

SanBouSi EBC-A20

SanBouSi EBC-A20 Battery Capacity Tester User Manual

Model: EBC-A20

1. INTRODUCTION

The SanBouSi EBC-A20 is a versatile battery capacity tester designed for both charging and discharging functions. It is suitable for testing the capacity of lithium and lead-acid batteries. This device supports various testing modes and can be connected to a computer for advanced functions and data analysis.

2. SAFETY INFORMATION

- Ensure the power supply is within the specified range (DC 19V-20V, current > 3.5A).
- Always use the provided cables and accessories.
- Connect the battery correctly, observing polarity (+ and -). Incorrect connection can damage the device or battery.
- Do not exceed the maximum discharge power of 85W.
- Operate the device in a well-ventilated area to prevent overheating.
- Keep the device away from moisture and extreme temperatures.
- This model does not support NiMH or NiCd battery charging and power tests.

3. PACKAGE CONTENTS

Carefully unpack the box and ensure all items are present:

- 1 x EBC-A20 Battery Capacity Tester
- 1 x Power Adapter
- 1 x Power Cable

- 1 x USB to TTL Cable (for PC connection)
- 2 x Test Clamp Cables (red and black)



Figure 3.1: EBC-A20 Battery Tester and its accessories.

4. PRODUCT OVERVIEW

The EBC-A20 features an LCD display for real-time data, control buttons, and connection ports for batteries and power. Familiarize yourself with the components before operation.



Figure 4.1: Front view of the EBC-A20 Tester with LCD and control buttons.



Figure 4.2: Side view showing battery connection terminals and cooling fan.

5. SETUP

Follow these steps to set up your EBC-A20 Battery Capacity Tester:

1. **Connect Power:** Plug the power adapter into the EBC-A20's power input port and then into a suitable AC outlet. Ensure the device powers on and the LCD display illuminates.
2. **Connect Battery:** Use the provided 4-wire test clamp cables. Connect the red clamp to the positive (+) terminal of the battery and the black clamp to the negative (-) terminal. Ensure a secure connection. The 4-wire connection ensures accurate voltage and current measurements by separating sensing wires from power wires.
3. **Optional PC Connection:** If using the PC software, connect the USB to TTL cable from the EBC-A20 to your computer's USB port.



Figure 5.1: EBC-A20 connected for battery testing.

6. OPERATING MODES

The EBC-A20 supports several operating modes for comprehensive battery testing:

- **DSC-CC (Constant Current Discharge):** Discharges the battery at a constant current to measure its capacity.
- **DSC-CP (Constant Power Discharge):** Discharges the battery at a constant power to simulate real-world device usage.
- **CHG-CV (Constant Voltage Charge):** Charges the battery at a constant voltage, primarily used for lithium battery capacity testing.
- **Automatic Charge/Discharge:** Supports a cycle of charging and discharging to test battery capacity repeatedly.

7. OPERATING INSTRUCTIONS

Basic operation involves selecting a mode and setting parameters. Refer to the detailed software manual for

advanced PC-controlled operations.

1. **Power On:** Press the **ON** button to turn on the device.
2. **Select Mode:** Use the **SET** button to cycle through available operating modes (DSC-CC, DSC-CP, CHG-CV, Auto).
3. **Adjust Parameters:** Once a mode is selected, use the **INC** (Increase) and **DEC** (Decrease) buttons to adjust parameters such as discharge current, voltage limits, or power. The minimum step for voltage adjustment is 0.01V, and for current, it is 0.01A.
4. **Start Test:** After setting parameters, press the **ON** button again to start the test.
5. **Monitor Display:** The LCD will show real-time data including voltage, current, capacity, time, and energy consumption.
6. **End Test:** The test will automatically stop when the set conditions are met (e.g., minimum voltage reached during discharge). You can also manually stop the test by pressing the **ON** button.

8. SOFTWARE CONNECTION

For advanced control, data logging, and graphical analysis, connect the EBC-A20 to a computer using the provided USB to TTL cable. The manufacturer's website typically provides the necessary software and drivers. Ensure proper driver installation before attempting to connect the device to the software.

9. MAINTENANCE

- Keep the device clean and free from dust. Use a soft, dry cloth for cleaning.
- Store the device in a cool, dry place when not in use.
- Regularly check the test cables for any signs of wear or damage. Replace if necessary.
- Ensure the cooling fan is not obstructed to maintain optimal operating temperature.

10. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	No power supply or faulty adapter.	Check power cable and adapter connection. Ensure power outlet is functional.
Inaccurate readings.	Poor 4-wire connection or damaged cables.	Ensure all 4 wires are securely connected to the battery. Inspect cables for damage.
Device overheats.	Obstructed cooling fan or excessive load.	Ensure cooling fan is clear. Reduce test current/power if consistently overheating. Operate in a well-ventilated area.
PC software not connecting.	Missing or incorrect USB to TTL drivers.	Install the correct USB to TTL drivers for your operating system. Ensure the cable is properly connected.

11. SPECIFICATIONS

Feature	Specification
Power Supply	DC 19V-20V, >3.5A
Voltage Setting Range	0.00-30V (Min. step: 0.01V)
Discharge Current Range	0.1A - 20A (Min. step: 0.01A)
Charge Current Range	0.1A - 5A (Min. step: 0.01A)
Max Discharge Power	85W
Voltage Test Accuracy (0.0-4.5V)	Up to 0.003V
Voltage Test Accuracy (4.5V-30V)	Up to 0.01V
Current Test Accuracy	0.1-20A, up to 0.01A
Capacity Test Accuracy	10Ah / 0.001Ah; 10-100Ah / 0.01Ah; >100Ah / 0.1Ah
Connection Method	4-wire testing
Display	LCD (Voltage, Current, Capacity, Time, Energy Consumption)
PC Connection	USB to TTL cable
Supported Battery Types	Lithium, Lead-Acid
Unsupported Battery Types	NiMH, NiCd (for charge/power tests)
Compliance	CE, RoHS

12. WARRANTY

SanBouSi products are manufactured to high-quality standards. This product comes with a standard manufacturer's warranty against defects in materials and workmanship. Please retain your proof of purchase for warranty claims. The warranty does not cover damage caused by misuse, unauthorized modifications, or improper operation.

13. SUPPORT

For technical assistance, troubleshooting, or further inquiries, please contact SanBouSi customer support through the retailer's platform or the official brand website. Please have your product model (EBC-A20) and purchase information ready when contacting support.

