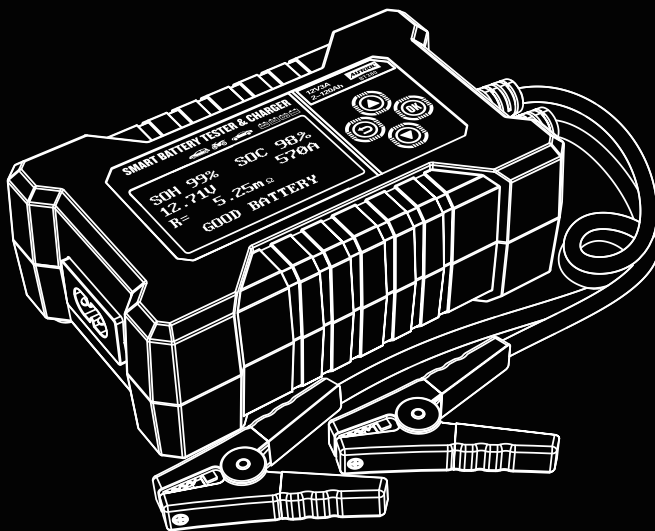


# AUTOOL BT380

Battery System Tester

User Manual





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## ATTENTION

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### Warning



To prevent personal injury or damage to vehicles and the test tool, read this instruction manual first and observe the following safety precautions at a minimum whenever working on a vehicle:

- ▶ 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 on-board charging adapter.
- ▶ 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 SUMMARY

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### Product profile

BT380 Battery Tester adopts currently 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.

- Test all automotive cranking lead acid battery, including ordinary lead acid battery, AGM flat plate battery, AGM spiral battery, and Gel battery, etc.
- Directly detect bad cell battery.
- Polarity reverse connection protection, reverse connection will not damage the tester or affect the vehicle and battery.
- Directly test the battery with power shortage, no need to fully charge it before testing.
- Testing standards include currently the world's majority of battery standards, CCA, JIS, DIN, IEC, EN, SAE, GB.
- Support multi-languages, customer can select different language package, which includes: English, Russian, Spanish, French, German, etc. Other customized language version are also provided.

## PRODUCT FUNCTION

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**Functional interpretation** Main functions of BT380 battery tester include: battery charging, battery test, cranking test, charging test and other additional functions.

- **Battery charging** is can support 12V lead-acid battery fast charging.
- **Battery test** is mainly targeted to analyze the battery healthy status to calculate the actual cold cranking capability of the battery and the aging extent, which provide reliable analysis evidence for the test and maintenance of the battery. It notifies the user to replace battery in advance when the battery getting aged.
- **Cranking test** is mainly to test and analyze the starting motor. Through testing the actual required cranking current and cranking voltage of the starting motor, it can find out whether the starting motor works fine. There are several reasons why the starting motor is abnormal: lubricating system fault causing the starting loaded torque increasing or rotor friction of the starting motor causing the increasing friction of the starting motor itself.
- **Charging test** is to check and analyze the charging system, including generator, rectifier, rectifier diode, etc., thus to find out whether the output voltage of the generator is normal, the rectifier diode works fine and the charging current is normal. Suppose one of the above mentioned parts is not in normal situation, it will lead to over charge or incomplete charge of the battery, thus the battery will be quickly damaged and also greatly shorten the using life of other loaded electrical appliance.
- **Additional functions include:** Set language, voltmeter and screen brightness adjustment.

## TECHNICAL PARAMETERS

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**Measure range**

Cold Cranking Amps Measure Range	
Measure Standard	Measure Range
CCA	<b>40-2400</b>
JIS	<b>26A17--245H52</b>
DIN	<b>40-2200</b>
IEC	<b>40-2200</b>
EN	<b>40-2400</b>
SAE	<b>40-2400</b>
GB	<b>3-220AH</b>
BCI	<b>40-2400</b>
MCA	<b>40-2400</b>
CA	<b>40-2400</b>

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## WORKING ENVIRONMENT REQUIREMENT

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**Ambient temperature requirements**

**Working Environment Temp: -20°C-50°C.**

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**Scope of application**

**It is applicable for:**

- Automotive manufacturers,
- Automotive maintenance and repair workshops,
- Automotive battery factories,
- Automotive battery distributors,
- Educational organizations, etc.

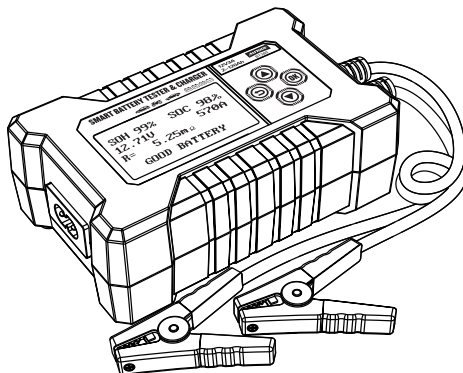


## TESTER STRUCTURE

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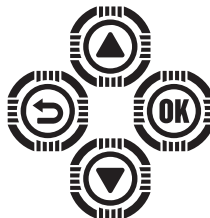
### Structure and Composition

- BT380 mainly consists of battery tester main unit and testing cables.
- BT380 battery tester main unit cover is made of ABS acid-resistant plastic.



### Key description

- **Up / Down key**  
Select upwards or downwards via white UP and DOWN keys.
- **Return key**  
Return to previous menu via RETURN key.
- **OK key**  
Confirm the selection via OK key.



## OPERATION

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### Select language

- Press UP/DOWN key to select the Language, Include English, French, German, Spanish,etc.

**SELECT LANGUAGE**

**ENGLISH**

### Battery charging

- After entering the battery charging program, the tester will display the tester's voltage, current, charging power, and charging time.

VOLTAGE: 12.5V

AMPERE: 0.0A

CHARGED: 90%

REMAIN: 1H

### Battery tester

- After entering the battery test program, the tester will display the battery type and battery standard etc.

Battery Type

1. Regular Flooded  
2. AGM Flat Plate  
3. AGM Spiral  
4. GEL  
5. EFN

Select Input

CCA

Setting Rate

500A CCA

TESTING

\*\*\*

**Battery test result**

Battery test result includes 5 types as following:

**1) Good Battery**

SOH:96%	SOC:98%
12.64V	490A
Rating	500A
<b>GOOD BATTERY</b>	

- The battery is without any problem, please be relaxed to use!

**⚠ NOTE:**

- ▶ **SOH** means State of Health; **SOC** means State of Charge.

**2) Good, Recharge**

SOH:78%	SOC:30%
12.20V	440A
Rating	500A
<b>GOOD, RECHARGE</b>	

- Good battery but low current, recharge before using.

**3) Replace**

SOH:46%	SOC:80%
12.68V	340A
Rating	500A
<b>REPLACE</b>	

- The battery nearly or already reached the end of the using life, replace battery, otherwise, bigger danger will be followed.

**4) Bad Cell, Replace**

SOH:0%	SOC:20%
10.60V	0A
Rating	500A
BAD CELL, REPLACE	

- Battery interior damaged, broken cell or short circuit, replace battery.

**5) Charge, Retest**

SOH:39%	SOC:20%
12.08V	310A
Rating	500A
CHARGE-RETEST	

- Unstable battery shall be recharged and retested to avoid error. If same test result appears after recharge and retest, the battery is regarded as damaged, replace the battery.

**Cranking test**

- Tester prompts as following:

<b>CRANKING TEST</b>
<b>START ENGINE</b>

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

**RPM DETECTED**

- 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.

TIMES	780ms
CRANKING	NORMAL
	10.13V

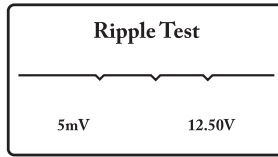
- When cranking test is abnormal, battery test result will also be displayed at the same time.

TIMES	1020ms
CRANKING	LOW
REPLACE	9.12V

- This is for the convenience of the maintenance personnel to quickly know the whole state of the starting system according to the data.
- After testing finished, do not shut down the engine, press OK key to enter Charging Test.

**Charging test**

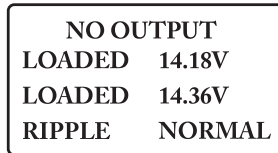
- When enter the charging test, tester will prompt "Ripple Test" .



- Tester will do the following tests in a sequence:
- Operate accordingly to increase the engine rotating speed to 2500 turns or above, and keep for 5 seconds.
- Tester starts the charging voltage test after increase rotation detected.



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



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

## MAINTENANCE SERVICE

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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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**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.
- 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

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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.

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### 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.

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

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### 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.



## RETURN & EXCHANGE SERVICE

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### 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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