / programming / coding tool well. When it communicates with the vehicle, the corresponding protocol indicators on the GT100+ equipment will be lit up or blink. It’s convenient for users to observe which protocol is under use by the vehicle module and the status of the communication.

3.) GT100+ program key for VW, Porsche, Mitsubishi etc with all keys lost – activate the instrument or immobilizer module.

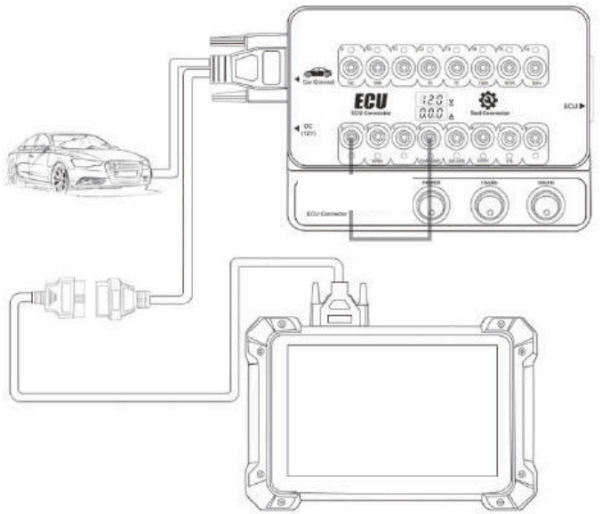
A. To program VW 4th generation / 5th generation Lost all keys (for example: new A6L Touareg A4 Q5 A7), please use GT100+ to short-circuit banana connector PIN 16----PIN 1 to lit up the dashboard, aft that use the key programmer tool to connect with the female adapter of GT100+ for data collection. Some vehicle dashboards won't be lit up, but data can also be collected, for example: A6L Q7.



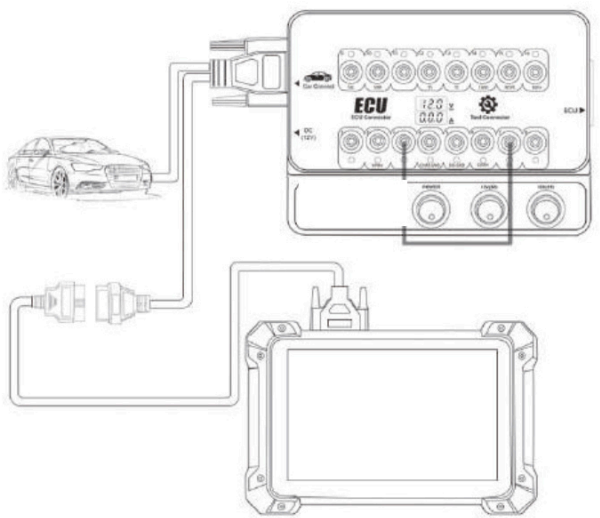
B. To replace the engine ECU of Toyota or to use some key programmer to program Toyota when all keys lost, it needs to short-circuit PIN13-PIN4



C. To program Mitsubishi key with all keys lost or to set OBDII when all remote key lost, please short-circuit PIN1-PIN4.



D. To program Porsche Cayenne transponder or remote all keys lost, please short circuit PIN3-PIN7.



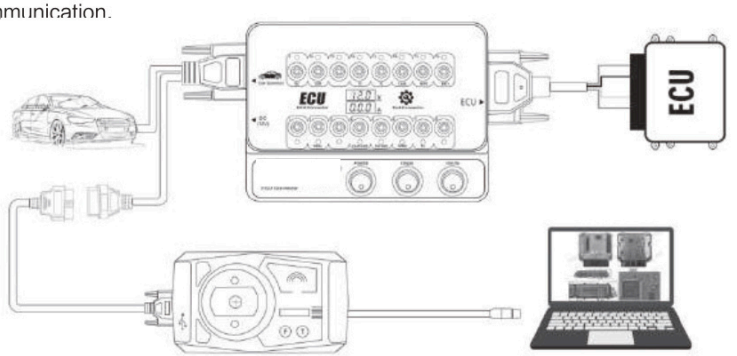
4.) Voltage and Current Value Display function

On bench connect the ECU module by using the banana connector or db25 dedicated ECU interface, and GT100+ will display the voltage / current value.

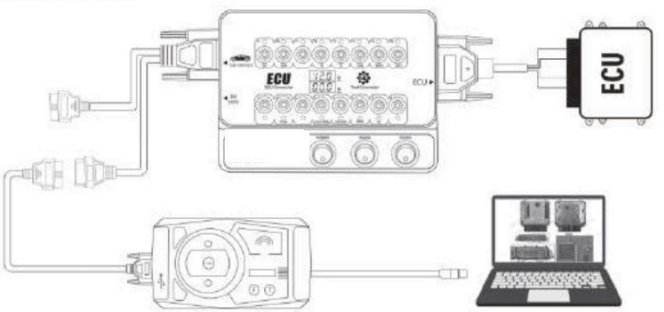
The user can intuitively see the current status of the ECU. There is no current display or The actual displayed current is inconsistent with the engineer's expected current, then you can immediately check whether the wiring is wrong, if the wiring is correct, he can judge that the ECU may be broken, so there is no need to perform diagnostic communication and can directly repair the ECU.

If it shows too much current, then you can also determine if the cable is wrongly connected or the ECU is broken.

5.) GT100+ Pin 1, 9, 3, 11 12, 13, 8 [corresponding to the yellow banana connector on the machine], these non-standard obd2 protocol interface may display CAN BUS or K-Line communication protocol. GT100+ can only display K- Line PWM VPW+ KWP 2000 protocol. GT100+ will display CANBUS K-Line PWM VPW+ KWP 2000 protocol communication.



6). Quickly communicate with a single ECU on bench by connecting with the ECU diagnostic / programming tool. [Which allow the engineers or technicians to complete the job on bench, also keep away the risk of data loss in other modules when directly testing on the vehicle.]



How to Operate:

①Connect GT100+ and the dedicated ECU color jumper.

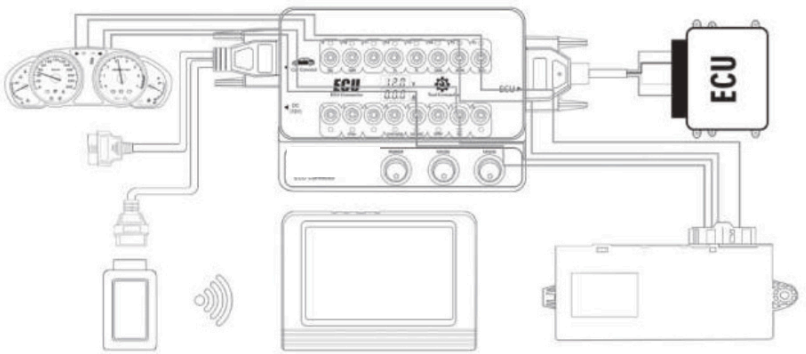
②Connect the ECU which needs to diagnose or program by following the definition of ECU connecting.

③Connect the 12V DC power adapter.

④Start the Power switch, and GT100+ will display the current working voltage of the power adapter.

⑤By connecting well the diagnostic / programming / coding tool, GT100+ protocol indicator will turn on or blink to indicate which protocol of the car module and the communication status.

7.) Multiple vehicle ECU module connecting. [It's aimed at solving the problem of engineers and technicians who need to connect multiple ECU during programming a module, such as connecting to multiple ECU modules for key programming]



Multiple ECU Module Connection Operation Steps:

①Connect GT100+ and Colorful Jumper Cable DB25. Insert the DB25 jumper into the banana plug, tighten the screw, and then insert it into the corresponding port of GT100+.

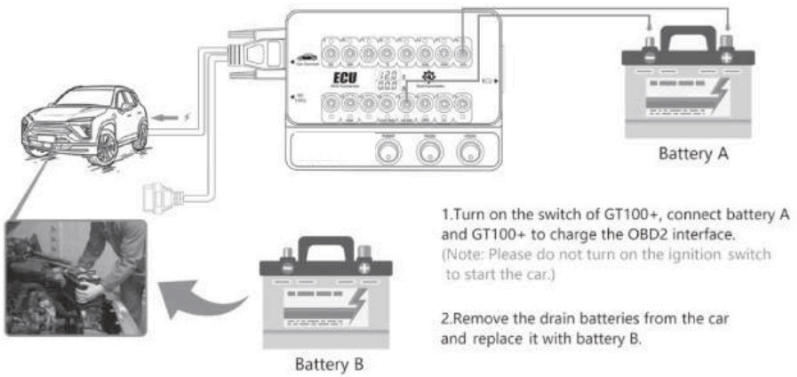
②Connect the ECU which needs to diagnose or program by following the definition of ECU connecting.

③Connect the 12V DC power adapter.

④Start the Power switch, and GT100+ will display the current working voltage of the power adapter.

⑤When there is a good communicating between the car and the diagnostic / programming / coding tool, GT100+ protocol indicator will turn on or blink to indicate which protocol of the car module and the communication status.

8.) Replace the Auxiliary Power Supply for the Battery – uninterruptible power supply connecting mode. [Since there's failure or missing antitheft remote control data of some vehicles when the battery is dismantled, the auxiliary power supply aims at supplying power to the vehicle through GT100+ before replacing the battery to sustain the power supply to the vehicle. It guarantees the vehicle ECU is power connected during replacement of the battery.]



Uninterruptible Power Supply Connecting Mode Operation Steps

①Prepare a spare battery "A" and a new battery "B" to be installed.

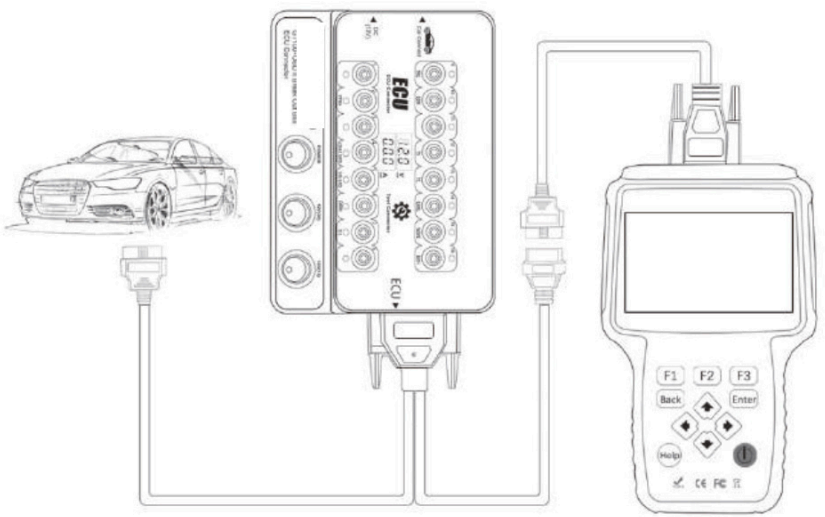
②Connect to NO.16 /4 /5 holes of GT100+ and the OBD2 diagnostic port of the car, and connect to the spare battery "A".

③Switch on GT100+ Power.

④Connect GT100+ diagnostic cable to the OBD2 port of the vehicle. [Notes: do not turn on the ignition or start the vehicle.]

⑤Install the new battery "B"

9.) The OBD2 cable of GT100+ is as long as 1.4 meters, which will solve the problem that the diagnostic tool cable is not long enough or the vehicle diagnostic port is too narrow to connect. Please connect GT100+ first, turn on the power switch and you will see the voltage on the screen which can tell whether the power supply of the vehicle is normal. [Which keep away the risk of burning out the diagnostic & programming tool due to the modified vehicle OBD2 port]



Operation Steps:

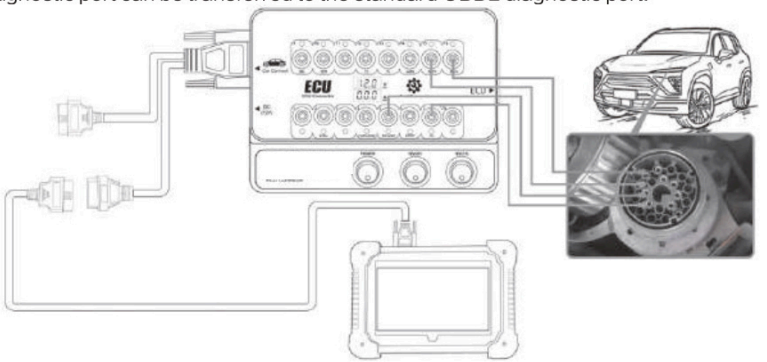
①Connect GT100+ OBD2 to the OBD2 port of the vehicle.

②Switch on GT100+ Power. (If no voltage is displayed, please check the vehicle diagnostic port and the cable. If the voltage is lower than 10V, please do not start the vehicle or operate. Please charge the accumulator with a car charger first)

③The other OBD2 port of GT100+ is connected to the diagnostic tool.

④When there is a good communicating between the car and the diagnostic / programming / coding tool, GT100+ protocol indicator will turn on or blink to indicate which protocol of the car module and the communication status.

10.) For old OBD1 vehicles or special diagnostic port, please connect GT100+ through the banana plug and DB25 jumper. The OBD1 diagnostic port or special diagnostic port can be transferred to the standard OBD2 diagnostic port.



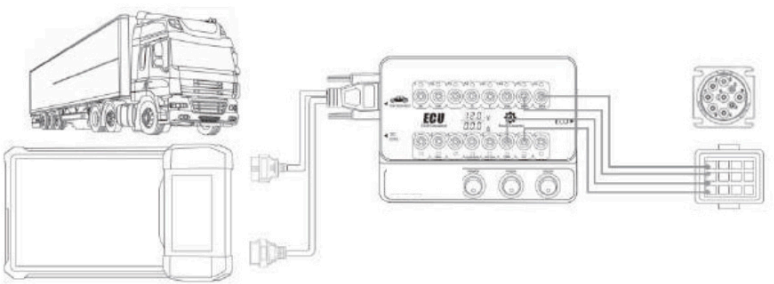
①Insert the DB25 jumper into the banana plug, tighten the screw.

②Insert the banana plug into the corresponding port of GT100+ by following the OBD1 protocol.

③Connect the OBD2 port of GT100+ to the diagnostic tool.

④When there is a good communicating between the car and the diagnostic / programming / coding tool, GT100+ protocol indicator will turn on or blink to indicate which protocol of the car module and the communication status.

11.) GT100+ will convert the OBD1 port of special truck to the standard OBD2 diagnostic port according to the protocol.



Steps:

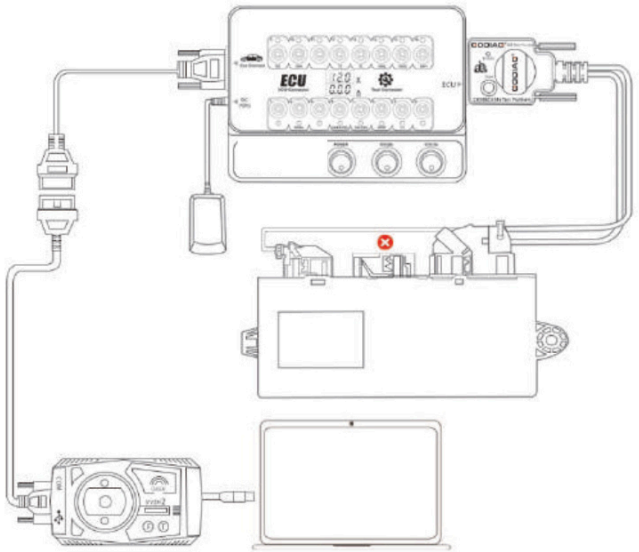
①Insert the DB25 jumper into the banana plug, tighten the screw.

②Insert the banana plug into the corresponding port of GT100+ by following the truck OBD protocol.

③Connect the OBD2 port of GT100+ to the diagnostic tool.

When there is a good communicating between the car and the diagnostic / programming / coding tool, GT100+ protocol indicator will turn on or blink to indicate which protocol of the car module and the communication status.

12.) For BMW-CAS4/CAS4+Programming Test Platform, it's used to test whether the programmed key works with CAS4 normally.



CAS4/CAS4 + Programming Test Platform Operation Steps:

①Connect the CAS dedicated plug to the CAS4 immobilizer module.

②Connect CAS4 / CAS4+ programming test platform to Gt100+.

③Connect the OBD2 female cable of GT100+ to VVDI2 or the device which can read the data of CAS4.

④Open the key programmer software, follow the instruction to obtain the data to complete key programming.

⑤If all keys lost, please keep pressing the start switch to forcibly start CAS4 so that the key programmer can read the data of CAS4.

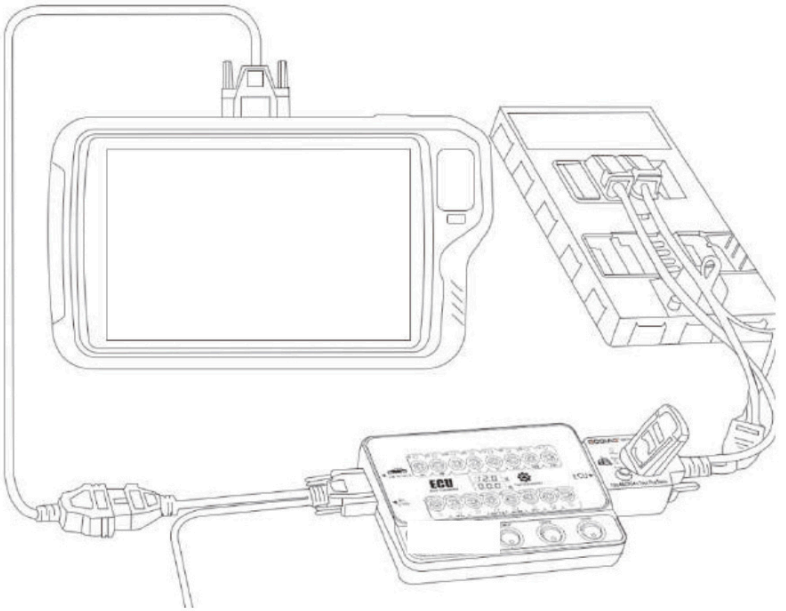
⑥Put the programmed key into the key coil of CAS4 / CAS4+ programming test platform.

⑦Press the start switch of CAS4 / CAS4+ programming test platform, if the dashboard indicator turn on, it means that the key and the CAS4 module are synchronized, otherwise, they are not synchronized.

⑧Press the start switch again, and the dashboard indicator turn off.

⑨Press the start switch again, wait for about 10s and GT100+ CAN protocol indicator turn off.

13.) For BMW FEM/BDC Programming Test Platform



BMW FEM/BDC Programming Test Platform Operation Steps:

①Connect FEM/BDC dedicated plug to FEM/BDC immobilizer module.

②Connect GT100+ or OBD2-DB25 cable to FEM/BDC programming test platform.

③Connect the OBD2 female cable of GT100+ to VVDI2/ VVDI KEY Tool plus or any other key programmer which can read data of FEM/BDC.

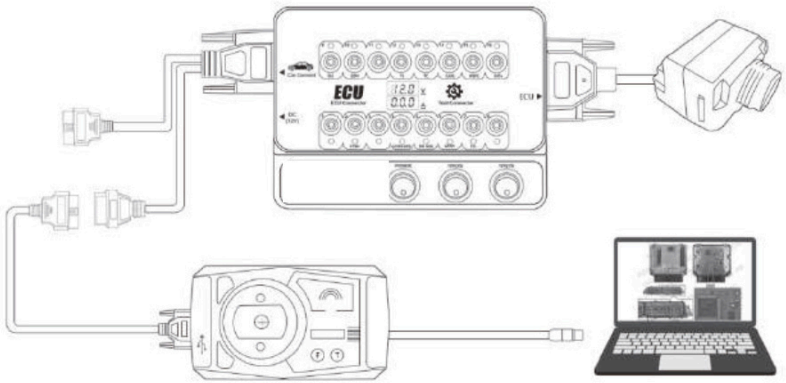
④Open the key programmer software, follow the instruction to obtain the data to complete key programming.

⑤Put the programmed key into the key coil of FEM/BDC programming test platform.

⑥Press the start switch of FEM/BDC programming test platform, if the dashboard indicator turn on, it means that the key and the FEM/BDC module are synchronized, otherwise, they are not synchronized.

⑦Press the start switch for more than 3s, and the dashboard indicator turn off.

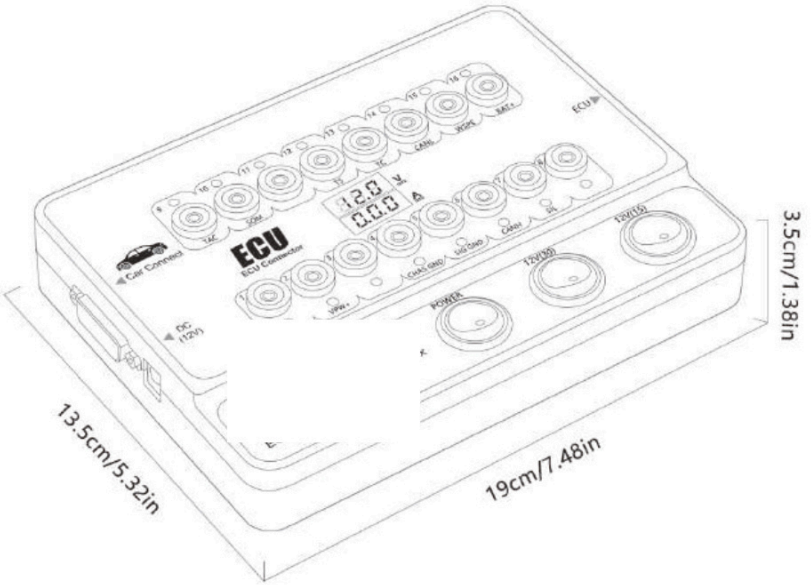
14.) More connectors and dedicated modules are under development, please wait...



8. GT100+ Package List

- ◆ GT100+ host
- ◆ DB15-OBDII male connector-OBDII female connector
- ◆ DB25-ECU cable
- ◆ Banana plug connector
- ◆ 12V 1a power adapter
- ◆ Jumper
- ◆ CAN 120 ohm resistor

9. Product Specifications



Content	Description
Diagnostic interface	OBDII 16 pin
Working voltage	DC 9V-24V
Product power	0.8W
Adapter power	Input AC100v-240v output DC12V 1A
Working temperature range	-20 to 70° C (-4 to 158° F)
Storage temperature range	-40 to 85° C (-40 to 185° F)
Product packaging size	Carton 22.5*19.7*9CM

10. Warranty

The product has a warranty of 1 year

Please fill in the following maintenance information for any after-sales services:

Contact name

Mailing address

Tel.

Complete problem

Proof of purchase

Send the equipment to your local distributor.