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› BTMETER BT-770S Digital Multimeter User Manual

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Model: BT-770S

1. INTRODUCTION

The BTMETER BT-770S is a precise digital multimeter designed for a wide range of electrical measurements. It features 6000 counts for accurate readings of AC/DC voltage, AC/DC current, resistance, frequency, capacitance, continuity, diode, hFE, and temperature. This manual provides essential information for safe and effective use of your multimeter.



Image 1.1: Front view of the BTMETER BT-770S Digital Multimeter, showing the display, rotary dial, and input jacks.

Package Contents:

- 1 x BTMETER BT-770S Digital Multimeter (with 9V battery installed)
- 1 x Test Lead Set
- 1 x Thermocouple Temperature Probe
- 1 x Alligator Clip Set
- 1 x Protective Pouch
- 1 x User Manual

2. SAFETY INFORMATION

Always observe basic safety precautions when using this multimeter to avoid personal injury or damage to the meter or equipment under test. Read all safety information before use.

- Do not exceed the maximum input values for any function.

- Do not use the meter if it or the test leads appear damaged.
- Ensure the rotary switch is in the correct position for the desired measurement before connecting test leads.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Replace the battery immediately when the low battery indicator appears.
- Replace fuses only with specified types and ratings.

3. SETUP

3.1 Battery Installation

The BT-770S multimeter requires a 9V battery for operation. The battery is typically pre-installed. If replacement is needed, follow these steps:

1. Ensure the multimeter is powered off and disconnect all test leads.
2. Locate the battery compartment on the back of the multimeter.
3. Use a screwdriver to open the back panel.
4. Carefully remove the old 9V battery.
5. Insert a new 9V battery, observing correct polarity.
6. Securely close the back panel with the screws.

Easy Replaceable Fuses

Open the back panel to install the battery properly before using



Image 3.1: Illustration of the battery and fuse compartment, showing how to open the back panel for battery replacement.

3.2 Test Lead Connection

Connect the red test lead to the "VΩmA" jack and the black test lead to the "COM" jack for most voltage, resistance, and current measurements. For high current measurements (up to 20A), connect the red lead to the "20A" jack.

4. OPERATING INSTRUCTIONS

The BT-770S features a rotary dial to select measurement functions and buttons for additional features.

Wide Applications

BT-770S multimeter with various functions measures AC/DC Volt, AC/DC Amp, Ohm, Hz, Continuity, Diode, hFE, Temp, NCV, etc.

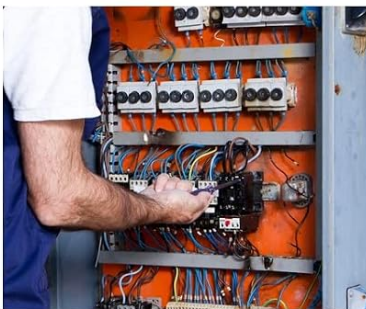


Image 4.1: The BT-770S multimeter being used for different electrical measurement tasks.

4.1 Measurement Functions

- **AC/DC Voltage (V~ / V-):** Turn the rotary dial to the V~ or V- position. Connect test leads in parallel to the circuit.
- **AC/DC Current (A~ / A-):** Turn the rotary dial to the A~ or A- position. Connect test leads in series with the circuit. Ensure correct jack usage (mA or 20A).
- **Resistance (Ω):** Turn the rotary dial to the Ω position. Connect test leads across the component.
- **Capacitance (F):** Turn the rotary dial to the F position. Connect test leads across the capacitor.
- **Frequency (Hz):** Turn the rotary dial to the Hz position. Connect test leads to the signal source.
- **Continuity ():** Turn the rotary dial to the continuity position. A buzzer will sound if resistance is below a certain threshold.
- **Diode Test (▲):** Turn the rotary dial to the diode position. Connect test leads across the diode to measure forward voltage drop.
- **Temperature (°C/°F):** Connect the thermocouple probe to the designated jacks. Turn the dial to the temperature setting.
- **hFE Test:** Insert the transistor into the hFE socket on the multimeter.

4.2 Non-Contact Voltage (NCV) Detection

The NCV function allows for detection of AC voltage without direct contact with wires. This is useful for identifying live wires or checking for voltage in outlets.

1. Turn the rotary dial to the NCV position.
2. Bring the top of the multimeter near the wire or outlet.
3. The meter will emit an audible alarm and the NCV indicator will light up if AC voltage is detected.



Image 4.2: The NCV function in action, indicating a live wire, alongside the automatic backlight feature.

4.3 Auto Backlight

The BT-770S automatically illuminates its display backlight and the indicator light on the dial in low-light conditions, enhancing readability.



Image 4.3: The multimeter display with its automatic backlight feature active for improved visibility.

4.4 Data Hold (HOLD)

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

4.5 Relative Value (REL)

The "REL" button allows you to measure the relative value. This function subtracts the current reading from subsequent readings, useful for comparing values or zeroing out test lead resistance.

4.6 Max/Min Value

Press the "MAX/MIN" button to record the maximum and minimum values during a measurement session. Press again to cycle through MAX, MIN, and current readings.

4.7 Auto Power Off

To conserve battery life, the multimeter will automatically power off after approximately 15 minutes of inactivity. Press any button or turn the rotary switch to power it back on.

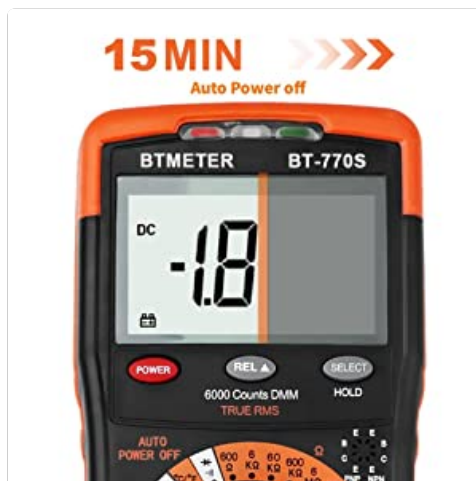


Image 4.4: The multimeter indicating its automatic power-off feature after 15 minutes of no operation.

5. MAINTENANCE

5.1 Cleaning

Wipe the meter with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the input terminals free of dirt and moisture.

5.2 Fuse Replacement

The BT-770S is equipped with two internal fuses for protection. If the current measurement function stops working, a fuse may need replacement. Refer to Section 3.1 for instructions on opening the back panel. Replace fuses only with the specified type and rating:

- F1: 800mA/250V Fast-acting fuse
- F2: 20A/250V Fast-acting fuse

Always ensure the replacement fuse matches the original specifications to maintain safety and performance.

5.3 Storage

When not in use for extended periods, remove the battery to prevent leakage and store the multimeter in its protective pouch in a cool, dry place.

6. TROUBLESHOOTING

- **No Display/Power On:** Check battery installation and ensure the battery has sufficient charge. Replace if necessary.
- **Incorrect Readings:**
 - Verify the rotary switch is set to the correct function and range.
 - Ensure test leads are properly connected to the correct input jacks.
 - Check for damaged test leads.
 - For current measurements, check if the fuse is blown.
- **NCV Not Detecting Voltage:** Ensure the NCV function is selected and the meter is brought close enough to the AC voltage source.
- **Low Battery Indicator:** The battery icon on the display indicates low battery. Replace the 9V battery promptly.

7. SPECIFICATIONS

Feature	Specification
Display	6000 Counts Digital Display
Dimensions (L x W x H)	14.73 x 6.6 x 3.05 cm (5.8 x 2.6 x 1.2 inches)
Weight	200 Grams (0.44 lbs)
Power Source	9V Battery
Safety Compliance	CE Marked, RoHS Compliant, CAT III 1000V
AC/DC Voltage Range	Up to 1000V
AC/DC Current Range	Up to 20A
Resistance Range	Up to 60 MΩ
Capacitance Range	Up to 100 mF
Frequency Range	Up to 10 MHz
Temperature Range	Up to 1832°F (1000°C)

Feature	Specification
Auto Power Off	Approx. 15 minutes of inactivity
Special Features	True RMS, NCV, Auto Backlight, Data Hold, Relative Value, Max/Min, Low Battery Indication

8. WARRANTY AND SUPPORT

BTMETER provides a 365+ day warranty and lifetime technical support for this product. For any questions, technical assistance, or warranty claims, please contact BTMETER customer service. BTMETER offers 7x24 hours technical support to ensure your satisfaction.

You can find more information and support on the official BTMETER website or through your purchase platform.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

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Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

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.

Submit question