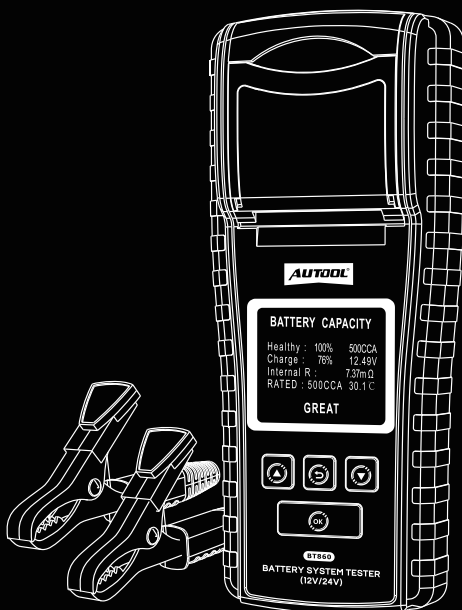


AUTOOL BT860

Battery System Tester

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 Jinchí Industrial Park, Bao'an, Shenzhen, China

🌐 www.autooltech.com

✉ aftersale@autooltech.com

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

企业标准 / Corporate standard: Q/OR 003-2023



COPYRIGHT INFORMATION

Copyright

- All rights reserved by AUTOOL TECH. CO., LTD. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of AUTOOL. The information contained herein is designed only for the use of this unit. AUTOOL is not responsible for any use of this information as applied to other units.
 - Neither AUTOOL nor its affiliates shall be liable to the purchaser of this unit or third parties for damages, losses, costs, or expenses incurred by the purchaser or third parties as a result of: accident, misuse, or abuse of this unit, or unauthorized modifications, repairs, or alterations to this unit, or failure to strictly comply with AUTOOL operating and maintenance instructions.
 - AUTOOL shall not be liable for any damages or problems arising from the use of any options or any consumable products other than those designated as original AUTOOL products or AUTOOL approved products by AUTOOL.
 - Other product names used herein are for identification purposes only and may be trademarks of their respective owners. AUTOOL disclaims any and all rights in those marks.
-

Trademark

Manual are either trademarks, registered trademarks, service marks, domain names, logos, company names or are otherwise the property of AUTOOL or its affiliates. In countries where any of the AUTOOL trademarks, service marks, domain names, logos and company names are not registered, AUTOOL claims other rights associated with unregistered trademarks, service marks, domain names, logos, and company names. Other products or company names referred to in this manual may be trademarks of their respective owners. You may not use any trademark, service mark, domain name, logo, or company name of AUTOOL or any third party without permission from the owner of the applicable trademark, service mark, domain name, logo, or company name. You may contact AUTOOL by visiting AUTOOL at <https://www.autooltech.com>, or writing to aftersale@autooltech.com, to request written permission to use materials on this manual for purposes or for all other questions relating to this manual.

CAUTIONS

Safety precautions



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

- ▶ The tester is suitable for both 12V and 24V vehicle batteries. The tester is suitable for operation at voltages ranging from 9V to 35V direct current (DC).
- ▶ If the battery is just fully charged, the voltage will be slightly higher than normal. Therefore, please turn on the headlights for 2-3 minutes and wait until the voltage drops back to normal. Then turn off the vehicle appliances and proceed the test.
- ▶ Before use, check that the test fixture insulation is intact, or that there are exposed and broken wires. Do not use until the back cover is closed, otherwise there is a risk of electric shock.
- ▶ Do not use and store the instrument in high temperatures, high humidity, flammable, explosive and strong electromagnetic fields.
- ▶ Do not change the internal wiring of the instrument to avoid damage to the instrument and other safety hazards.
- ▶ Wear qualified eyewear when testing or repairing the car to prevent unknown objects from flying into your eyes when the engine is started.
- ▶ Please run and maintain the car in a well-ventilated environment to prevent inhalation of toxic gases.
- ▶ If the car's engine is running, do not place the instruments and accessories next to the engine or exhaust pipe as they may be damaged by high temperature.

TABLE OF CONTENTS

Product Introduction	2
Overview	2
Product specification	2
Product features	2
Product Structure	4
Structure diagram	4
Operations Instruction	5
Function instructions	5
Battery capacity	6
Cranking test	8
Charge system	9
Data report print	10
Data review	11
Maintenance Service	13
Maintenance	13
Warranty	14
Warranty access	14
Disclaimer	14
Return & Exchange Service	15
Return & Exchange	15

PRODUCT INTRODUCTION

Overview

This is an automotive battery tester with real time temperature monitoring, which is able to determine the exact degree of influence of temperature on the battery performance.

The instrument adopts advanced conductivity testing technology, which can easily, quickly and accurately test the battery performance of cranking ability, cranking load, maximum load and charging system of the car battery. It is convenient for the maintenance personnel to quickly repair the car.

Product specifications

Measuring voltage range	12V~24V	
Outer material	Acid-resistant ABS plastic	
Measurement standard and measurement range	CCA	100~2000
	IEC	100~1400
	BCI	100~2000
	EN	100~2000
	CA	100~2000
	DIN	100~1400
	MCA	100~2000
	SAE	100~2000
	JIS	26A17-245H52
	GB	100~1400(100~2000 CCA)
Temperature	-12~50°C	
Dimensions	270x100x50mm	

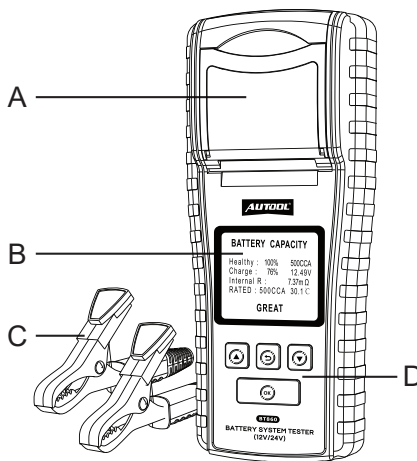
Product features

- With real time temperature monitoring, This is able to determine the exact degree of influence of temperature on the battery performance;
- Anti-reverse connection and high voltage protection prevent the user from damaging the instrument in the event of mis-operation;

- Real-time time display and supports for 10 languages;
- With data storage, previously measured data can be reviewed at any time;
- 3.2-inch HD display;
- Test standards are in line with most battery standards in the world.

PRODUCT STRUCTURE

Structure diagram



A	Print tray	B	HD display screen
C	Test clamps	D	Operation buttons

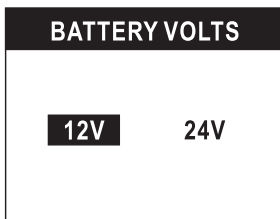
Introduction of Operation buttons and test clamp functions

- **<▲> <▼>:**
UP; DOWN; Page up and down buttons;
- **<Return>:**
To cancel, undo, and the return key.
- **<OK>:**
Confirm the selection, enter, test button.
- **Red test clamp:**
Use to connect the positive pole.
- **Black test clamp:**
Use to connect the negative pole.

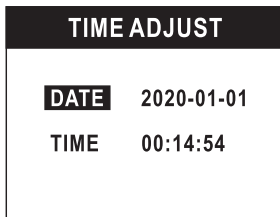
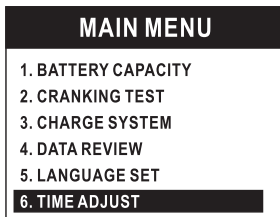
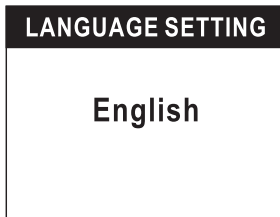
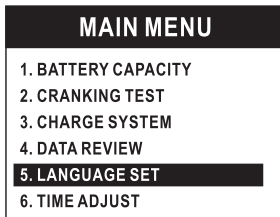
OPERATIONS INSTRUCTION

Function instructions

- The tester is powered only by the vehicle battery. Clamp the red and black clips of the tester to the positive (+) and negative (-) terminals of the battery safely and securely respectively. It is recommended to clip the red clamp first, then the black clamp, until the screen shows the following picture, the tester is in operation.



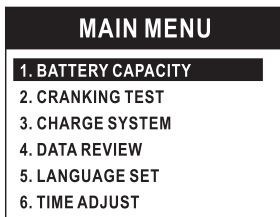
- If the tester indicates poor connection, recheck that if the clamp connection is completely secure. Then proceed to the test program to select the appropriate language and adjust the system time.



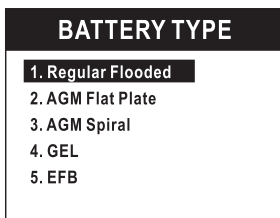
Battery capacity

The tester will test the cranking capacity of the batteries and will determine the condition of the batteries based on the rated cranking capacity marked on each battery.

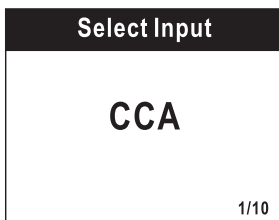
- Please make sure the engine and all electrical equipment on the vehicle is shut down before testing. If the battery is just fully charged, the voltage will be slightly higher than normal. Therefore, please turn on the headlights for 2-3 minutes and wait until the voltage drops back to normal. Then turn off the vehicle appliances and proceed the test.
- Select “Main Menu” in the item, press <▲> <▼> key to select “BATTERY CAPACITY” item, then press <OK> key to enter.



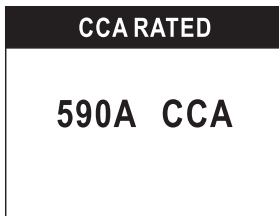
- According to your actual battery type, press the <▲> <▼> key to select the right “Battery Type”, and press the <OK> key to proceed to the next step.



- According to the standard type of cranking current marked on the battery body, press the <▲> <▼> key to “Select Input” the right rated starting type, and press the <OK> key to proceed to the next step.



- According to the rated cranking current value marked on the battery body, press the <▲> <▼> key to adjust the standard value of "CCA RATED", and press the <OK> key to enter the test.



- When the test is complete, the tester screen will display the following test results, like this.

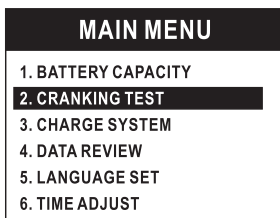
BATTERY CAPACITY		
Healthy:	100 %	378 CCA
Charge:	49 %	12.29V
Internal R:		7.38mΩ
RATED:	590 CCA	27.1°C
GREAT RECHARGE		

- Test results are automatically saved for review. At this time, you can also press <OK> to enter the "Print Report" interface to print the test results or press <Return> directly to the "Main Menu" interface.

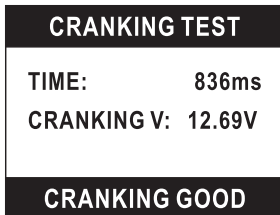
Life span	Test result	Note
>80%	Good	Battery's in good condition.
>60%	Average	Battery's condition is acceptable.
>45%	Alert	Battery life is approaching and be careful.
>45%	Replace	The battery life has expired, please replace.

Cranking test The tester will measure the voltage and discharge speed during the cranking process to determine the starting condition of the car.

- Make sure that the engine and all electrical appliances on the vehicle are turned off before testing.
- Select “Main Menu”, press the <▲> <▼> keys to select the “CRANKING TEST” item, and press the <OK> key to enter.



- Follow the steps on the tester screen, along with the actual operation of the vehicle, to complete the testing process.



- Test results are automatically saved for review. At this time, you can also press <OK> to enter the “Print Report” interface to print the test results or press <Return> directly to the “Main Menu” interface.
- If the minimum voltage reading is greater than 9.6V (greater than 16V relative to a 24V system), the cranking system is good.
- If the minimum voltage reading is lower than 9.6V (lower than 16V relative to a 24V system), the cranking system is poor.

Data reference table (12V system)		
Starting Voltage	Battery Discharge Performance	Starting Voltage
>10.7V	Good	Keep
10.2V~10.7V	Average	Need observation
9.6V~10.2V	Poor	Need to replace within days
<9.6V	Bad	Need to replace instantly

Charge system

The tester will test the charging system under load as well as empty load to determine how well the car's charging system is.

- Make sure that the engine and all electrical appliances on the vehicle are turned off before testing.
- Select “Main Menu”, press the <▲> <▼> keys to select the “CHARGING SYSTEM” item and press the <OK> key to enter.

MAIN MENU	
1. BATTERY CAPACITY	
2. CRANKING TEST	
3. CHARGE SYSTEM	
4. DATA REVIEW	
5. LANGUAGE SET	
6. TIME ADJUST	

- Follow the steps on the tester screen, along with the actual operation of the vehicle, to complete the testing process.

CHARGE SYSTEM

RIPPLE: 13.01V
 LOADED: 14.60V
 UNLOADED: 650mV

CHARGE GOOD

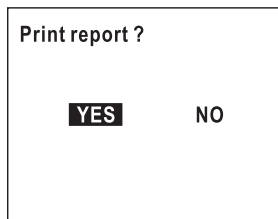
- Test results are automatically saved for review. At this time, you can also press <OK> to enter the “Print Report” interface to print the test results or press <Return> directly to the “Main Menu” interface.

State	Battery Voltage	Engine performance
The headlights and air conditioner closed. (requires stepping on accelerator to detect)	>13.5	Normal
	13.2-13.5	Average
	13.0-13.2	Alert
	<13	Immediate factory inspection is required.
Turn on the headlights and air conditioner. (requires stepping on accelerator to detect)	13.4-14.6	Normal
	13.2-13.4	Average & Be careful
	<13.2	Immediate factory inspection is required.

Data report print

The tester can print the test results so that the results can be recorded and viewed in the future.

- When each test item is finished and the test result is displayed, you can press <OK> to enter the “Print Report” interface to print.



- The vehicle to which the report belongs needs to be set according to the Vehicle Identification Number (VIN) before the report can be printed.
- Press the <▲> <▼> key to enter the code, then press the <OK> to enter the next value until the last value is finished. Press the <OK> key and the tester will print the result.



Data review

The tester automatically saves the last test record in each test item for later review.

- Select “Main Menu” in the item, press <▲> <▼> key to select “DATA REVIEW” item, then press <OK> key to enter.

MAIN MENU	
1. BATTERY CAPACITY	
2. CRANKING TEST	
3. CHARGE SYSTEM	
4. DATA REVIEW	
5. LANGUAGE SET	
6. TIME ADJUST	

- Press the <OK> button, you can cycle through the last test results of “BATTERY CAPACITY”, “CRANKING TEST” and “CHARGE SYSTEM”.

BATTERY CAPACITY		
Healthy:	100 %	378 CCA
Charge:	49 %	12.29V
Internal R:		7.38mΩ
RATED:	590 CCA	27.1°C
GREAT RECHARGE		

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.

China	400-032-0988
Oversea Zone	+86 0755 23304822
E-mail	aftersale@autooltech.com
Facebook	https://www.facebook.com/autool.vip
YouTube	https://www.youtube.com/c/autooltech