SHENZHEN VIDENT TECHNOLOGY CO., LTD

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Battery Analyzer Manual iBT100

USER MANUAL

SHENZHEN VIDENT TECHNOLOGY CO., LTD

General Notice

For your own safety and the safety of others, and to prevent damage to the equipment and vehicles, read this manual thoroughly before operating your code reader. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise extreme care when using this device. Always refer to and follow safety messages and test procedures provided by vehicle manufacturer. Read, understand and follow all safety messages and instructions in this manual.

Safety Precautions and Warnings

To prevent personal injury or damage to vehicles and/or the scan tool, read this instruction manual first and observe the following safety precautions at a minimum whenever working on a vehicle:
Always perform automotive testing in a safe environment. Wear safety eye protection that meets ANSI standards. Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
Operate the vehicle in a well-ventilated work area: Exhaust gases are poisonous.
Put blocks in front of the drive wheels and never leave the vehicle unattended while running tests.
Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
Keep a fire extinguisher suitable for gasoline/chemical/ electrical fires nearby. Ignition is on or the engine is running.
Keep the scan tool dry, clean, free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the scan tool, when necessary.

Warranty and Service

Limited One Year Warranty

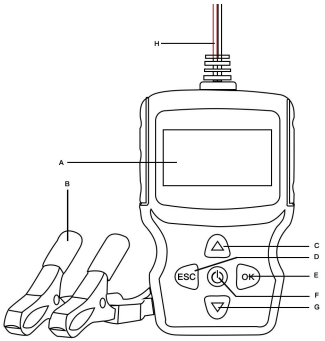
We warrants to its customers that this product will be free from all defects in materials and workmanship for a period of one (1) year from the date of the original purchase, subject to the following terms and conditions:
1) The sole responsibility of our company under the Warranty is limited to either the repair or, at the option of our company, replacement of the scan tool at no charge with Proof of Purchase. The sales receipt may be used for this purpose.
2) This warranty does not apply to damages caused by improper use, accident, flood, lightning, or if the product was altered or repaired Center.
3) We shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the scan tool. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

1 Introductions

The latest BT100 12 Volt Automotive Battery Analyzer from Vident is dedicatedly developed to test 6V & 12V regular flooded, AGM flat plate, AGM spiral,GEL and EFB batteries.

1.1 Tester Descriptions

This section illustrates external features, ports and connectors of the tester.



A **LCD Display** - shows menus, test results and operation tips.

B **ESC Button** - exits a screen and generally returns to previous screen.

C **UP and Down Buttons** - scroll to select an option or change the values. UP Button is also used to call up the language setup menu when starting the tester.

D **ENTER Button** - executes a selected option and generally goes to the next screen.

E **Test Cable** - Connects the tester to battery for testing.

IMPORTANT

Do not use solvents such as alcohol to clean keypad or display. Use a mild nonabrasive detergent and a soft cotton cloth**.**

1.2 Accessory Descriptions

This section lists the accessories that go with the tester. If you find any of the following items missing from your package, contact your local dealer for assistance.

1 **BT100 12 Volt Automotive Battery Analyzer main unit**

2 **User's Guide** - provides operation instructions for the usage of the tester.

1.3 Specifications

Display: 128 * 64 pixels, backlit display screen

Working Temperature: 0 to 60°C (32 to 140°F)

Storage Temperature: -20 to 70°C (-4 to 158°F)

Dimensions (L*W*H): 125*76*24mm

Gross Weight: 0.35KG

Measure Range

No.	Standard	Description	iBT100 Testing Range
1	CCA	Cold Cranking Amps, as specified by SAE. The most common rating for cranking batteries at 0°F (-18°C)	100-2000
2	CA	Cranking Amps standard. The effective starting current value at 0°C (32°F).	100-2000
3	MCA	Marine Cranking Amps standard. The effective starting current value at 0°C (32°F).	100-2000
4	JIS	Japanese Industry Standard, shown on a battery as a combination of numbers and letters	26A17--245H52
5	DIN	Deutsche Industrie-Norm	100-1400
6	IEC	International Electrotechnical Commission	100-1400
7	EN	Europa-Norm	100-2000
8	SAE	Society of Automotive Engineers	100-2000
9	BCI	The Battery Council International	100-2000
10	GB	National Standards of the People's Republic of China	100-1400

2 Operations

This section describes how to use the tester to perform tests on car batteries and charging systems. The menu-driven display will guide you step by step through the test process.

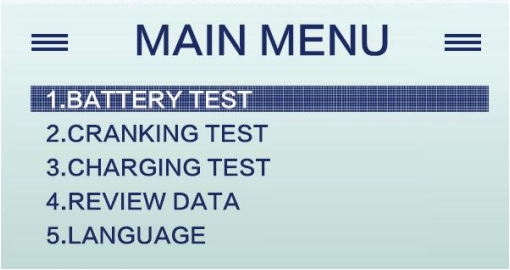
2.1 Connecting The Tester

The tester powers on automatically when it is correctly connected to the battery. The preferred test position is at the battery terminals. If the battery is not accessible, you may test at the jumper post; however, the power measurement may be lower than the actual value.

To connect the tester:

1. Clean the battery posts or side terminals.

2. Connect the red clamp to the positive (+) terminal and the black clamp to the negative (-) terminal.
3. Rock the clamps back and forth to make sure the clamps are firmly connected.
4. When the tester is correctly connected, it boots up automatically and show following main menu.



NOTE

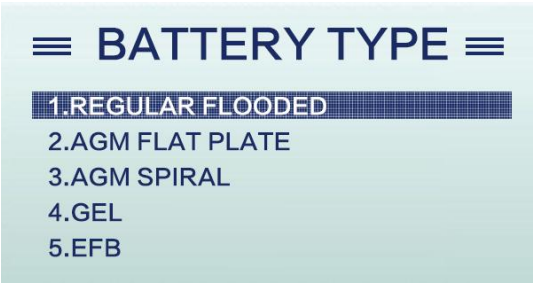
Do not connect the tester to a voltage source greater than 30VDC; otherwise you may damage the tester.

NOTE

If you are testing inside a vehicle, make sure all accessory loads are cut off, the key is not in the ON position and the doors are closed.

2.2 Battery Test

Select the battery test, choose battery type and press OK key to continue:



(1) Choose testing standard: the standard which you can see the front of the battery ,such as CCA, CA, MCA, JIS, DIN, IEC, EN, SAE, BCI and GB.

(2) Input rated capacity: you can see the starting current standards in front of the battery .Such as BCI/300A.

(3) Then press OK key to start testing.

(4) View test results on the screen.

No.	Test Results	Interpretation
1	GOOD BATTERY	The battery is in good condition.
2	GOOD-RECHARGE	The battery is in good condition but low current. Fully charge the battery and return it to service.
3	CHARGE & RETEST	Fully charge the battery and retest. Failure to fully charge the battery before testing may result in inaccurate results. If you still get CHARGE & RETEST message after you fully charge the battery, replace it.
4	REPLACE BATTERY	The battery is almost dead or the connection between the battery and battery cable is poor. Replace the battery and retest; or disconnect the battery cables and retest the battery using the out-of-vehicle test before replacing it.
5	BAD CELL-REPLACE	The battery may be damaged such as broken cell or short circuit. Replace the battery and retest.

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 test.

(5) Press the **ESC** button to exit the test.

NOTE:

The tester keeps the results of last test only. When you start a new test, the last results are overwritten.

2.3 Cranking Test

Select craning test and press OK button to continue:

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

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.

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

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

2.4 Charging System Test

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

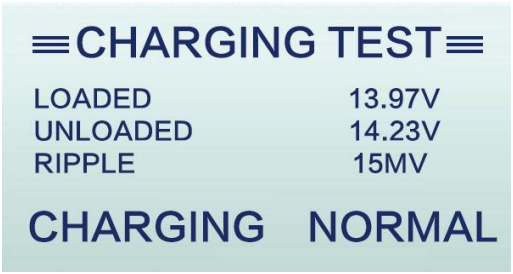
NOTE:

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.

Tester starts the charging volt test after RPM increase is detected.

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



NOTE:

If RPM is not increased, 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:

a. Charging Volt: Normal. The generator output normal, no problem detected.

b. 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.

c. Charging Volt: High. 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±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.

d. 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.

e. 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.

2.5 View test result

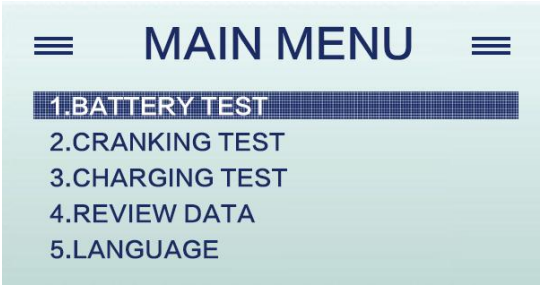
After choose "**Review Data**" and press **OK** button you can view the final test result.

3 Language

Language menu lets you choose system language. The device is set to English menu by default.

To change the language setting:

1. Choose **LANGUAGE** from main menu.



2. Use the **UP** or **DOWN** button to select the language you need and press the **OK** button to confirm and return.