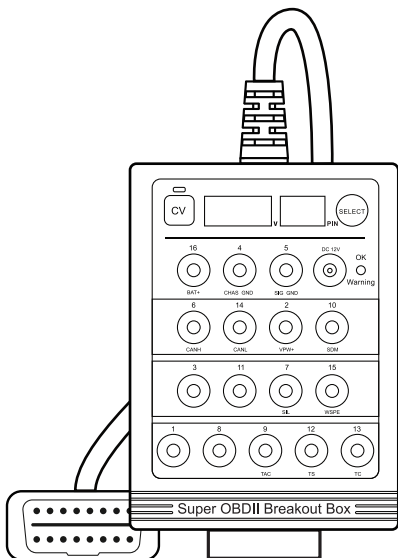


User Manual

Super Breakout Box Automotive Tool



Support the electrical system of 12-24V car battery

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Safety Precautions

To prevent personal injury and damage to the vehicle or tester, first read this user manual carefully and observe the following safety precautions when operating the vehicle:

- * Test in a safe environment.
- * Wear ANSI-compliant goggles.
- * Keep clothing, hair, hands, tools, test equipment, etc., away from all moving or hot engine parts.
- * The vehicle needs to be operated in a wellventilated work area to prevent exhaust gas damage.
- * Place wooden blocks in front of the drive wheels and be sure to have someone guard the vehicle during testing.
- * Place a fire extinguisher nearby for gasoline, chemical, electrical fires.
- * Do not connect or disconnect any test equipment when ignition is on or when the engine is running.
- * Keep the device dry and clean, and if you need to wipe it down, apply a mild detergent to a clean cloth to clean the outside of the tool.
- * If the power supply foot is short-circuited to the ground wire, it may cause sparks, so do not use the device around flammable materials.

Warning: This device can only be used to test the electrical system of 12-24V car batteries, exceeding 24V may damage the device.

1. Product Overview

1.1 Product Introduction

This device is an OBDII universal jumper tester suitable for 12V or 24V automotive systems, before the diagnostic equipment is connected to the automotive diagnostic interface, you can use this device to detect the voltage on each pin of the diagnostic interface, analyze whether the communication line is normal, or analyze which pins are the required communication pins, so that you can make corresponding settings when accessing other diagnostic devices in the future.

When it is not possible to connect to the automotive ECU using other diagnostic devices, the this device can be used to analyze the pin signal of the diagnostic socket, or the PIN of the diagnostic holder can be pinned out by this device and the signal on the diagnostic holder can be analyzed by other service device, such as a multimeter or oscilloscope.

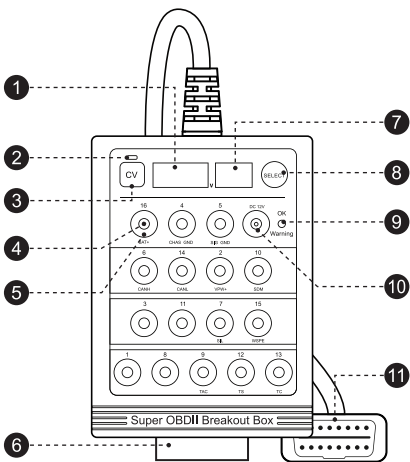
This device collects the specific voltage of each pin on the OBDII diagnostic socket and displays it through the voltage display window on the panel, which can replace some multimeter functions and save the trouble of measuring the voltage of the diagnostic socket one by one.

In addition, this device is also equipped with various status lights, light and sound alarms, overload protection, programming constant voltage and other functions to achieve functional analysis and protect its own device from damage.

1.2 Parameter information

Project	Description
Display Area	LED Display
Operating Temperature	0°C~60°C (32°F~140°F)
Storage Temperature	-5°C~70°C (-40°F~185°F)
Cable Length	1 meter
1~16-Pin	Banana jack with a diameter of 4mm
Supply Voltage	12V DC 2A or 24V DC 2A
Pin Voltage Measurement	0~30V, accurate to 0.1V
Overload Protector	Resettable fuse
Current Rating	<2A

1.3 Panel Parsing



- 1 Voltage Display:** Displays the selected PIN voltage, accurate to 0.1V.
- 2 Programming Indicator:** Display the programming status, green normal, red fault.
- 3 Constant Voltage key:** Press this button to enable the programmed constant voltage mode.
- 4 PIN Feet:** 4mm pin banana socket 16 holes, respectively the 16 pins of the automotive OBDII connector should be used.

- 5 **Status Indicator:** There are 16 pins in total, PIN4, PIN5 LED are red, PIN16 LED is red, the rest pins are white LED. The indicator lights up when there is voltage on the corresponding pins. The PIN4 and PIN5 indicators do not light up in the normal state, They will light up only when the positive and negative are reversed.
- 6 **OBDII Female:** It is used to connected to the car's diagnostic equipment, which is equivalent to the diagnostic seat on the car.
- 7 **Pin Position Display:** Displays the currently selected pin.
- 8 **Select/Reset Key:** Each time when you press this button, the value of the pin display increases by 1, after the value exceeds 16, then returns #1 PIN, (4PIN/5PIN Skip) **Press and hold this button to reset to 16 PIN.**
- 9 **Power Indicator:** The voltage LED is green, in normal condition, if the voltage is too high or too low, it will show red LED.
- 10 **DC Adapter:** Powered by a 12V/2A power DC adapter.
- 11 **OBDII Male:** Connected to car OBDII socket (DLC) .

2. Product Features

2.1 Function Introduction

1. The device makes you quite easy to connect to car DLC. After connecting to the jumper box, other diagnostic equipment can also be connected to this device OBDII connector at the same time.

2. The LED indicator on each pins can quickly determine whether the corresponding pin with a DC voltage or a discontinuous pulse signal voltage.

3. Through the pin number display and select button on the device, the selected PIN number and the voltage value will be displayed through the LED display.

4. The device with short circuit protection, light and sound alarm function, when there is a problem with the power supply, the device will send out an audible and visual alarm.

5. Through the constant voltage mode, The device will ensure the stability of voltage when user performs the car programming function.

2.2 Jumper Function Detection

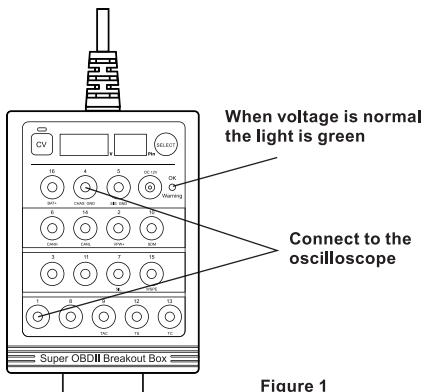


Figure 1

1. Connect the OBDII male connector with the OBDII diagnostic socket on the car, as shown in Figure 1, if the power supply voltage is in normal condition and the ground wire connection is not faulty, the power light will light up with green LED.

2. If you want to use an oscilloscope to analyze the signal waveform of PIN 1, as shown in Figure 1, directly connect the ground wire of the oscilloscope with the PIN4 (ground wire) on the host panel, and connect the signal input of the oscilloscope probe with the PIN1 of the host panel to test the signal of the PIN1.

3. To analyze the other pins of the OBDII diagnostic socket, you need to find the pins to be analyzed and repeat the above operations.

2.3 Pin Status Indication Function

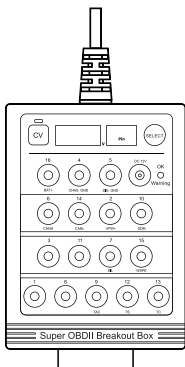


Figure 2

1. This device has a total of 18 status indicators and one buzzer. The 16 indicators next to the PIN are the status indicators of the corresponding pin, "OK/Warning" is the power indicator, which will turn green when the power supply voltage is normal condition while red LED means voltage is abnormal. Connect the OBDII male connector in the front of the OBDII diagnostic socket to the car, (as shown in Figure 2), if the power supply voltage is normal and the ground connection is not faulty, the power LED on the host panel will be green, and the status indicator of PIN16 (power pin) will be lit.

2. If the voltage of the PIN 16 (power pin) lower than (11.5V for 12V system, 23V for 24V system) or higher than (15.5V for 12V system or 31.0V for 24V system), the buzzer will sound a slow beep alarm and the "OK/Warning" indicator will light up red.

3. If the power cable is reversed from the ground wire, at least one of the PIN4 (power ground) or PIN5 (signal ground) status indicator will light red.

4. Except for the indicator on the power pin (PIN 16) and ground wire (PIN4/PIN5), the indicator on other pins will be lit or off with the corresponding pin voltage of the OBDII diagnostic socket, when the voltage on the pin is greater than 2V, the corresponding status indicator will be lit, otherwise the status indicator will be off.

2.4 Pin Voltage Display Function

1. Connect the OBDII male to the OBDII diagnostic socket on the car, if the power supply voltage is normal and the ground wire connection is not faulty, the power LED on the host panel will light up green, and the status indicator of PIN16 pin (power pin) will be lit.

2. After the device is powered on, the pin will display the voltage on pin 16 (power pin) by default, if you need to read the voltage on other pins, you can press the select button. The voltage value of corresponding PIN will display very time you press it (PIN4 and PIN5 pins are ground wires, the voltage will not display). The pins display window values 1-16.

2.5 Programming Mode

Green LED light
Flashing/Solid

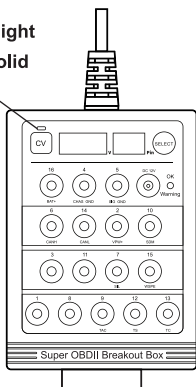


Figure 3

When the automotive ECU is programmed, a constant voltage is required to ensure the successful programming. Press the "CV (constant voltage)" button to generate a constant 13.5V voltage output to ensure the smooth completion of the automotive ECU programming.

Note: The green indicator will flash when the programming is initializing, the green indicator will be solid when CV mode enabled.

Note: The "CV (Constant Voltage)" button is only valid for 12V cars, not for 24V heavy trucks or diesel vehicles.

3. Warranty and Service

Hello! Thank you for purchasing our products, in order to better serve you, please read carefully and fill in correctly and save this warranty card.

Name			
Telephone			
E-mail			
Purchase Date		Product Model	
Order Number			
Shipping Address			
Maintenance Record	Date	Failure Causes and Solutions	

※ **Warranty Statement:**

If the product with any quality issues needs to repair, please send this warranty card together with the purchased product back to our company for aftersales service.

Manufacturer

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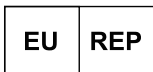
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