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DONSU EBC-A10H

DONSU EBC-A10H Battery Capacity Charge and Discharge Tester User Manual

1. Introduction

The DONSU EBC-A10H is a versatile battery capacity charge and discharge tester designed for comprehensive analysis of various battery types. This electronic load device is suitable for use in laboratories, electrical repair shops, and other environments requiring precise battery testing. It offers functions for charging, discharging, and capacity measurement, supporting a wide range of battery chemistries including NiMH, NiCr, Lithium, Iron, Lithium, and Lead Acid batteries.

2. Safety Information

- Always connect the tester to a stable power source within the specified voltage range (100-240V).
- Ensure correct polarity when connecting batteries: A+ V+ to the positive terminal and A- V- to the negative terminal. Incorrect connections can damage the device or battery.
- Operate the device in a well-ventilated area to prevent overheating. The built-in fan assists with heat dissipation.
- Do not attempt to disassemble or modify the tester. Refer all servicing to qualified personnel.
- Keep the device away from moisture and extreme temperatures.

3. Package Contents

Verify that all items are present in the package:

- 1x EBC-A10H Battery Capacity Charge and Discharge Tester Unit
- 1x On-line Line (USB to serial converter cable for PC connection)
- 1x Power Cord (American Standard plug)
- 4x Test Clips (for battery connection)



The image displays the DONSU EBC-A10H Battery Capacity Charge and Discharge Tester unit alongside its essential accessories: a power cord, an online connection cable, and four test clips for connecting to batteries.

4. Product Overview

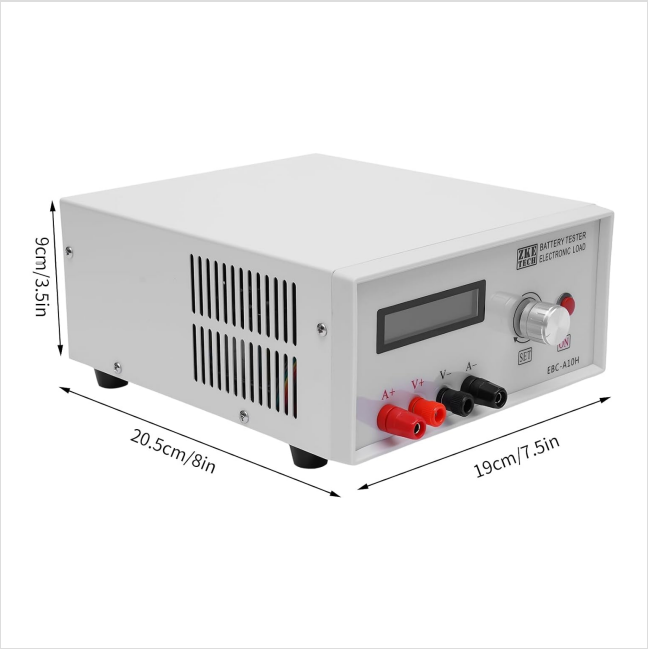
The EBC-A10H tester features a robust design with a fine polished metal surface for durability. It incorporates several design elements for stable and accurate operation.

4.1 Key Features

- **LCD Display:** A clear LCD on the front panel shows real-time test data including voltage, current, capacity, time, power, and energy.
- **4-Wire Connection:** Utilizes a 4-wire detection method, separating voltage and current channels for enhanced measurement accuracy.
- **Cooling System:** An integrated air vent and fan on the side and rear panels ensure effective heat dissipation, promoting stable and prolonged operation.
- **Stable Design:** Equipped with four non-slip foot pads to ensure stability during use.
- **PC Connectivity:** Allows connection to a computer via USB for advanced data plotting, benchmark calibration,

and detailed result observation using dedicated software.

4.2 Physical Components



This image illustrates the physical dimensions of the EBC-A10H tester, showing its length as 19cm (7.5in), width as 20.5cm (8in), and height as 9cm (3.5in).



A detailed view of the tester's control panel, highlighting the rotary knob with 'SET' function and the red 'ON' button for power control.



The image focuses on the four-wire connection terminals: A+ (red), V+ (red), V- (black), and A- (black), used for precise voltage and current measurements.



The rear panel features a cooling fan for heat dissipation, the main power switch, and the AC power input socket.

5. Setup

1. **Power Connection:** Connect the provided power cord to the AC power input socket on the rear of the EBC-A10H tester and then to a suitable power outlet (100-240V).
2. **Battery Connection (4-Wire Method):**
    - Identify the A+ and V+ terminals (red) and A- and V- terminals (black) on the front panel.
    - Using the provided test clips, connect A+ and V+ to the positive terminal of the battery.
    - Connect A- and V- to the negative terminal of the battery.
    - Ensure secure connections to prevent inaccurate readings or damage.
3. **PC Connection (Optional):** For advanced control and data logging, connect the 'On-line Line' (USB cable) from the tester to your computer. Install the necessary drivers and software from the manufacturer's website.



The tester is shown in an operational setting, connected to several cylindrical batteries, demonstrating its use in a testing environment.

6. Operating Instructions

The EBC-A10H offers various operating modes for comprehensive battery testing. Use the rotary knob and 'ON' button on the front panel to navigate menus and set parameters.

6.1 Basic Operation

1. Turn on the tester using the 'ON' button.
2. The LCD display will show the main menu or default test parameters.
3. Rotate the knob to scroll through options or adjust values.
4. Press the knob (SET button) to confirm selections or enter sub-menus.

6.2 Discharge Modes

The tester supports three primary discharge modes:

- **DSC-CC (Constant Current Discharge):** Used for testing battery capacity by discharging at a constant current

until a set low voltage is reached.

- **DSC-CP (Constant Power Discharge):** Simulates constant power devices, discharging the battery at a constant power output.
- **CHG-CV (Constant Voltage Charge):** Used for charging batteries at a constant voltage, typically after a constant current phase.

6.3 Automatic Charge-Discharge-Charge Mode

This mode allows for automated cycling of batteries to determine their true capacity and evaluate cycle life. Configure the desired charge and discharge parameters, then initiate the cycle. The tester will automatically switch between charging and discharging phases.

6.4 PC Software Operation

Connecting the EBC-A10H to a computer unlocks advanced functionalities:

- **Real-time Monitoring:** View live data and graphs of voltage, current, and capacity during tests.
- **Parameter Configuration:** Set precise test parameters and conditions through a user-friendly interface.
- **Data Logging and Export:** Record test data and export it (e.g., as CSV files) for further analysis and reporting.
- **Firmware Updates:** Update the device firmware if new versions are released by the manufacturer.

7. Maintenance

- Keep the tester clean and free from dust. Use a soft, dry cloth for cleaning.
- Ensure the air vents are not obstructed to maintain proper cooling.
- Store the device in a cool, dry place when not in use.
- Regularly check test clips and cables for wear or damage and replace if necessary.

8. Troubleshooting

- **Device not powering on:** Check the power cord connection and ensure the main power switch on the rear is in the 'ON' position. Verify the power outlet is functional.
- **Inaccurate readings:** Ensure all battery connections are secure and correctly polarized (A+ V+ to positive, A- V- to negative). Verify the 4-wire connection is properly implemented.
- **PC software connectivity issues:** Ensure the USB drivers are correctly installed. If the manufacturer's website is in a foreign language, use a web browser's translation feature to locate the English software and drivers.
- **Overheating:** Check that the air vents are clear and the cooling fan is operating. Ensure the ambient temperature is within acceptable limits.

9. Specifications

Parameter	Value
Model	EBC-A10H
Voltage Input	100-240V
Discharge Voltage Range	0.00-30.00V (Minimum Step Size: 0.01V)
Charging Voltage Range	0.00-22.00V (Minimum Step Size: 0.01V)
Discharge Current Range	0.05-10.00A (Minimum Step Size: 0.01A)

Parameter	Value
Charging Current Range	0.05-5.00A (Minimum Step Size: 0.01A)
Charging Methods	Standard Charging (Supports NiMH, NiCr, Lithium, Iron, Lead Acid)
Low Voltage Test Accuracy	0.002-4.500V (Accuracy: 0.003V, Error ± 0.5%)
High Voltage Test Accuracy	4.50V-30.00V (Accuracy: 0.01V, Error ± 0.5%)
Current Test Accuracy	0.05-10.000A (Accuracy: 0.005A, Error ± 0.5%)
Capacity Test Resolution	10Ah (0.001Ah); 10AH-100Ah (0.01Ah); Above 100Ah (0.1Ah)
Connection Method	Four-wire Detection
Product Dimensions (L x W x H)	13.78 x 9.06 x 7.48 inches (35 x 23 x 19 cm)

10. Warranty and Support

For warranty information, technical support, or any inquiries regarding your DONSU EBC-A10H Battery Capacity Charge and Discharge Tester, please contact DONSU customer support. You can find more information and contact details on the official DONSU store page: DONSU Store.

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Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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