

ANENG MH12

ANENG MH12 Digital Insulation Resistance Tester User Manual

Model: MH12

1. INTRODUCTION

The ANENG MH12 is a versatile digital insulation resistance tester designed for accurate measurement of insulation resistance, AC voltage, and DC voltage. It incorporates a low-loss, high-ratio inductance energy storage DC voltage converter, enabling it to generate test voltages from 50V to 1000V. This device is suitable for a wide range of applications, including testing motors, cables, electromechanical equipment, communication equipment, and power facilities.

Key features include a clear LCD multiple display with analog bar, full symbol display, automatic ranging, software calibration, and full key operation for ease of use. Its robust design, including silicone shock protection and a convenient support frame, ensures stable performance and durability in various working environments.

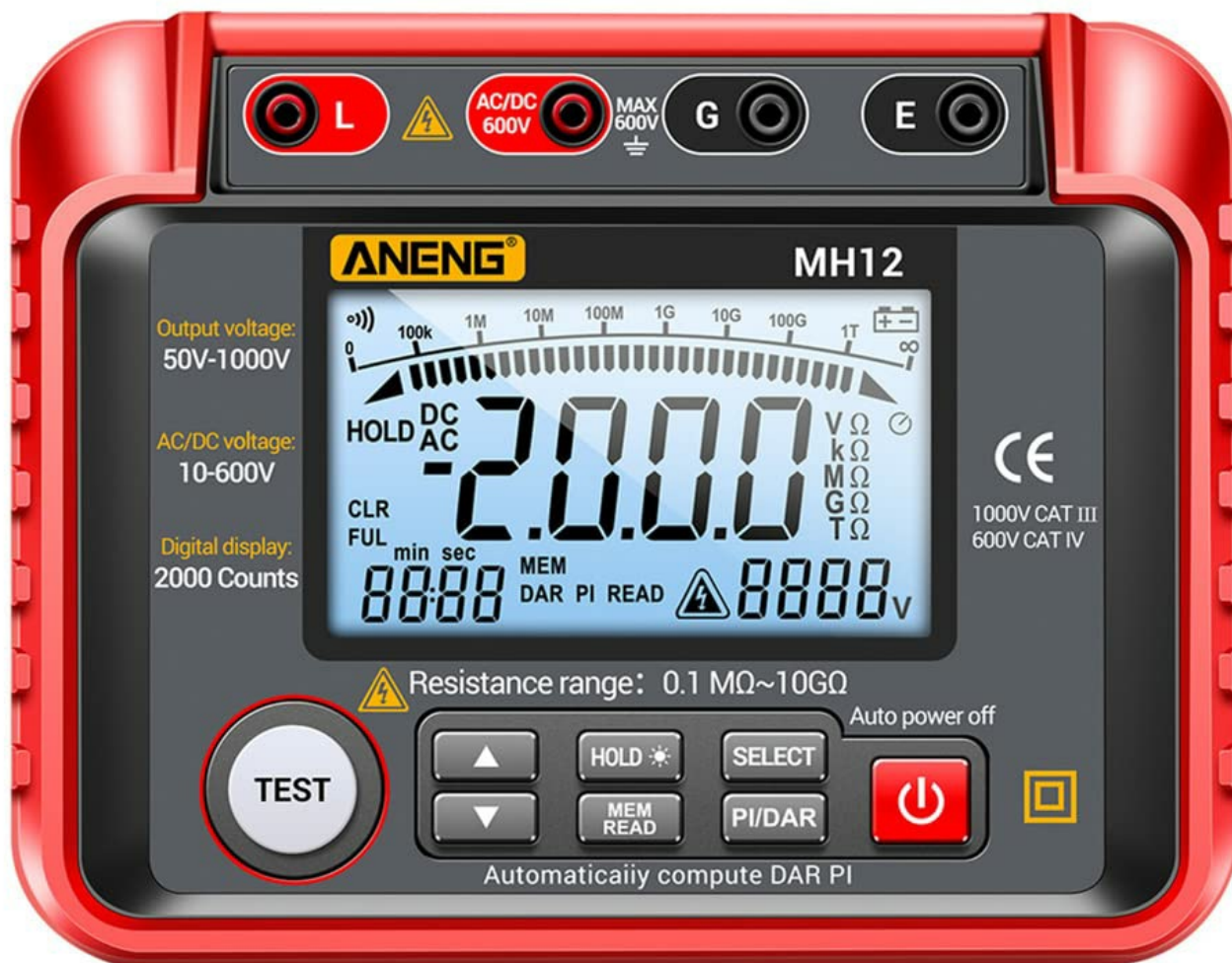


Figure 1: Front view of the ANENG MH12 Digital Insulation Resistance Tester.

2. SAFETY INFORMATION

Please read and understand all safety warnings and operating instructions before using this instrument. Failure to follow these instructions could result in injury or damage to the meter.

- Always observe local and national safety codes.
- Do not use the meter if it appears damaged or if the test leads are damaged.
- Ensure the meter is powered off and disconnected from any circuit before changing batteries or opening the case.
- Avoid touching the test leads or the circuit under test during measurement, especially when high voltages are present.
- Do not operate the meter in explosive gas, vapor, or dust environments.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always discharge the circuit under test after insulation resistance measurements.

3. PRODUCT OVERVIEW

3.1 Components

- **LCD Display:** Shows measurement readings, units, symbols, and analog bar.
- **Function Buttons:** TEST, HOLD, SELECT, MEM READ, PI/DAR, Power.
- **Input Terminals:** L, AC/DC 600V, G, E (for insulation resistance and voltage measurements).
- **Test Leads:** Red and Black leads with probes.
- **Carrying Case:** For protection and portability.
- **Adjustable Stand:** Integrated stand for convenient viewing angle.



Figure 2: ANENG MH12 with included accessories, including the carrying case and test leads.

3.2 Key Features

- **Digital and Analog Bar Display:** Provides clear and comprehensive measurement readings.
- **Automatic Ranging:** Simplifies operation by automatically selecting the appropriate measurement range.

- Software Calibration: Ensures accuracy and reliability of measurements.
- Insulation Resistance Measurement: Range from 0.1MΩ to 10GΩ.
- AC/DC Voltage Measurement: Range from 10V to 600V.
- Absorption Ratio (DAR) and Polarization Index (PI) Calculation: For advanced insulation analysis.
- Data Storage: Capable of storing up to 100 groups of measurement data.
- Backlight Display: Improves visibility in low-light conditions.
- Silicone Shock Protection: Enhances durability and protects against impacts.
- Adjustable Support Frame: Allows for convenient hands-free operation.



Figure 3: Visual representation of the ANENG MH12's key features.

4. SETUP

4.1 Battery Installation

The ANENG MH12 requires 8 AA batteries (not included) for operation.

1. Ensure the meter is powered off and disconnected from any test leads.
2. Locate the battery compartment on the back of the meter.
3. Open the battery compartment cover.
4. Insert 8 AA batteries, observing the correct polarity (+ and -) as indicated inside the compartment.
5. Close the battery compartment cover securely.

4.2 Connecting Test Leads

Connect the test leads to the appropriate input terminals on the meter:

- For insulation resistance measurements, connect the red lead to the 'L' terminal and the black lead to the 'E' terminal. The 'G' terminal is for guard measurements if required.
- For AC/DC voltage measurements, connect the red lead to the 'AC/DC 600V' terminal and the black lead to the 'G' terminal (common ground).

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

- To power on the meter, press the **Power** button.
- To power off the meter, press and hold the **Power** button until the display turns off. The meter also features an auto-power-off function to conserve battery life.

5.2 Insulation Resistance Measurement

The ANENG MH12 can measure insulation resistance from 0.1M Ω to 10G Ω with selectable test voltages (50V, 100V, 250V, 500V, 1000V).

1. Connect the test leads to the 'L' and 'E' terminals.
2. Power on the meter.
3. Use the **SELECT** button to choose the desired test voltage (50V, 100V, 250V, 500V, or 1000V).
4. Connect the test probes to the circuit or component under test. Ensure the circuit is de-energized and isolated.
5. Press the **TEST** button to initiate the measurement. The display will show the insulation resistance value.
6. After the measurement, the meter will automatically discharge the circuit.

Product size measurement

High Precision Megohmmeter
Insulation Resistance Tester



Figure 4: Performing an insulation resistance measurement. The test button automatically discharges the circuit to ensure safety.

5.3 Absorption Ratio (DAR) and Polarization Index (PI) Measurement

These functions help assess the quality of insulation over time.

- **Absorption Ratio (DAR):** The ratio of insulation resistance at 1 minute to the insulation resistance at 30 seconds. Press the **PI/DAR** button once to select DAR mode.
- **Polarization Index (PI):** The ratio of insulation resistance at 10 minutes to the insulation resistance at 1 minute. Press the **PI/DAR** button twice to select PI mode.
- Initiate the measurement by pressing the **TEST** button. The meter will automatically perform the timed measurements and display the calculated ratio.

5.4 AC/DC Voltage Measurement

The meter can measure AC and DC voltages from 10V to 600V.

1. Connect the red test lead to the 'AC/DC 600V' terminal and the black test lead to the 'G' terminal.
2. Power on the meter.

3. Press the **SELECT** button to switch between ACV (AC voltage) and DCV (DC voltage) modes.
4. Connect the test probes to the circuit where voltage needs to be measured.
5. The display will show the measured voltage.



And AC DC voltage

Press **SELECT** key to switch to ACV AC voltage, press **SELECT** key to switch to DCV and then DC voltage, voltage range: 10~600V



AC voltage measurement

The household AC voltage is 220V, the voltage in front normal socket



DC voltage measurement

Measure whether the car battery voltage is normal Avoid car stalls

Figure 5: Examples of AC voltage measurement (left) and DC voltage measurement (right).

5.5 Data Hold and Memory Functions

- **Data Hold:** Press the **HOLD** button to freeze the current reading on the display. Press again to release.
- **Memory Read:** The meter can store up to 100 groups of data. Press the **MEM READ** button to recall stored data. Use the arrow buttons (if available, implied by "full key operation" and image) to navigate through stored readings.

6. MAINTENANCE

6.1 Cleaning

Wipe the meter's casing with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is

completely dry before use.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace all 8 AA batteries as described in Section 4.1.

6.3 Storage

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



Figure 6: The ANENG MH12 features silicone shock protection for enhanced durability.

Support frame design

Adjustable bracket capable of leaning on the table during measurement, convenient for standing operation



Figure 7: The adjustable support frame allows for convenient hands-free operation and viewing.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries.
No reading or "OL" displayed during measurement.	Open circuit; range too high; test leads not connected properly.	Check connections; ensure circuit is closed; select appropriate range (if manual).
Inaccurate readings.	Low battery; interference; dirty test leads.	Replace batteries; move away from strong electromagnetic fields; clean test leads.
Display is dim or flickering.	Low battery.	Replace batteries.

8. SPECIFICATIONS

Parameter	Detail
Model	MH12
Brand	ANENG (Manufactured by YIGEBAG)
Insulation Resistance Range	0.1 MΩ - 10 GΩ
Test Voltages	50V, 100V, 250V, 500V, 1000V DC
AC/DC Voltage Range	10V - 600V
Maximum Display	2000 Counts
Absorption Ratio (DAR)	Ratio of insulation resistance at 1 min to 30 seconds
Polarization Index (PI)	Ratio of insulation resistance at 10 min to 1 minute
Power Supply	8 x AA Batteries (not included)
Dimensions (L x W x H)	172.7 x 140.3 x 62.3 mm (6.8 x 5.5 x 2.5 inches)
Material	ABS Plastic
Safety Rating	1000V CAT III, 600V CAT IV

ANENG®

High Precision Megohmmeter

Insulation Resistance Tester

- ✓ Insulation resistance measurement
- ✓ Polarization Index PI
- ✓ Absorption ratio DAR
- ✓ 100 groups of stored data
- ✓ AC and DC voltage
- ✓ Backlight bright screen



Figure 8: Dimensions of the ANENG MH12.

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the product packaging or contact the retailer/manufacturer directly. Keep your purchase receipt as proof of purchase.

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

Anonymous

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