A1X/A1

BSIDE Smart Digital Multimeter A1X/A1 User Manual

Model: A1X / A1

1. Introduction

Thank you for choosing the BSIDE Smart Digital Multimeter A1X/A1. This intelligent, fully automatic, anti-burn multimeter is designed for fast and accurate measurement of various electrical parameters. It is an essential tool for professionals and DIY enthusiasts alike, offering features such as non-contact voltage detection, smart mode for automatic measurement, and a clear, high-resolution display with red and green backlighting.

2. Safety Information

Please read and understand all safety warnings and operating instructions before using this multimeter. Failure to do so may result in injury or damage to the meter or equipment under test.

- Always adhere to local and national safety codes.
- Do not use the multimeter if it appears damaged or if the test leads are compromised.
- Do not apply more than the rated voltage, as marked on the meter, between the terminals or between any terminal and earth ground.
- Use extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect power to the circuit and discharge all high-voltage capacitors before performing resistance, continuity, or diode tests.
- Keep fingers behind the finger guards on the test probes during use.
- Do not operate the meter in explosive gas, vapor, or dust environments.
- Ensure the correct function and range are selected before making measurements.

3. Product Overview

Familiarize yourself with the components of your BSIDE Smart Digital Multimeter.

Figure 3.1: Labeled components of the Multimeter. Key parts include the Non-contact voltage sensor, Flashlight, Display Screen, Function buttons (Capacitance mode, Diode mode, Flashlight/Backlight switch, Power button), and Input terminals (Negative input, COM, Input).

- **Non-contact Voltage Sensor:** Located at the top, used for detecting AC voltage without direct contact.
- **Flashlight:** Integrated light for illuminating dark work areas.
- **Display Screen:** High-resolution LCD for displaying measurement readings and indicators. Features red and green backlighting.
- **Function Buttons:** Buttons for selecting specific measurement modes (Capacitance, Diode), controlling the flashlight/backlight, and powering the device on/off.
- **Input Terminals:** Sockets for connecting the test leads (Input, COM, Negative Input).

4. Setup

4.1 Charging the Multimeter

The multimeter comes with a built-in rechargeable battery. Before first use, or when the battery indicator shows low power, charge the device using the provided charging cable.

- Connect the small end of the charging cable to the multimeter's charging port.
- Connect the USB end of the cable to a standard USB power adapter (not included) or a computer USB port.
- The charging indicator on the display will show the charging status.

4.2 Connecting Test Leads

Proper connection of test leads is crucial for accurate and safe measurements.

Figure 4.1: Multimeter with connected test leads and charging cable.

- Insert the black test lead into the 'COM' (Common) input terminal.
- Insert the red test lead into the 'INPUT' terminal for most voltage, resistance, continuity, diode, and capacitance measurements.
- Ensure the leads are fully inserted and securely connected.

5. Operating Instructions

5.1 Power On/Off

Press the power button (usually marked with a power symbol) to turn the multimeter on or off.

5.2 Smart Mode (Automatic Measurement)

The multimeter features a smart mode that automatically identifies and measures AC/DC voltage, resistance, and continuity. This simplifies operation by eliminating the need for manual range selection.

Figure 5.1: Auto Mode Selection. The multimeter automatically measures voltage, resistance, continuity, and frequency.

- In 'AUTO' mode, simply connect the test leads to the circuit or component you wish to measure. The meter will automatically detect the type of measurement and display the reading.

5.3 Manual Mode Selection

While the smart mode is convenient, you can also manually select specific functions for precise control.

- Press the 'AUTO SEL' button to cycle through available manual modes such as Voltage, Resistance, Continuity, Diode, and Capacitance.
- Specific buttons are also available for quick access to Capacitance and Diode modes.

5.4 Display Features: Red & Green Backlight

The high-resolution LCD screen features a unique red and green backlight, enhancing readability in various lighting conditions and providing visual cues.

Figure 5.2: Red & Green Backlight. The digital multimeter has a large display screen with red and green backlight, making it very easy to read.

- The backlight automatically adjusts or can be toggled using the flashlight/backlight switch button.
- The color of the backlight may change to indicate certain conditions, such as high voltage or continuity.

5.5 Specific Measurements

5.5.1 Voltage Measurement (AC/DC)

In Smart Mode, the meter automatically detects AC or DC voltage. For manual selection, choose the appropriate voltage mode.

- Connect the red test lead to the positive side of the circuit and the black test lead to the negative side (or ground).
- Read the voltage value on the display.

5.5.2 Resistance and Continuity Measurement

The meter can measure resistance and check for circuit continuity.

- Ensure the circuit is de-energized before measuring resistance or continuity.
- Connect the test leads across the component or circuit path.
- For continuity, if resistance is less than 50Ω, the beeper will sound, indicating a continuous path.

5.5.3 Diode and Capacitance Test

These functions are essential for electronic maintenance and component testing.

Figure 5.3: Electronics Maintenance. Suitable for use by electronic repairs, showing Capacitance test (left) and Diode test (right).

Figure 5.4: Electronic Maintenance. Always discharge capacitors before measuring capacitance.

- **Diode Test:** Select diode mode. Connect the red lead to the anode and the black lead to the cathode. The meter will display the forward voltage drop (within 3V). Reverse the leads to check for open circuit.
- **Capacitance Test:** Select capacitance mode. *Always discharge the capacitor completely before testing to prevent damage to the meter.* Connect the test leads across the capacitor terminals. The meter will display the capacitance value.

5.5.4 Non-Contact Voltage (NCV) / Live Wire Check

The NCV function allows for safe detection of AC voltage without direct contact, useful for identifying live wires.

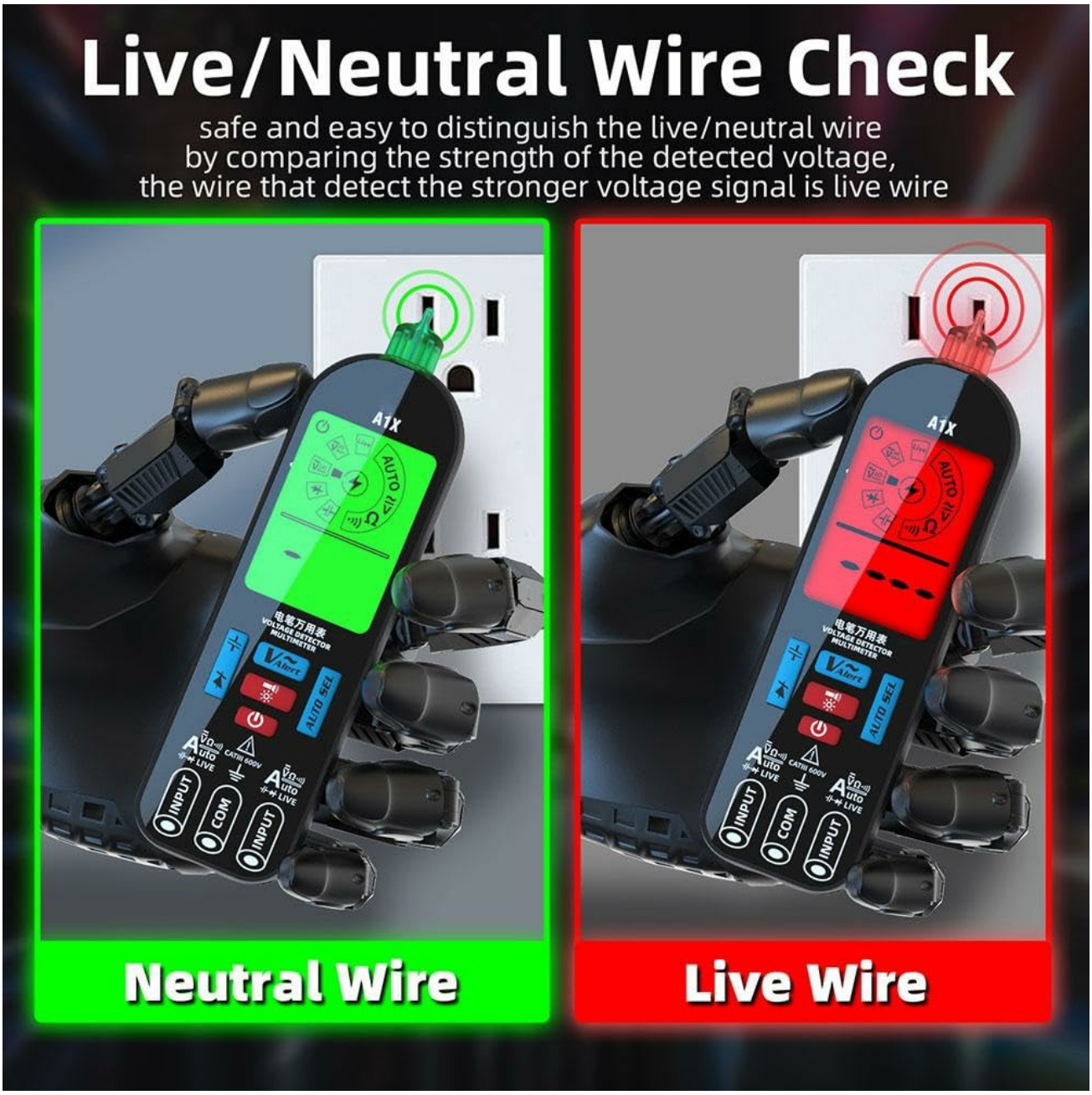

Figure 5.5: Live/Neutral Wire Check. Safe and easy to distinguish live/neutral wire by comparing the strength of the detected voltage. A stronger signal indicates a live wire.

- Activate the NCV function (often labeled 'V-Alert' or similar).
- Bring the top of the multimeter (where the NCV sensor is located) close to the wire or outlet.
- The meter will indicate the presence of AC voltage through visual (e.g., changing backlight color, bar graph) and/or audible (beeping) signals. The sensitivity is adjustable.

6. Maintenance

6.1 Cleaning

To maintain the multimeter's performance and appearance:

- Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- Keep the display clean and free of dust.

6.2 Battery Care

The built-in rechargeable battery requires proper care for longevity:

- Recharge the battery when the low battery indicator appears.
- Avoid fully discharging the battery frequently.
- If storing for extended periods, charge the battery to approximately 50% every few months.

6.3 Storage

Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

If you encounter issues with your multimeter, refer to the following common problems and solutions:

- **No Display/Meter Not Turning On:**
  - Ensure the battery is charged. Connect the charging cable and allow it to charge for some time.
  - Press and hold the power button for a few seconds.
- **Inaccurate Readings:**
  - Check if the test leads are properly connected and not damaged.
  - Ensure the correct measurement mode is selected (if not using Smart Mode).
  - Verify the circuit is de-energized for resistance/continuity/diode/capacitance tests.
- **Continuity Beeper Not Sounding:**
  - Ensure the resistance is below 50Ω for the beeper to activate.
  - Check the test leads for proper connection.

If problems persist, please contact customer support for assistance.

8. Specifications

Detailed technical specifications for the BSIDE Smart Digital Multimeter A1X/A1:

Figure 8.1: Multimeter Dimensions.

Feature	Specification
Continuity Beeper	Sounds if resistance is less than 50Ω
Diode Measurement	Measures diodes within 3V
Power Source	3.7V (built-in, rechargeable battery)
Size (L x W x H)	17.5 x 7.5 x 4 cm (6.89 x 2.95 x 1.57 inch)
Color	Black
Display	High-resolution LCD with Red & Green Backlight
Non-Contact Voltage (NCV)	Adjustable sensitivity

9. Warranty and Support

This product is manufactured by generic. For any questions regarding product operation, troubleshooting, or warranty claims, please refer to the seller's return policy or contact the point of purchase. We are committed to providing satisfactory service and support for our products.