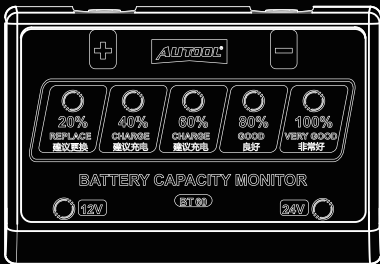


# **AUTOOL BT60** Battery Capacity Monitor User Manual



## **Precautions (Mandatory Compliance)**

To avoid harm to people and property, please must comply with the following rules.

### **Dangers :**

- No children are allowed to touch.
- Do not use damaged leads or connectors.
- No cutting or extending of leads and no exchanging of connectors.
- Do not use corroded cable connectors.
- Make sure the power cable is properly connected to the car battery cable connector.
- Not available except for 12v car batteries.

### **Warnings :**

- Follow the right order for installation.
- Make sure the main unit is fixed with double-sided tape.
- Do not wipe with a dry cloth.
- It can not be disassembled and modified.
- If there is a peculiar smell or deformation, please do not use it again.
- When installing the main unit with double-sided tape, the vent hole of the battery must not be blocked.

### **Precautions:**

- No water drops or other liquids on the surface.
- Wipe the liquid on the surface with a damp cloth.

### **Before use :**

Since it is divided into two stages to determine the voltage fluctuation during engine starting, the characteristics of the new battery need to be stored as a reference and compared to determine the pros and cons, which allows more accurate judgments to be made that match the vehicle type.

### **The functions of the car battery lifespan diagnose unit**

- Engine starting performance is displayed in 5 stages with LED indicators to inform you of battery status.
- The battery is detected to be discharged due to forgetting to turn off switches such as headlights and notifies you that it needs to be recharged.
- A failure of the vehicle's charging system is detected and you are notified that the vehicle needs to be inspected.

### **Precautions for using the car battery lifespan diagnose unit**

- Since this product needs to diagnose the status of the battery when starting the car engine, it needs to be installed and used on the battery with the car.
- This product determines the battery status at the time of engine starting, as well as determines the battery status at the time of engine stop. Please always use it together with the battery.
- This product consumes very little current and has almost no effect on the car battery even if it is kept always installed in the car.

### **Installation**

After confirming that the car battery is in normal condition, please install the product in the following order.

- After connecting the ⊕ cable connector to the “+” connector of the battery, insert the ⊕ side connector (red) of this product into the bolt of the ⊕ side cable connector from the side to firmly fix the nut.
- After connecting the ⊖ cable connector to the “-” connector of the battery, insert the ⊖ side connector (black) of this product into the bolt of the ⊖ side cable connector from

the side to firmly fix the nut. (It will automatically identify the type of 12V or 24V battery voltage and is displayed by LED )

- After this product is properly connected, it will detect the voltage of the battery and display the corresponding voltage value through 5 LEDs.

- Peel off the double-sided tape on the back of the product and stick it to the top of the battery.

- Start the engine and the LED will light up in accordance with the corresponding voltage value.

- The working mode of this product is to detect the battery voltage and display the corresponding voltage value by LED, which is kept for 3s. If it detects low voltage, the buzzer will beep three times and then enter sleep mode. After keeping it for 8s, it will switch to working mode again and the cycle repeats.(When a 12V battery is detected, the buzzer will beep three times if the voltage is below 10.5V; when a 24V battery is detected, the buzzer will beep three times if the voltage is below 21V)

#### ※**Cautions**

- This connector is of the anti-drop type, so there is some resistance to insertion.

\*Place the connector on the cable connector bolt and push slowly and firmly.

- If the battery is installed with a connector cover, be careful not to interfere with this connector cover when installing the product.

- Do not install it on the liquid port plug (vent) of the battery, as this may cause rupture.

- Install this product in a location where the liquid nozzle

can be removed.

- Before using double-sided adhesive tape to attach this product, please wipe off all dirt (oil, dust) from the adhesive surface with a cloth dampened with water.
- For vehicles with battery protection cover, please check the installation space before installation.
- If the battery installed outside the engine compartment has a battery protective cover, please install this product on the inside of it.
- If the wires are too long and may come in contact with moving parts such as valve covers or belt fans, keep the wires in a ball when installing to avoid contact with moving parts.
- As it is necessary to read data when the product is in use, please take care to leave a mounting space of about 1 cm around the product.
- When this product is installed in the battery of a car whose engine has stopped, please make sure to follow the vehicle maintenance manual completely, otherwise you will be responsible for the consequences.
- When this product is installed in a truck or other vehicle where the battery location can be seen from the outside of the vehicle, please install it in a place that is normally invisible from the outside of the vehicle, but it can be seen during the inspection.

## **How to interpret LEDs and how to deal with?**

### **How to interpret the engine start performance LED and how to deal with it**

Engine starting performance of the battery is divided into 5 levels to display by LED.

**※Cautions**

- The engine starting performance of the battery varies with factors such as temperature, and the starting performance at low temperatures is poor. Therefore, even if the battery decays to the same extent, it shows a poorer starting performance at low temperatures than at room temperature.

- Since this product diagnoses the engine starting performance of the battery based on the engine starting characteristics of the vehicle, this result may differ from that of a battery tester.

- If an external power supply is used to start the engine through the booster cable, the correct engine starting performance will not be displayed. (Usually, the engine starting will show the correct engine cranking performance.)

- If the motor is turned without stepping on the clutch while the manual vehicle is in gear, the correct engine starting performance will not be displayed. (Usually, the engine starting will show the correct engine cranking performance.)

**Reasons for buzzer warning and solutions**

- If the buzzer beeps, the battery performance LED will not light.

- If the buzzer beeps, there may be a problem with the vehicle's charging system. It is recommended that to have your vehicle checked.

- If the buzzer beeps: the vehicle's charging system is malfunctioning, or there is heavy discharge and the battery is undercharged. It is recommended that the vehicle be charged and checked.

- If the buzzer beeps: it's probably because you forgot to

turn off the lights or drive for a long time and the battery is badly discharged. Please charge the battery according to the instruction manual of the battery. (There is no problem even if you remove this product while charging. )

## **Maintenance/inspection**

### **Clean car battery lifespan diagnose unit**

- Wet the cloth with water, wring out, and wipe the dirt.
- Do not wipe with a dry cloth or other materials that may generate static electricity.
- Do not use volatile oil (petroleum), thinner, gasoline and other organic solvents as cleaning agents.

### **Installation inspection of Connectors**

- Make sure the connectors are secure.
- If it is loose, tighten the nut to secure it firmly.

## **Parameter**

Battery type	12V	24V
1#LED voltage value	10.5v~11.2v	21.0v~22.4v
2#LED voltage value	11.3v~12.0v	22.5v~24.0v
3#LED voltage value	12.1v~12.8v	24.1v~25.6v
4#LED voltage value	12.9v~13.5v	25.6v~27.0v
5#LED voltage value	>13.5v	>27.0v

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## Warranty

- Thank you for choosing our products, we will provide you with the following services and promises.
- The warranty period of this product is 1 year.
- After the warranty period expires, repairs will be charged for replacement parts.
- After the failure, please contact the manufacturer, we will give you the most complete service in the shortest time.

### **The following items are not covered by the warranty:**

- Vulnerable parts are not covered by the warranty, including: glass tube, signal siren, stickers, connectors, pressure gauge, oil outlet pipe.
- When no cleaning agent is added to the ultrasonic tank, turning on the ultrasonic cleaning switch will damage the ultrasonic system, which is not covered by the warranty.
- If the testing agent is not replaced in time after long-term use, the oil pump filter screen is blocked and the oil pump is burned out of the warranty.
- The use of fuel injector cleaning agent as fuel injector testing agent will cause the fuel pump to burn out, which is not covered by the warranty.
- Man-made faults are not covered by the warranty.

Disclaimer: All information, illustrations, and specifications contained in this manual, AUTOOL reserves the right of

modify this manual and the machine itself with no prior notice. The physical appearance and color may differ from what is shown in the manual, please refer to the actual product. Every effort has been made to make all descriptions in the book accurate, but inevitably there are still inaccuracies, if in doubt, please contact your dealer or AUTOOL after-service centre, we are not responsible for any consequences arising from misunderstandings.

# **AUTOOL®**

## 深圳市偶然科技有限公司

广东省深圳市宝安区北八路航城锦驰产业园

📍 Shenhua Innovation Park, Baoan, Shenzhen, China

🌐 [www.autooltech.com](http://www.autooltech.com)

✉ [aftersale@autooltech.com](mailto:aftersale@autooltech.com)

☎ +86-400 032 0988 / +86-755-27807580



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