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› BEVA W-002 Digital Multimeter User Manual

BEVA W-002

BEVA W-002 Digital Multimeter User Manual

Comprehensive instructions for the safe and effective use of your BEVA W-002 Digital Multimeter.

1. INTRODUCTION

Thank you for choosing the BEVA W-002 Digital Multimeter. This device is a versatile, auto-ranging instrument designed for accurate electrical measurements. It is suitable for a wide range of applications, from basic home electrical checks to more complex laboratory and automotive diagnostics. This manual provides detailed instructions on its operation, safety precautions, and maintenance to ensure optimal performance and longevity.



Figure 1.1: The BEVA W-002 Digital Multimeter with its included red and black test leads.

2. PRODUCT FEATURES

The BEVA W-002 Digital Multimeter is equipped with several features to enhance its functionality and user experience:

- **Multi-functional Measurement:** Capable of measuring AC/DC Voltage, DC Current, Resistance, Capacitance, and Frequency.
- **Continuity and Diode Test:** Includes dedicated modes for circuit continuity and diode testing.
- **Non-Contact Voltage (NCV) Function:** Allows for safe detection of live wires without direct contact.
- **Data Retention (HOLD):** Freezes the displayed measurement for easy reading.
- **Auto-Ranging:** Automatically selects the appropriate measurement range, simplifying operation.
- **Backlit LCD Screen:** Large, clear LCD with backlight for visibility in low-light conditions. Maximum display value of 1999.
- **Auto-Off Function:** Automatically powers off after 15 minutes of inactivity to conserve battery life.

- **Enhanced Safety:** Class II safety equipment with 600V CAT III safety level, intelligent anti-burn protection, and double fuses for increased user safety.



Figure 2.1: Key components and functions of the BEVA W-002 Digital Multimeter, including the LCD monitor, non-contact voltage sensing area, function selection dial, and input terminals.

3. PACKAGE CONTENTS

Please check the package contents upon receipt to ensure all items are present:

- 1 x BEVA Digital Multimeter (Model W-002)
- 1 x Pair of Test Leads (Red and Black)
- 2 x AAA Batteries (pre-installed or included separately)
- 1 x Screwdriver (for battery compartment)
- 1 x User Manual



Figure 3.1: All items included in the BEVA W-002 Digital Multimeter package.

4. SAFETY INFORMATION

To ensure safe operation and prevent damage to the meter, please read and follow all safety instructions carefully:

- Always ensure the multimeter is set to the correct function and range before making any measurements.
- Do not attempt to measure voltage or current exceeding the specified maximum limits (600V CAT III).
- When measuring current, always connect the multimeter in **series** with the load. Never connect it in parallel across a voltage source.
- Be cautious when working with live circuits. Always assume circuits are live until proven otherwise.
- Do not use the multimeter if it appears damaged or if the test leads are frayed or broken.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.
- Do not operate the multimeter in wet environments or with wet hands.
- Keep the multimeter away from children.

5. SETUP

5.1 Battery Installation

The BEVA W-002 Digital Multimeter requires two AAA batteries for operation. If the batteries are not pre-installed, or if you need to replace them, follow these steps:

1. Locate the battery compartment cover on the back of the multimeter.
2. Use the included screwdriver to loosen the screw securing the battery compartment cover.
3. Remove the cover.
4. Insert two AAA batteries, ensuring correct polarity (+ and -).
5. Replace the battery compartment cover and tighten the screw.



Figure 5.1: Location of the battery compartment on the back of the multimeter, along with product dimensions.

5.2 Connecting Test Leads

Connect the test leads to the appropriate input jacks on the multimeter:

- Insert the **black** test lead into the "**COM**" (Common) jack.
- For most measurements (Voltage, Resistance, Diode, Continuity, Capacitance, Frequency, and small Current measurements (mA/μA)), insert the **red** test lead into the "**VΩmA**" jack.
- For large DC Current measurements (up to 10A), insert the **red** test lead into the "**10ADC**" jack.

6. OPERATING MODES

Turn the rotary switch to select the desired measurement function. The multimeter features auto-ranging for most functions, simplifying operation.

6.1 DC/AC Voltage Measurement (V)

To measure voltage, set the rotary switch to the "V" position (either DC V or AC V). Connect the test leads in parallel across the component or circuit you wish to measure. The display will show the voltage reading.



Figure 6.1: Examples of battery and AC voltage measurement using the multimeter.

6.2 DC Current Measurement (A)

To measure DC current, set the rotary switch to the "A" position (either mA, μ A, or 10A). **Important:** The multimeter must be connected in **series** with the circuit to measure current. Never connect it in parallel across a voltage source, as this can damage the meter and the circuit.

6.3 Resistance Measurement (Ω)

To measure resistance, set the rotary switch to the " Ω " position. Ensure the circuit or component is de-energized before measuring resistance. Connect the test leads across the component. The multimeter provides an audible assurance (buzz) when testing for resistance, indicating a successful measurement or continuity.



Figure 6.2: Audible assurance feature during resistance testing.

6.4 Continuity Test

Set the rotary switch to the continuity symbol (Ω). Connect the test leads across the circuit or component. If there is continuity (a complete circuit), the multimeter will emit an audible beep.

6.5 Diode Test

Set the rotary switch to the diode symbol ($\rightarrow|•$). Connect the red test lead to the anode and the black test lead to the cathode of the diode. The display will show the forward voltage drop. Reverse the leads to check for open circuit (OL) in the reverse direction.

6.6 Non-Contact Voltage (NCV) Detection

The NCV function allows you to detect the presence of AC voltage without direct contact. Set the rotary switch to the "NCV" position. Move the top part of the multimeter near the wire or outlet. If AC voltage is detected, the meter will beep and the NCV indicator light will illuminate. This helps distinguish between live and neutral wires.



Figure 6.3: NCV function detecting live and null wires.

6.7 Data Hold (H)

Press the "HOLD" button to freeze the current reading on the display. Press it again to release the hold and resume live measurements.

6.8 Backlight

Press the backlight button (often indicated by a light bulb symbol) to turn the LCD backlight on or off for improved visibility in dark environments.

7. MAINTENANCE

7.1 Cleaning

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

7.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 5.1. Always use two new AAA batteries.

7.3 Storage

If the multimeter is not used for an extended period, remove the batteries to prevent leakage and damage to the device. Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your BEVA W-002 Digital Multimeter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display or dim display	Dead or low batteries; Incorrect battery installation.	Replace batteries; Check battery polarity.
"OL" (Overload) displayed	Measurement exceeds selected range; Open circuit (for continuity/resistance).	Switch to a higher range (if not auto-ranging); Check circuit connection.
Inaccurate readings	Low battery; Poor test lead connection; Incorrect function/range selected.	Replace batteries; Ensure secure connections; Verify function and range.
No continuity beep	Open circuit; Test leads not making good contact.	Check circuit for breaks; Ensure firm contact with test points.

9. SPECIFICATIONS

Below are the general specifications for the BEVA W-002 Digital Multimeter:

Parameter	Value
Model	W-002
Manufacturer	BEVA
Power Source	2 x AAA Batteries (Included)
Dimensions (L x W x H)	13.5 x 6.7 x 2.8 cm (5.31 x 2.63 x 1.12 inches)

Parameter	Value
Weight	260 grams (approx. 0.57 lbs)
Safety Rating	CAT III 600V, Class II
Display	LCD with Backlight, Max 1999 Counts
Auto-Off	Approx. 15 minutes
Country of Origin	China

10. WARRANTY AND SUPPORT

BEVA is committed to providing high-quality products and excellent customer service. If you have any questions, concerns, or require technical assistance regarding your BEVA W-002 Digital Multimeter, please do not hesitate to contact our customer support team. We aim to provide a satisfactory response within 24 hours. Please refer to your purchase documentation or the retailer's website for specific warranty terms and contact information.

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Example: How do I reset this device or fix this error?

Details

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

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