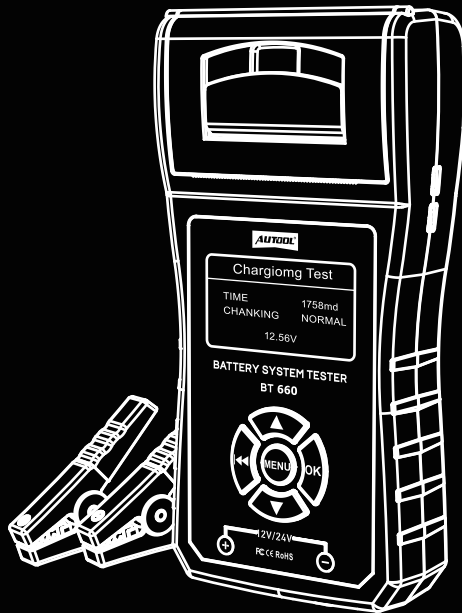


AUTOOL BT660

Battery System Tester

User Manual





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CAUTIONS

Warning



Before using the instrument, please read this manual carefully for proper operation.

- ▶ Non-technical person shall not change, disassemble or repair the product, otherwise all losses caused by this shall be borne by the user himself.
- ▶ Please do not scratch, bend, twist or stretch the wires.
- ▶ Do not place the wires in high temperature.
- ▶ Do not press hard or decompose the accessories.
- ▶ Please do not place nails, pins, and other small debris on the charging port, in order to avoid damaging the charging connector.
- ▶ Do not place the product in unstable place such as high altitude area, slope, or shelf.
- ▶ This product is powered by electricity and should not be used as a toy for children.
- ▶ To avoid short circuit, do not immerse the product in water or other liquid.
- ▶ Please try to use the power supply and power cord supplied by manufacturer as standard.
- ▶ Please do not expose this product to strong light or high temperature when it's not at use.

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PRODUCT INTRODUCTION

Overview

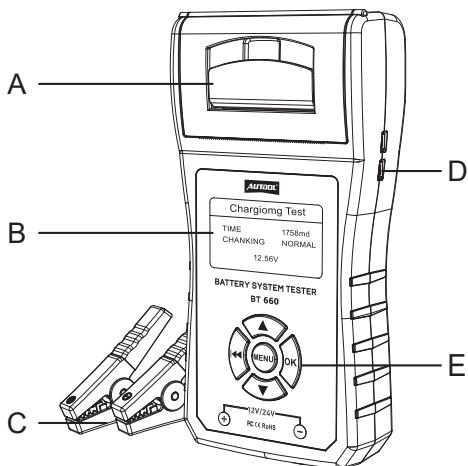
The Battery Conductance Tester BT-660 currently adopts the world's most advanced conductance testing technology to easily, quickly and accurately measure the actual cold cranking amps capability of the vehicle starting battery, healthy state of the battery itself, and common fault of the vehicle starting system and charging system, which can help maintenance personnel to find the problem quickly and accurately, thus to achieve quick vehicle repair.

Product specification

Application	12V automotive cranking lead acid battery and 12V/24V car system test	
Measure Range	CCA	100-3000
	BCA	100-3000
	CA	100-3000
	MCA	100-3000
	JIS	26A17-245H52
	DIN	100-2500
	IEC	100-2500
	EN	100-2500
	SAE	100-3000
	GB	30AH-220AH
Working Environment Temp	-12°C ~ 50°C	
Special Test Clip	Double conductance Kelvin clamp	
Housing Material	Acid-resistant ABS plastic	
Measure Range	30AH~200AH	
Voltage Measure Range	8~30V	

PRODUCT STRUCTURE

Structure diagram



A	Printing port	B	LCD screen
C	Clamps	D	USB port
E	Function button		

OPERATIONS INSTRUCTION

- How to use**
- Connect the red test clamp with battery anode and the black one with cathode, the tester will power on automatically. Voltage battery below 7.0V can't be tested properly, then press OK key to continue.
 - According to the tester, you can press UP / DOWN key to choose:
 - (1) Battery Test
 - (2) Cranking Test
 - (3) Charging Test
 - (4) Review Data
 - (5) Print Data
 - (6) Export Data to Computer
-

**(1)
Battery
Test**

Select the battery test and press OK key to continue:

- Battery Type: select your battery type, usually is "Regular Flood"
- Input testing standard: the standard which you can see the front of the battery, such as CCA / BCI / DIN. If you can't find any info about the standard, you can choose GB standard. Choose GB standards would lead little tolerance.
- Input rated capacity, you can see the starting current standards in front of the battery. Such as BCI / 300A.
- Then press OK key to start testing.

 **NOTE**

- ▶ For power loss battery (such as a vehicle for a long time on hold, the battery is not charged in time; forget to close the lights, the doors resulting in serious loss of battery electric vehicle and can not be started, etc.), in the actual testing process may also be prompted to "Please replace the battery", for such batteries, please consult the battery manufacturers, and then tested.
-

(2)
Cranking
Test

Following

Charging Test
START ENGINE

- Starting the engine as prompted, tester will automatically complete the cranking test and display the result.

Charging Test
RPM DETECTRD

- Normally, cranking voltage value lower than 9.6V is regarded as abnormal and it is OK if it is higher than 9.6V.
- Test result of the tester includes actual cranking voltage and actual cranking time.

Charging Test
TIME 1758 ms
CHANKING NORMAL
12.56V

- When cranking test is abnormal, battery test result will also be displayed at the same time.

Charging Test	
TIME	1020 ms
CHANKING	Low
19.12V	

- This is for the convenience of the maintenance personnel to quickly know the whole state of the starting system according to the data.

**(3)
Charging
Test**

When enter the charging test, tester will prompt "Loaded testing".

⚠ NOTE

- ▶ Do not shut down the engine during the test. All electrical appliance and device are in OFF state. Turn on/off any electrical appliance in the vehicle during the test will affect the accuracy of the test result.
- Operate accordingly to increase the engine rotating speed to 2500turns, and keep for 5 seconds.

Charging Test
Increase RPM to 2500 r/min and keep it 5 seconds. Press ENTER to continue.

- Tester starts the charging volt test after increase rev detected.

Charging Test	
TESTING ***	

- After the test finished, tester displays the effective, charging, volts, tipple test result and charging test result.

Charging Test	
Loaded	13.97V
Unloaded	14.23V
Ripple	15 mV
CHARGING NORMAL	

 **NOTE**

- ▶ If no increase rev detected, it shall be the fault of generator regulator or connection with battery failed. Tester will try 3 times to further detect, if still failed, it will skip the increase rev detect and the test result displays "No Volt Output".

- Check the connection between generator and battery, then retest.

Charging Test Result

- **Charging Volt: Normal.** The generator output normal, no problem detected.
- **Charging Volt: Low.** Check drive belt of the generator whether slip or running off. Check the connection between generator and battery is normal or not. If both of the drive belt and the connection are in good condition, follow the manufacturer's suggestion to eliminate generator fault.
- **Charging Volt: Hight.** Since most of the vehicle generators

are using internal regulator, the generator assembly has to be replaced. (Some old style cars are using external regulator, then directly replace the regulator.) The normal high volt of the voltage regulator is maximum $14.7 \pm 0.5V$. If charging volt is too high, it will overcharge the battery. Therefore, the battery life will be shortened and troubles will be caused.

- **No Volt Output:** No generator volt output is detected. Check the generator connection cable, the drive belt of generator and engine whether normal or not.
- **Diode Test:** Through the test of charging current ripple, tester will find out whether the diode is normal or not. When ripple volt is too high, it proves at least one diode is damaged. Check and replace the diode.

(4)
Review Data

- After entering the forth function, then press OK key you can view the final test result.

(5)
Print Data

- About printing function, please contact with customer service.

(6)
Export Data

- Contact this battery tester to computer with data line, you can download the print software from our web at www.autooltech.com If any questions, please contact us.

Additional function

Press "Menu" to enter additional function:

- **Language**
Support Multi-languages, such as English, French, Spanish etc, details please check the package and the listing.
- **Time adjustment**
Adjust system time.

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.

Maintenance 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.
- 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 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.

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.

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