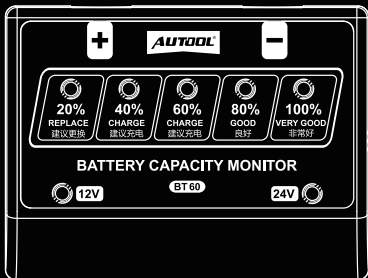


AUTOOL BT60

Battery Capacity Monitor

User Manual





深圳市偶然科技有限公司

广东省深圳市宝安区航城锦驰产业园

@ Hangcheng Jinchi Industrial Park, Bao'an, Shenzhen, China

🌐 www.autooltech.com

✉ aftersale@autooltech.com

☎ +86-755-2330 4822 / +86-400 032 0988



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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.
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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.
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Precautions

- No water drops or other liquids on the surface.
 - Wipe the liquid on the surface with a damp cloth.
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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.
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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 1cm 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)
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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.
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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	10.5~11.2V	21.0~22.4V
2#LED voltage value	11.3~12.0V	22.5~24.0V
3#LED voltage value	12.1~12.8V	24.1~25.6V
4#LED voltage value	12.9~13.5V	25.6~27.0V
5#LED voltage value	>13.5V	>27.0V

MAINTENANCE SERVICE

- Our products are made of long-lasting and durable materials, and we insist on perfect production process. Each product leaves the factory after 35 procedures and 12 times of testing and inspection work, which ensures that each product has excellent quality and performance.
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To maintain the performance and appearance of the product, it is recommended that the following product care guidelines be read carefully:

- Be careful not to rub the product against rough surfaces or wear the product, especially the sheet metal housing.
- Please regularly check the product parts that need to be tightened and connected. If found loose, please tighten it in time to ensure the safe operation of the equipment. The external and internal parts of the equipment in contact with various chemical media should be frequently treated with anti-corrosion treatment such as rust removal and painting to improve the corrosion resistance of the equipment and extend its service life.
- Comply with the safe operating procedures and do not overload the equipment. The safety guards of the products are complete and reliable.
- Unsafe factors are to be eliminated in time. The circuit part should be checked thoroughly and the aging wires should be replaced in time.
- Regularly clean and replace consumable parts such as oil pump and oil filter; adjust the clearance of various parts and replace worn (broken) parts. Avoid contact with corrosive liquids.

- When not in use, please store the product in a dry place. Do not store the product in hot, humid, or non-ventilated places.

WARRANTY

- From the date of receipt, we provide a three-year warranty for the main unit and all the accessories included are covered by a one-year warranty.

Warranty access

- The repair or replacement of products is determined by the actual breakdown situation of product.
- It is guaranteed that AUTOOL will use brand new component, accessory or device in terms of repair or replacement.
- If the product fails within 90 days after the customer receives it, the buyer should provide both video and picture, and we will bear the shipping cost and provide the accessories for the customer to replace it free of charge. While the product is received for more than 90 days, the customer will bear the appropriate cost and we will provide the parts to the customer for replacement free of charge.

These conditions below shall not be in warranty range

- The product is not purchased through official or authorized channels.
- The product breakdown because the user does not follow product instructions to use or maintain the product.

We AUTOOL pride ourselves on superb design and excellent service. It would be our pleasure to provide you with any further support or services.

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.
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RETURN & EXCHANGE SERVICE

Return & Exchange

- If you are an AUTOOL user and are not satisfied with the AUTOOL products purchased from the online authorized shopping platform and offline authorized dealers, you can return the products within seven days from the date of receipt; or you may exchange it for another product of the same value within 30 days from the date of delivery.
- Returned and exchanged products must be in fully saleable condition with documentation of the relevant bill of sale, all relevant accessories and original packaging.
- AUTOOL will inspect the returned items to ensure that they are in good condition and eligible. Any item that does not pass inspection will be returned to you and you will not receive a refund for the item.
- You can exchange the product through the customer service center or AUTOOL authorized distributors; the policy of

return and exchange is to return the product from where it was purchased. If there are difficulties or problems with your return or exchange, please contact AUTOOL Customer Service.

China	400-032-0988
Oversea Zone	+86 0755 23304822
E-mail	aftersale@autooltech.com
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