



BD715

12&24V Automotive Battery Analyzer



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In the event this product fails to operate under normal use, during the warranty period, due to defects in materials and workmanship, CGSULIT will, at its sole option, either repair or replace the product in accordance with the terms and conditions stipulated herein.

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- b) The customer shall include a return address, daytime phone number and/or fax number, complete description of the problem and original invoice specifying date of purchase and serial number.
- c) The customer will be billed for any parts or labor charges not covered by this limited warranty.
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- e) If the product is returned during the limited warranty period, but the problem with the product is not covered under the terms and conditions of this limited warranty, the customer will be notified and given an estimate of the charges the customer must pay to have the product repaired, with all shipping charges billed to the customer. If the estimate is refused, the product will be returned freight collect. If the product is returned after the expiration of the limited warranty period, CGSULIT' normal service policies shall apply and the customer will be responsible for all shipping charges.

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6 Some states do not allow limitation of how long an implied warranty lasts, so the one-year warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.

Safety Information

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 tester. 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 follow all BCI (Battery Council International) safety recommendations. Read, understand and follow all safety messages and instructions in this manual.

Safety Message Conventions Used

We provide safety messages to help prevent personal injury and equipment damage. Below are signal words we used to indicate the hazard level in a condition.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

Important Safety Instructions

And always use your tester as described in the user's manual, and follow all safety messages.

WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals know to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

Table of Contents

ONE-YEAR LIMITED WARRANTY	2
SAFETY INFORMATION	5
SAFETY MESSAGE CONVENTIONS USED.....	5
IMPORTANT SAFETY INSTRUCTIONS.....	5
1 USING THIS MANUAL	7
1.1 BOLD TEXT.....	7
1.2 SYMBOLS AND ICONS.....	7
1.2.1 Solid Spot.....	7
1.2.2 Arrow Icon.....	7
1.2.3 Note and Important Message.....	7
2 INTRODUCTIONS	8
2.1 TESTER DESCRIPTIONS.....	8
2.2 ACCESSORY DESCRIPTIONS.....	9
2.3 SPECIFICATIONS.....	10
3 OPERATIONS	10
3.1 CONNECTING THE TESTER.....	10
3.2 BATTERY TEST.....	11
3.3 CRANKING TEST.....	16
3.4 CHARGING SYSTEM TEST.....	17
4 LANGUAGE	18
5 VERSION INFO	19

1 Using This Manual

We provide tool usage instructions in this manual. Below is the conventions we used in the manual.

1.1 Bold Text

Bold text is used to highlight selectable items such as buttons and menu options.

Example:

Press the **ENTER** button to select.

1.2 Symbols and Icons

1.2.1 Solid Spot

Operation tips and lists that apply to specific tool are introduced by a solid spot ●.

Example:


When System Setup is selected, a menu that lists all available options displays. Menu options include:

- BATTERY TEST
- VIEW
- LANGUAGE
- VERSIONINFO

1.2.2 Arrow Icon

 An arrow icon indicates a procedure.

Example:

 To change menu language:

1. Scroll with the arrow keys to highlight **Language** on the menu.
2. Press the **ENTER** button to select.

1.2.3 Note and Important Message

Note

A NOTE provides helpful information such as additional explanations, tips, and comments.

Example:

NOTE

Test results do not necessarily indicate a faulty component or system.

Important

IMPORTANT indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.

Example:

IMPORTANT

Do not soak product as water might find its way into the tester.

2 Introductions

The latest BD715 Battery Analyzer from CGSULIT is dedicatedly developed to test 12V regular flooded, AGM flat plate, AGM spiral and gel batteries and 12V & 24V starting and charging system. It provides a quick, easy and affordable solution for technicians to check battery health and detect faults of starting and charging system. Main functions include battery test, cranking test, and charging system test.

2.1 Tester Descriptions

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



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

B **Menu Button** - access the Main Menu options of the tester.

C **BACK Button** - exits a screen and generally returns to previous screen.

D **UP and Down Buttons** - selects an option or scroll to menu options.

E **Left and Right Buttons** - moves the cursor left or right to select characters when inputting the plate number of the car.

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

G **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.

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

2 **Blow molding case** - stores the tester and its accessories.

2.3 Specifications

Display ViewArea:60.78(W)×32.94(H)mm

Rated input: 6-30V DC

Operating temperature:-20°C-60°C

Storage temperature:-20°C-70°C

Dimension:187*94*32 mm (L*W*H)

Weight: 1.7KG

3 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.

3.1 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 the voltage of the battery.



BATTERY ANALYZER
191-100009C

Press the **MENU** button to go to the 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.

3.2 Battery Test

Battery Test is mainly used to check the cold cranking capability and the aging status of the battery. It informs the user to replace battery before the battery is getting aged.

- ▶ To start a battery test:
 1. Scroll with the **UP** or **DOWN** button to highlight **Battery Test** from Main Menu and press the **ENTER** key.



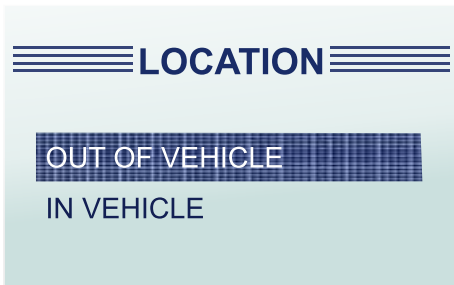
2. Scroll with the **UP** or **DOWN** button to highlight the voltage from Main Menu and press the **ENTER** key.



3. Scroll with the **UP** or **DOWN** button to highlight the **TEST TYPE** from Main Menu and press the **ENTER** key.



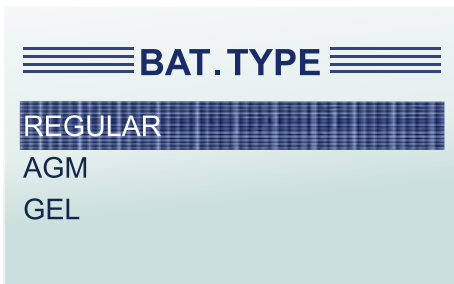
4. Scroll with the **UP** or **DOWN** button to highlight **OUT OF VEHICLE** or **IN VEHICLE** from BATTERY LOCATION menu and press **ENTER** to select the battery location.



5. Scroll with the **UP** or **DOWN** button to highlight **TOP POST** or **SIDE POST** from **POST TYPE** menu and press **ENTER** to select the battery post type.



6. Scroll with the **UP** or **DOWN** button to select the battery type from **BATTERY TYPE** menu and press **ENTER** to confirm.



7. Scroll with the **UP** or **DOWN** button to select the battery standard from **BATTERY STANDARD** menu and press **ENTER** to confirm. Not all rating systems are available for each application.

≡≡≡BAT . STANDARD≡≡≡

EN

CCA

CA

MCA

2/8

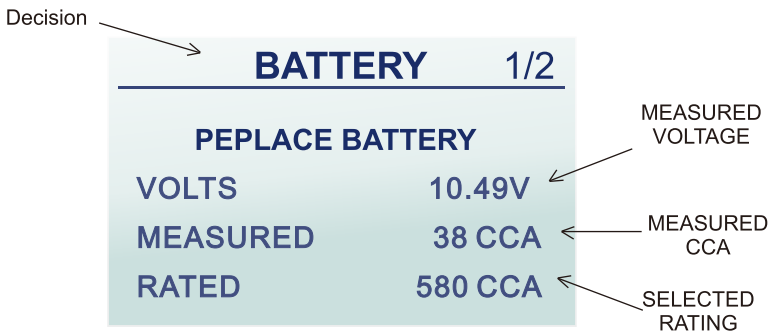
Global Rating Systems

No.	Standard	Description	BD715 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	100-2000
6	IEC	International Electrotechnical Commission	100-2000
7	EN	Europa-Norm	100-2000
8	SAE	Society of Automotive Engineers	100-2000

8. Use **UP** or **DOWN** button to change measure range till you enter the correct range of your battery. Press **ENTER** to start the test.



9. View test results on the screen. Depending on battery status, one of the following test results may display.



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.

10. Press the **BACK** button to return to Main Menu. Or, press the **ENTER** button for cranking test if you are processing an in-vehicle test.

NOTE

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

3.3 Cranking Test

NOTE

Before starting the test, inspect the alternator drive belt. A belt that is glazed or worn, or lacks the proper tension, will prevent the engine from achieving the rpm levels needed for the test.

After an in-car battery test, the display alternates between the battery test results and the message PRESS FOR CRANKING TEST.

- ▶ To start cranking test:
1. Press the **ENTER** button for cranking test.
 2. Start the engine when prompted.
 3. The tester displays the decision on the starter system, cranking voltage, and cranking time in milliseconds.



No.	Test Results	Interpretation
1	CRANKING NORMAL	The starter voltage is normal and the battery is fully charged.
2	LOW VOLTAGE	The starter voltage is low and the battery is fully charged.
3	CHARGE BATTERY	The starter voltage is low and the battery is discharged. Fully charge the battery and repeat the starter system test.
4	REPLACE BATTERY	Battery must be replaced before the starting system can be tested.

5	NO START	No vehicle start detected.
6	CRANKING SKIPPED	A start was not detected.

4. Press **ENTER** button to proceed with the charging system test, **Print** button to print the test results, **BACK** button to return to the main menu.

NOTE

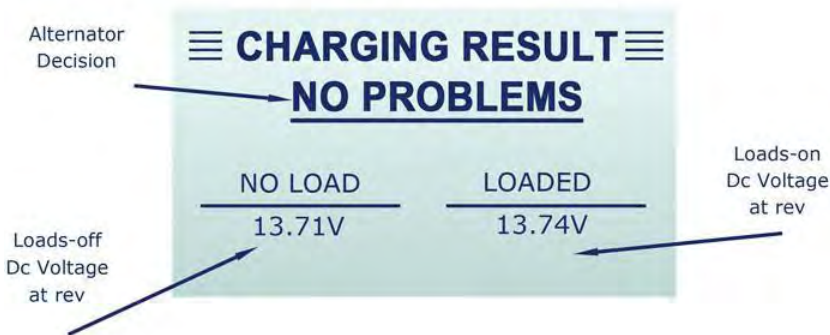
For an in-vehicle test, the display alternates between the test results and the message. Press **ENTER** for charging test.

3.4 Charging System test

Once you have completed an in-vehicle test, the display alternates between the battery test results and the message press **ENTER** for charging test. Press **ENTER** to proceed with the charging test.

▶ To start charging system test:

1. Follow the on-screen prompts to Rev the engine.
2. Turn on high beams headlights and the blower fan.
3. Rev engine with loads on.
4. Idle engine and turn off loads.
5. The Charging System decision is displayed at the end of the procedure.




No.	Test Results	Interpretation
1	NO PROBLEMS	System is showing normal output from the alternator.

2	NO OUTPUT	No alternator output detected. Check all connections to and from the alternator, especially the connection to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. If the belts and connections are in good working condition, replace the alternator. (Older vehicles use external voltage regulators, which may require only replacement of the voltage regulator.)
3	LOW OUTPUT	Alternator not providing sufficient to power the system's electrical loads and charge the battery. Check the belts to ensure the alternator is rotating with the engine running. Replace broken or slipping belts and retest. Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or reparable the cable and retest.
4	HIGH OUTPUT	Alternator voltage output exceeds the normal limits. Make sure there are no loose connections and the ground connection is normal. If there are no connection problems, replace the regulator. Most alternators have a built-in regulator that requires replacing the alternator. In older vehicles that use external voltage regulators, you may need to replace only the voltage regulator.
5	EXCESSIVE RIPPLE	Excessive AC ripple detected. One or more diodes in the alternator are not functioning or there is stator damage.

6. Press **ENTER** to print the test results or **BACK** to return to the main menu.

4 Language

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

-  To change the language setting:
 1. Scroll with the **UP** or **DOWN** button to highlight **Language** from Main Menu and press the **ENTER** key.



2. Use the **UP** or **DOWN** button to select the language you need and press the **ENTER** key to confirm and return. Or press **BACK** button to return without saving.

5 Version Info

Version Info menu lets you view software information of the tester.

▶ To check the software version:

1. Select Version Info from the main menu. The follow screen shows the version of the tester.





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