BTMETER BT-90EPD

BTMETER BT-90EPD Bluetooth APP Digital Multimeter

User Instruction Manual

1. Introduction

The BTMETER BT-90EPD Auto-Ranging Digital Multimeter is designed for troubleshooting electrical problems in a wide array of industrial and household devices. It is compact, lightweight, durable, and easy to operate. This multimeter can measure AC/DC current, AC/DC voltage, resistance, continuity, transistor, and diodes with high accuracy. It features Bluetooth connectivity for real-time data transmission to mobile phones (iOS & Android) and allows data export to Excel files. The device is CATIV 600V / CATIII 1000V certified for safety.
Key features include an auto-backlit LCD display for dark environments, attachable test leads, a stand for hands-free use, and protective rubber corner guards for drop protection.

2. Package Contents

Upon opening the package, please verify that all items listed below are present and in good condition:

- 1x BTMETER BT-90EPD Digital Multimeter
- 1x 9V (6F22) Battery (Pre-installed)
- 1x Pair of High-Quality Test Leads (Red and Black)
- 1x Temperature Probe
- 1x User Manual
- 1x Carrying Case

Image: Contents of the BTMETER BT-90EPD package.

3. Product Overview and Controls

Familiarize yourself with the components and controls of your BT-90EPD multimeter.

Image: Front panel of the BT-90EPD multimeter with labeled controls and input jacks.

- **LCD Display:** Shows measurement readings, units, and function indicators.
- **SELECT Key:** Toggles between different measurement modes within a rotary switch position (e.g., AC/DC voltage, diode/continuity).
- **HOLD Key:** Freezes the current display reading. Press again to release.
- **RANGE Key:** Switches between auto-ranging and manual ranging modes.
- **REL Key:** Activates the relative measurement function, displaying the difference from a stored reference value.
- **Hz/% Key:** Toggles between frequency and duty cycle measurements.
- **Rotary Switch:** Selects the primary measurement function (e.g., Voltage, Current, Resistance, Temperature).
- **CDS Sensor:** Light sensor for automatic backlight control.
- **Input Jacks:**
  - **VHzΩ+))|-- Input Jack:** For voltage, frequency, resistance, continuity, and diode measurements.
  - **COM and Temperature '-' Input Jack:** Common terminal for all measurements and negative input for temperature.
  - **μAmA/BATT and Temperature '+' Input Jack:** For microampere, milliampere, battery test, and positive input for temperature.

- **20A Input Jack:** For high current (up to 20A) measurements.

4. Setup

4.1. Battery Installation

The BT-90EPD comes with a pre-installed 9V (6F22) battery. If replacement is needed:

1. Ensure the multimeter is turned OFF and test leads are disconnected.
2. Locate the battery compartment on the back of the unit.
3. Unscrew the retaining screw(s) and remove the battery cover.
4. Carefully remove the old battery and replace it with a new 9V (6F22) battery, observing polarity.
5. Replace the battery cover and secure it with the screw(s).

Image: Back of the BT-90EPD multimeter showing battery compartment access.

4.2. Connecting Test Leads

Always connect the black test lead to the **COM** jack. Connect the red test lead to the appropriate input jack based on the measurement type:

- For Voltage, Resistance, Frequency, Duty Cycle, Diode, and Continuity measurements, connect the red lead to the **VHzΩ+))|--** jack.
- For microampere (µA), milliampere (mA), and Battery tests, connect the red lead to the **µAmA/BATT** jack.
- For high current (up to 20A) measurements, connect the red lead to the **20A** jack.

5. Operating Instructions

5.1. Basic Measurements

To perform basic measurements:

1. Turn the rotary switch to the desired function (e.g., V~ for AC Voltage, V- for DC Voltage, Ω for Resistance).
2. Connect the test leads to the appropriate input jacks and then to the circuit or component under test.
3. Read the measurement value on the LCD display.

Image: Measuring resistance with the BT-90EPD multimeter.

5.2. Temperature Measurement

To measure temperature:

1. Turn the rotary switch to the Temperature (°C/°F) function.
2. Connect the temperature probe to the **COM** (negative) and **µAmA/BATT and Temperature '+'** (positive) jacks.
3. Place the tip of the temperature probe on or in the object whose temperature is to be measured.
4. Read the temperature value on the LCD display. Use the SELECT button to toggle between Celsius and Fahrenheit if available.

Image: Measuring liquid temperature using the BT-90EPD multimeter and its probe.

5.3. Battery Testing (1.5V~12V)

To test battery voltage:

1. Turn the rotary switch to the **BATT** function (usually combined with µA/mA).
2. Connect the black test lead to the **COM** jack and the red test lead to the **µAmA/BATT** jack.
3. Connect the red test lead to the positive terminal of the battery and the black test lead to the negative terminal.
4. Read the battery voltage on the LCD display.

Image: Testing a 9V battery with the BT-90EPD multimeter.

5.4. Bluetooth App Connection and Data Logging

The BT-90EPD can connect to your smartphone for remote monitoring and data logging.

1. Download the 'iMultimeter' app from your mobile phone's app store (iOS/Android). You can find the app via this link: iMultimeter App.
2. Ensure Bluetooth is enabled on your smartphone.
3. Turn on the BT-90EPD multimeter.
4. Open the 'iMultimeter' app on your phone and follow the in-app instructions to connect to your device.
5. Once connected, you can remotely monitor measurements, log data, view on-screen graphs, and export data in EXCEL or TXT files.

Image: Screenshots of the iMultimeter mobile application interface.

5.5. Auto Backlight Display

The multimeter features an auto-backlight display that senses ambient brightness and automatically turns the backlight ON or OFF, improving readability in various lighting conditions without manual intervention.

5.6. Data Hold

Press the **HOLD** button to freeze the current reading on the display. This is useful for recording measurements in situations where it's difficult to view the display directly. Press **HOLD** again to resume live readings.

5.7. Relative Value Measurement

The **REL** function allows you to measure a value relative to a stored reference value. Press the**REL** button to store the current reading as a reference. Subsequent measurements will display the difference from this reference. Press **REL** again to exit relative mode.

6. Safety Information

To ensure safe operation and avoid damage to the meter, observe the following safety precautions:

- Always ensure the multimeter is set to the correct function and range before making a measurement.
- Never apply voltage or current that exceeds the maximum rated input for any function.
- Use extreme caution when working with voltages above 60V DC or 30V AC RMS, as these pose a shock hazard.
- Do not use the meter if it or the test leads appear damaged.
- Ensure the test leads are fully seated in the input jacks.
- Disconnect the test leads from the circuit before changing functions or ranges.
- Replace the battery immediately when the low battery indicator appears to ensure accurate readings.
- Adhere to all local and national safety codes.

7. Maintenance

7.1. Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Periodically clean the input jacks with a cotton swab and alcohol to prevent poor contact from dirt or moisture.

7.2. Battery Replacement

Refer to Section 4.1 for instructions on replacing the 9V battery when the low battery indicator is displayed.

7.3. Fuse Replacement

If the current measurement function fails, the fuse may need replacement. Fuse replacement should only be performed by qualified personnel. Refer to the specifications for the correct fuse type and rating.

8. Troubleshooting

If the multimeter does not function correctly, check the following:

- **No display or faint display:** Check the battery. Replace if necessary.
- **Incorrect readings:**
  - Ensure test leads are correctly connected to the appropriate input jacks.
  - Verify the rotary switch is set to the correct measurement function and range.
  - Check for damaged test leads.
- **Current measurement not working:** Check the fuse.
- **Bluetooth connection issues:**
  - Ensure Bluetooth is enabled on your phone and the multimeter.
  - Restart both the multimeter and the phone app.
  - Ensure the phone is within the specified range (32.8 ~ 49.2 ft).

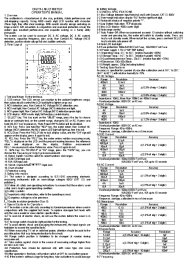
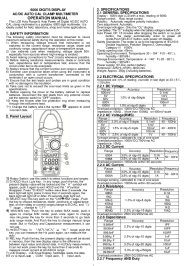
9. Specifications

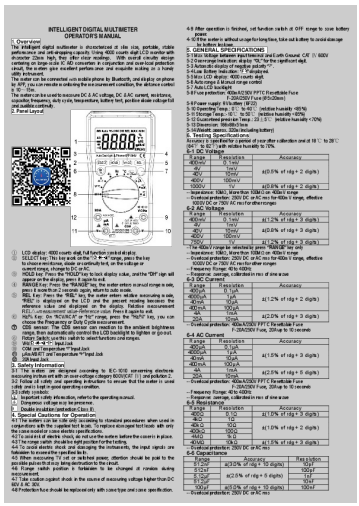
Parameter	Value
Range Selection	Auto Ranging
Max Display	4000 Counts
DC Voltage	400mV ~ 1000V
AC Voltage	4V ~ 750V
DC Current	400uA ~ 20A
AC Current	400uA ~ 20A
Resistance	400ohm ~ 40Mohm
Capacitance	51.2nF ~ 100uF
Frequency	5.12Hz ~ 5.12MHz
Duty Cycle	0.1% ~ 99.9%
Temperature	-20℃ ~ 1000℃ (-4℉ ~ 1832℉)
Auto LCD Backlight	Yes
Overload Protection	Yes
Data Hold	Yes
Diode Test	Yes
Low Battery Indication	Yes
Auto Power Off	Yes
℃/℉ Selection	Yes
Relative Value	Yes
Mobile Phone APP (Bluetooth)	Yes
Battery Test	1.5V ~ 12V
Continuity Test	Yes
Power Supply	9V (6F22) * 1pcs
Item Weight	150 Grams
Package Dimensions	9.37 x 5.83 x 2.44 inches

10. Warranty and Support

BTMETER products are designed for reliability and performance. For warranty information or technical support, please refer to the documentation included with your purchase or contact BTMETER customer service directly. Contact details can typically be found on the official BTMETER website or through your retailer.

Related Documents

	Digital Multimeter Operator's Manual - BTMETER BT-39K Operator's manual for the BTMETER BT-39K Digital Multimeter, detailing its features, specifications, operating instructions, safety precautions, and maintenance.
	6000 Digits Clamp Multimeter Operation Manual Operation manual for the 6000 Digits AC/DC Auto Cal Clamp Multimeter, detailing safety information, specifications, measuring instructions, and maintenance.
	BTMETER BT-570CAPP Bluetooth Connection Guide Step-by-step instructions for connecting the BTMETER BT-570CAPP clamp meter to your smartphone via Bluetooth.
	BTMETER BT-1500 Quick Start Guide A quick start guide for the BTMETER BT-1500 infrared thermometer, covering battery installation, basic operation, and display interpretation.



[pdf] User Manual Decleration of Conformity

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INTELLIGENT DIGITAL MULTIMETER OPERATOR S MANUAL 1. Overview The intelligent digital multimeter is characterized at slim size, portable, stable performance and anti-dropping capacity. Using 4000 counts digit LCD monitor with character 22mm high, they offer clear readings. With overall circuitry desi...

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