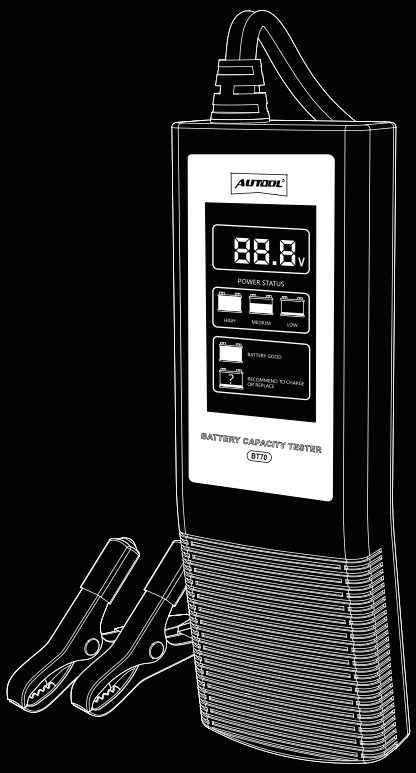
AUTOOL BT70

Battery Capacity Tester

User Manual



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Brief Introduction

The BT70 is a battery tester tool for testing the performance of start-up lead-acid batteries. The device uses a large-screen LCD display, and the test process and results can be displayed through sound alarms and icons. The internal protection of the device has been strengthened to prevent it from reverse polarity connection, high voltage access and poor test clamp contact, which ensure more security and convenience in the operation.

Safety rules and precautions

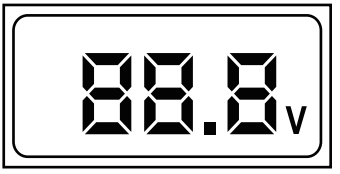
This manual includes instructions for using the instrument and warnings for safe operation and how to maintain it. Please use the battery tester device strictly according to the manual. This device strictly complies with GB4793. l Safety requirements for electronic measuring instruments and IEC/EN61010-1 safety standards for design and production.

- This product is suitable for the detection of 12V and 24V car batteries.
- The working voltage range is 8 volts to 30 volts with direct current (DC).
- When the battery is in just fully charged state, the voltage will be slightly higher than the normal value. Please turn on the headlights for 2~3 minutes and wait for the voltage to drop back to normal before testing.
- Before use, check whether the insulating layer of the test clamps is intact, damaged, exposed, or disconnected. It is strictly prohibited to use the back cover before it is closed, otherwise, there is a danger of electric shock.
- Do not use or store the device in harsh environments such as high temperature, high humidity, flammable, explosive, and strong electromagnetic fields.
- Do not change the internal wiring of the device at will to avoid damage to the meter.
- If the car engine is running, do not put the equipment and accessories next to the engine or exhaust pipe to avoid damage by high temperature.

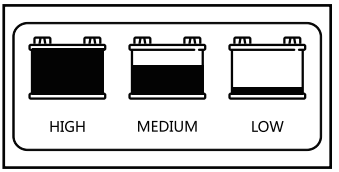
Product icons and Description

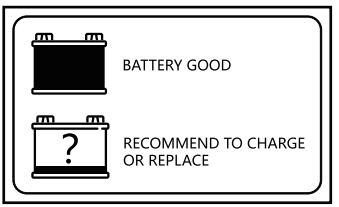
Description of icons and test clamps:

- Voltage display:



- Battery status: high, medium, low ;





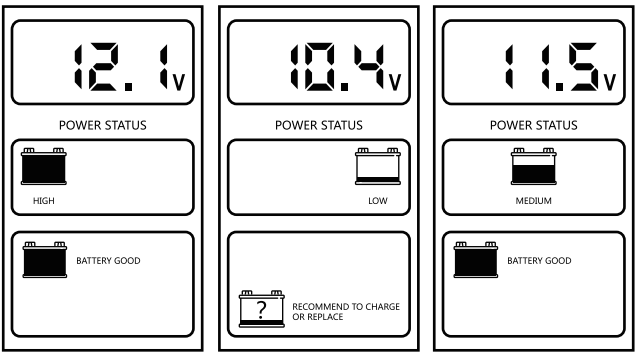
Determined Recommendation by status: good, charge or replace

Red test clamp: Positive wiring test clamp;
Black test clamp: Negative wiring test clamp.

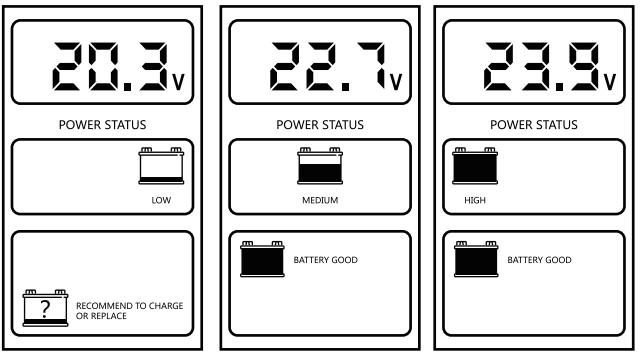
Function instructions

The voltage detector has two modes: 12v/24v. After the device is powered on, it will automatically identify the 12v or 24v battery voltage type and display the measured voltage and battery status on the LCD screen.

Example display of 12V battery :



Example display of 24V battery :



Installation instruction

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

- Simply connect the red clamp to the positive of the battery, and the black clamp to the negative of the battery, then the battery tester device is connected with the car battery. Pay attention to ensure good contact, so as not to affect the test results.
- After the connection is completed, the battery tester will automatically detect and identify the 12v or 24v battery voltage type, and its voltage value and battery status will be displayed on the LCD screen.
- The principle process of this product is:

After power on, the buzzer will beep once, and the 12v/24v battery will be automatically detected and displayed. The indicator lamp lights up one after another and the voltage is detected after three cycles of operation, and the battery status is judged. After the test is completed, the buzzer beeps once, and the LCD screen displays the voltage value and battery status.

※**Precautions**※

- If the voltage reading is greater than 15.0V (for a 24V system, the reading is greater than 30.0V), please check if there is a problem with the voltage regulator.
- If the voltage reading is less than 13.3V (for a 24V system, the reading is less than 26.6V), please check the connection, wires, and generators.
- If the voltage reading is less than 12.8V (for a 24V system, the reading is less than 25.6 V), please check whether the generator belt is worn out and the

wires are short-circuited.

※**Precautions**※

- 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.)

※**Precautions**※

- When the battery voltage is detected as low voltage, the buzzer will beep five times, wait for three seconds and then cycle, then the “CHARGE” or "REPLACE" icon will light up.
- When the battery voltage is detected as medium voltage or high voltage, the “BATTERY GOOD” icon lights up.

Maintenance/inspection

⑴ 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.

⑵ Installation inspection of connectors

- Make sure the test clamps are well-connected.
- If it is loose,the test clamp needs to be reconnected and fixed.

Parameter

Battery type	12V	24V
Low voltage	≦10.5v	≦21.0v
Medium voltage	10.6v~11.8v	21.1v~23.7v
High voltage	≧11.9v	≧23.8v

Copyright Information

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 sire, 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 resumes 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.

1.概述

BT70系列蓄电池检测仪为启动型铅酸蓄电池性能检测工具。
仪器采用大屏液晶显示，测试过程及结果可以通过声音报警和图标显示。
内部使用精确电路和强大数字处理单元。
仪器内部加强了防护，做到防止极性接反，防止电压接入过高，防止测试钳接触不良等，以保证在使用过程中更加安全方便。

2.安全规则及注意事项

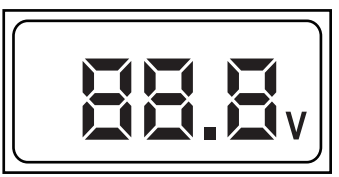
本手册包括使用仪表说明和安全操作警告及如何保养。不按手册说明使用仪表可能造成损坏。本仪表严格遵循GB4793.1电子测量仪器安全要求以及IEC/EN61010-1安全标准进行设计和生产。

- 本产品适用于12伏特及24伏特汽车蓄电池的检测。
- 工作电压范围与直流（DC）8伏特~ 30伏特。
- 电瓶于刚充饱状态电压会略高于正常值，请开启大灯2~3分钟，待电压降回正常值再行测量。
- 使用前应检查测试夹钳绝缘层完好，无破损、裸露及断线。后盖没有盖好前严禁使用，否则有电击的危险。
- 不要在高温、高湿、易燃、易爆和强电磁场中使用和存放仪表。
- 请勿随意改变仪表内部线路，以免损坏仪表和安全。
- 在测试或修理汽车时要戴合格的眼罩以防止引擎带起异物飞入眼睛。
- 请在通风良好的环境下运行及维修汽车，以防吸入有毒的气体。
- 如汽车引擎在运转，不要将仪表及配件放在引擎或排气管旁以免被高温损坏。
- 在维修汽车的时候，请严格遵守汽车维修手册上的相关规定。

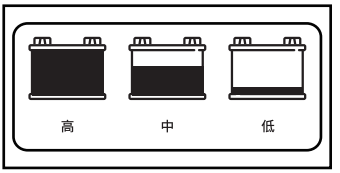
3.产品图标及说明

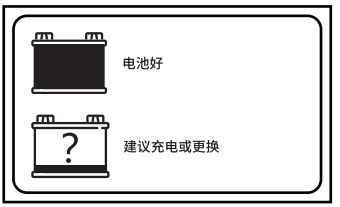
图标及测试钳功能介绍：

- 电压值显示



- 电池状态：高，中，低；





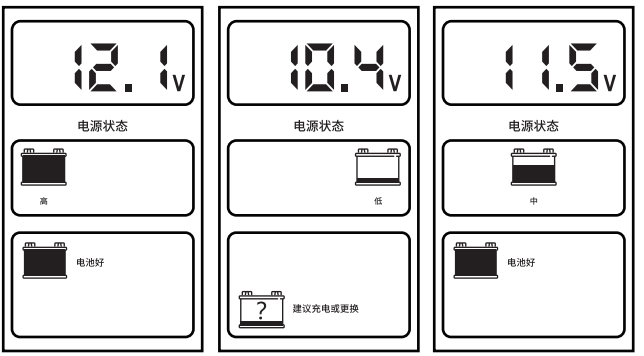
状态判定，好，充电或更换。

红色测试钳：正极接线测试夹；
黑色测试钳：负极接线测试夹。

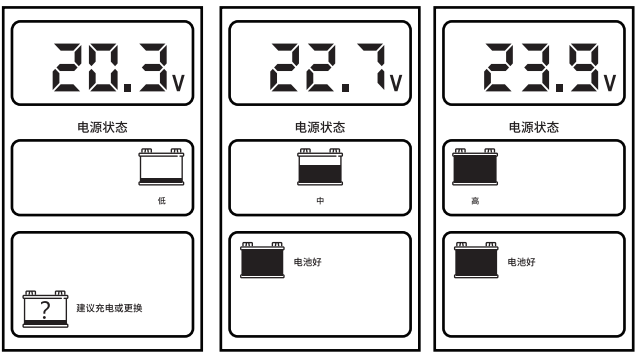
4.功能使用说明

电压检测仪有二种模式：12v/24v，设备通电开机后，自动识别12v or 24v蓄电池电压类型，并将检测后测量的电压值和电池状态显示在LCD屏上。

12V蓄电池状态显示示例：



24V蓄电池状态显示示例：



5.安装方式

确认汽车蓄电池状态正常后，请按以下顺序安装。

● 按红色测试钳接蓄电池正极，黑色测试钳接蓄电池负极（将点烟器线接头插入车辆的点烟器接口），接好仪器。注意必须良好接触，以免影响测试结果。

● 本产品连接完成后，蓄电池电压检测自动识别12v or 24v蓄电池电压类型，电压值和电池状态通过LCD屏显示。

● 本产品运行流程：通电后，蜂鸣器鸣叫一声，自动检测12v/24v电池并显示，跑马灯运行三圈后检测出电压，判断出电池状态，检测完成后蜂鸣器鸣叫一声，LCD屏显示出电压值和电池状态。

※注意事项※

● 如果电压读数大于15.0V (对于24V系统， 读数大于30.0V),请检查调压器。

● 如果电压读数小于13.3V (对于24V系统， 读数小于26.6V),请检查连接点，电线和发电机。

● 如果电压读数小于12.8V (对于24V系统，读数小于25.6 V),请检查发电机皮带是否磨损不堪使用，电线是否有短路。

※注意事项※

● 电池的发动机启动性能随温度等因素而变化，并且在低温下启动性能较低。因此，即使电池的衰减程度相同，也显示出低温下的启动性能低于常温下的启动性能。

● 由于本产品根据车辆的发动机启动特性来判断电池的发动机启动性能，因此该判断可能与蓄电池检测仪的判断有所不同。

● 如果使用外部电源通过增压电缆启动发动机，则不会显示正确的发动机启动性能。（通常，发动机启动会显示正确的发动机启动性能。）
● 如果在手动车挂入档位的情况下，不踩离合器而转动马达，则不会显示正确的发动机启动性能。（通常，发动机启动会显示正确的发动机启动性能）

※注意事项※

● 当蓄电池电压检测为低电压图标亮起时，蜂鸣器鸣叫五声，等待三秒后循环；充电或更换图标亮起。
● 当蓄电池电压检测为中电压或高电压图标亮起时，电池良好图标亮起。

保养与检查

⑴ 清洁汽车电池寿命判断单元
● 用水将布弄湿，拧干，然后擦拭。
● 请勿用干布或其他可能产生静电的材料擦拭。
● 请勿使用挥发油（石油），稀释剂，汽油等有机溶剂作为清洁剂使用。

⑵ 接头安装情况检查
● 确保测试钳的连接没有松动。
● 如果松动，需重新将测试钳连接固定好。

参数列表

电池类型	12V	24V
低电压	≦10.5v	≦21.0v
中电压	10.6v~11.8v	21.1v~23.7v
高电压	≧11.9v	≧23.8v

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