

## HABOTEST HT86B

# HABOTEST HT86B Multimeter User Manual

Pen-Type Smart Multimeter for Voltage, Resistance, and Continuity Testing

## 1. INTRODUCTION

The HABOTEST HT86B is a compact, pen-type smart multimeter designed for efficient measurement of AC/DC voltage, resistance, and continuity. It features automatic parameter judgment and auto-ranging capabilities, simplifying electrical testing tasks. Equipped with a flashlight function and a digital LCD backlight screen, it ensures clear readability in various lighting conditions. The single test lead design enhances efficiency, particularly for electronic component maintenance.

# Compact size Light and practical

easy to carry; portable



Image 1.1: The HABOTEST HT86B multimeter, highlighting its compact and portable design, suitable for easy carrying and use.

## 2. SAFETY INFORMATION

**Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in electric shock, fire, or serious injury.**

- Do not exceed the maximum input values specified for each measurement range.
- Always inspect the test leads for damage before use. Do not use if insulation is compromised.
- Ensure the battery compartment is securely closed before operation.
- Avoid using the device in wet environments or during electrical storms.
- Do not attempt to measure voltage on circuits exceeding 300V AC/DC.
- Use caution when working with live circuits. Always assume circuits are live until proven otherwise.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.

## 3. PRODUCT OVERVIEW

Familiarize yourself with the components of your HT86B multimeter:



Image 3.1: Labeled diagram of the HT86B multimeter, indicating the location of the backlight key, hold key, LCD display, power key, flashlight, positive probe, and negative clamp.

- **Positive Probe:** The pointed tip for making contact with test points.
- **Negative Clamp:** Connects to the common or ground point of the circuit.
- **LCD Display:** Shows measurement readings, units, and indicators.
- **Power Key (⏻):** Turns the device ON/OFF.
- **Hold Key (HOLD):** Freezes the current reading on the display.
- **Backlight Key (★):** Activates/deactivates the LCD backlight.
- **Flashlight Key (☞):** Turns the built-in flashlight ON/OFF.

## 4. SETUP

### 4.1. Battery Installation

The HT86B multimeter requires one 1.5V AAA battery for operation. A battery is typically included with the

product.

1. Locate the battery compartment cover on the back of the device.
2. Use a small screwdriver (if necessary) to open the battery compartment.
3. Insert the 1.5V AAA battery, ensuring correct polarity (+ and -).
4. Securely close the battery compartment cover.

*Note: Replace batteries when the low battery indicator appears on the LCD to maintain measurement accuracy.*

## 5. OPERATING INSTRUCTIONS

The HT86B features intelligent automatic identification, simplifying the measurement process.



Image 5.1: The HT86B multimeter's display indicating its capability to measure DC voltage, AC voltage, and resistance/continuity, demonstrating its smart digital multimeter functions.

### 5.1. Power On/Off

- Press the (Power) key to turn the multimeter ON.

- Press and hold the (Power) key for approximately 2 seconds to turn the multimeter OFF.
- The device features an Auto Power Off function to conserve battery life.

## 5.2. Automatic Measurement (Smart Mode)

The HT86B automatically identifies AC/DC voltage, resistance, and continuity signals.

1. Turn on the multimeter.
2. Connect the negative clamp to the common/ground point of the circuit.
3. Touch the positive probe to the test point. The multimeter will automatically detect the measurement type and display the reading.

## 5.3. Specific Measurement Types

- **Voltage Measurement (AC/DC):** The device will automatically detect and display the voltage type (AC or DC) and value.
- **Resistance Measurement:** When connected to a component, the device will display its resistance in Ohms ( $\Omega$ ).
- **Continuity Test:** If the resistance between the probe and clamp is less than  $50\Omega$ , the buzzer will sound, indicating continuity.

## 5.4. Special Features

- **Hold Function:** Press the **HOLD** key to freeze the current reading on the LCD. Press again to release.
- **Backlight:** Press the \* (Backlight) key to turn the LCD backlight ON/OFF for improved visibility in low-light conditions.
- **Flashlight:** Press the ✂ (Flashlight) key to activate the built-in flashlight. This is useful for illuminating dark work areas.

# Intelligent automatic identification

The instrument automatically identifies AC/DC voltage, resistance, circuit on-off and other measurement signals.



Image 5.2: The HT86B multimeter demonstrating its flashlight feature, providing illumination for emergency use or in dark working conditions.



Image 5.3: The HD LCD backlit screen of the HT86B multimeter, showing a clear digital reading, which is beneficial for visibility in various lighting conditions.

## 6. SPECIFICATIONS

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Technical specifications for the HABOTEST HT86B multimeter:



## HT86B Detector



Specifications	Range	Resolution	Accuracy
DC Voltage	2.000V/20.00V/200.0V/300V (>310V显示OL)	0.001V/0.01V/0.1V/1V	1%
AC Voltage	2.000V/20.00V/200.0V/300V (>310V显示OL)	0.001V/0.01V/0.1V/1V	1%
Resistance	2000Ω/20.00kΩ/200.0kΩ/2.000MΩ/20.00MΩ	1Ω/0.01kΩ/0.1kΩ/0.001MΩ/0.01MΩ	1%
Continuity	2000Ω/<50Ω Buzzer		
Display	LCD		
Auto Power Off	✓		
Low Battery Indication	✓		
Backlight	✓		
Flashlight	✓		
Buzzer Alert	✓		
Power	1X1.5V AAA Batteries		
Weight	Approx.68g		
Size	175X25X26mm		
QTY	100pcs		
Safety Rating	EN61010-1,-2-030 EN61010-2-033,CATIII 300V		

Image 6.1: Detailed specifications table for the HABOTEST HT86B multimeter, outlining measurement ranges, resolution, accuracy, and additional features.

Specification	Range	Resolution	Accuracy
DC Voltage	2.000V/20.00V/200.0V/300V (>310V OL)	0.001V/0.01V/0.1V/1V	±(1.0%+5)
AC Voltage	2.000V/20.00V/200.0V/300V (>310V OL)	0.001V/0.01V/0.1V/1V	±(1.0%+5)
Resistance	2000Ω/20.00kΩ/200.0kΩ/2.000MΩ/20.00MΩ	1Ω/0.01kΩ/0.1kΩ/0.001MΩ/0.01MΩ	±(1.2%+5)
Continuity	<50Ω buzzer		
Display	LCD		
Auto Power Off	Yes		
Low Battery Indication	Yes		
Backlight	Yes		
Flashlight	Yes		
Buzzer Alert	Yes		



Specification	Range	Resolution	Accuracy
Power	1 x 1.5V AAA Battery		
Weight	Approx. 70g		
Dimensions (L x W x H)	17.5 x 2.5 x 2.6 cm		
Safety Rating	IEC 61010-1, EN61010-2-033, CAT III 300V		

## 7. MAINTENANCE

### 7.1. Cleaning

To ensure long-term performance and accurate readings, keep the multimeter clean.

- Wipe the casing with a damp cloth and mild detergent. Do not use abrasive cleaners or solvents.
- Ensure no moisture enters the device.
- Clean the probes and test leads regularly to remove any dirt or residue that might affect conductivity.

### 7.2. Battery Replacement

When the low battery indicator appears on the display, replace the battery as described in Section 4.1. Remove the battery if the device will not be used for an extended period to prevent leakage.

### 7.3. Storage

Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures. The included carrying case is ideal for protection during storage and transport.

## 8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed battery.	Check battery polarity or replace with a new 1.5V AAA battery.
No reading on display / "OL" (Overload) displayed.	Open circuit, out of range measurement, or poor contact.	Ensure proper contact with the circuit. Verify the measurement is within the device's specified range.
Inaccurate readings.	Low battery, dirty probes, or external interference.	Replace battery. Clean probes. Move away from strong electromagnetic fields.
Buzzer does not sound during continuity test.	Resistance is too high (>50Ω) or open circuit.	Verify the circuit path. The buzzer only sounds for resistance below 50Ω.

## 9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact your seller or the manufacturer directly. Keep your purchase receipt as proof of purchase.

**Manufacturer:** Dongguan Habotest Instrument Company Limited

**Importer/Packer (India):** MDS Automech Solutions

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