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› Festnight WinAPEX ET8103 Digital Multimeter User Manual

Festnight ET8103

Festnight WinAPEX ET8103 Digital Multimeter User Manual

Model: ET8103

1. INTRODUCTION

The Festnight WinAPEX ET8103 is a portable, intelligent auto-ranging digital multimeter designed for accurate measurement of various electrical parameters. It features a 6000-count LCD display, True RMS measurement, Non-Contact Voltage (NCV) detection, and a built-in flashlight, making it suitable for both daily life measurements and professional use.



Figure 1.1: Festnight WinAPEX ET8103 Digital Multimeter in operation.

2. SAFETY INFORMATION

Please read and understand all safety information before operating this multimeter. Failure to follow these instructions may result in electric shock, fire, or damage to the meter.

- Always ensure the test leads are in good condition and properly connected before making any measurements.
- Do not exceed the maximum input values specified for each measurement range.
- Exercise extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Do not use the meter if it appears damaged or if the battery cover is not properly closed.
- Remove test leads from the circuit before changing functions.
- Replace batteries immediately when the low battery indicator appears.
- Do not operate the meter in explosive gas, vapor, or dusty environments.

3. PACKAGE CONTENTS

Verify that all items are present and undamaged upon opening the package:

- 1 x Festnight WinAPEX ET8103 Digital Multimeter
- 1 x Pair of Test Leads
- 1 x User Manual (this document)

4. PRODUCT OVERVIEW

The ET8103 multimeter features a compact design with an intuitive interface. Key components and functions are highlighted below:



Figure 4.1: Front view and interface of the ET8103 Multimeter.

Key Features:

- **LCD Display:** 6000 counts display for clear readings.
- **Auto Recognition:** Automatically identifies measurement requirements (voltage, resistance, continuity) for simplified operation.
- **True RMS:** Provides accurate measurements for non-sinusoidal AC waveforms.
- **NCV (Non-Contact Voltage):** Detects AC voltage without direct contact.

- **Flashlight Function:** Integrated LED light for illuminating dark work areas.
- **Data Hold:** Freezes the current reading on the display.
- **Auto Power-Off:** Conserves battery life by automatically shutting down after approximately 15 minutes of inactivity.
- **Low Battery Tips:** Indicates when battery replacement is needed.
- **High Voltage DC 1000V Protection:** Enhanced safety for high voltage measurements.

FULL Automatic Identification

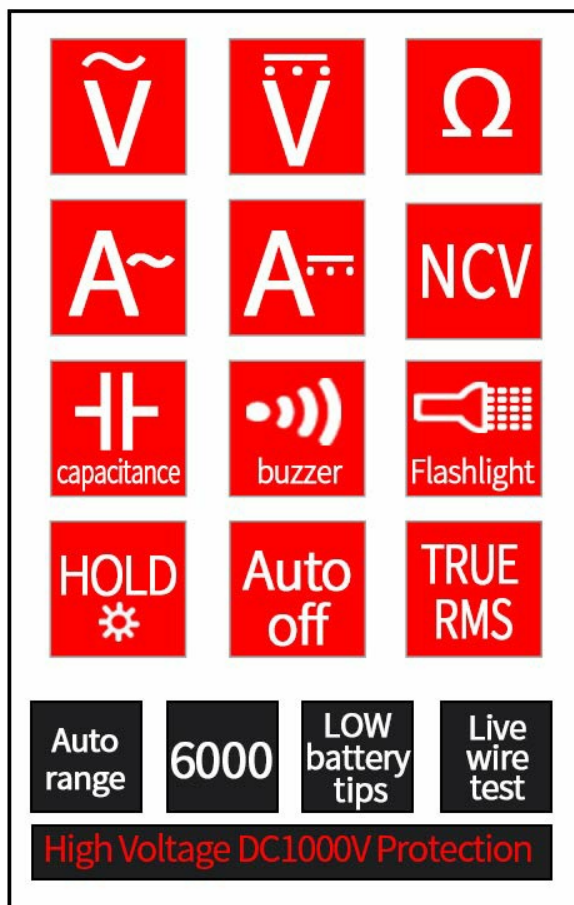


Figure 4.2: Overview of ET8103 Multimeter functions and features.

5. SETUP

5.1 Battery Installation

The ET8103 multimeter requires two AAA batteries (not included) for operation.

1. Ensure the multimeter is powered off.
2. Locate the battery compartment on the back of the device.
3. Use a screwdriver to open the battery compartment cover.
4. Insert two AAA batteries, observing the correct polarity (+ and -).

5. Replace the battery compartment cover and secure it with the screw.

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.
- Insert the **red** test lead into the **VΩHz** jack for voltage, resistance, capacitance, and continuity measurements.
- For current measurements (up to 10A), insert the **red** test lead into the **10A** jack.

6. OPERATING INSTRUCTIONS

6.1 Power On/Off

Press and hold the **POWER** button to turn the multimeter on or off.

6.2 Automatic Measurement Mode

The ET8103 features an intelligent automatic measurement mode. When powered on, it will automatically detect and display the measurement type (AC/DC voltage, resistance, continuity) based on the input signal. Simply connect the test leads to the circuit or component you wish to measure.

6.3 Measuring Voltage (AC/DC)

1. Connect the red test lead to the VΩHz jack and the black test lead to the COM jack.
2. Connect the test probes in parallel across the component or circuit where you want to measure voltage.
3. The multimeter will automatically detect and display the AC or DC voltage.

6.4 Measuring Current (AC/DC)

1. **Important:** For current measurements, the multimeter must be connected in series with the circuit.
2. Connect the red test lead to the 10A jack and the black test lead to the COM jack.
3. Open the circuit where you want to measure current and insert the test probes to complete the circuit.
4. The multimeter will automatically detect and display the AC or DC current.

6.5 Measuring Resistance

1. Connect the red test lead to the VΩHz jack and the black test lead to the COM jack.
2. Ensure the circuit or component is de-energized before measuring resistance.
3. Connect the test probes across the component.
4. The multimeter will automatically display the resistance value.

6.6 Measuring Capacitance

1. Connect the red test lead to the VΩHz jack and the black test lead to the COM jack.
2. Ensure the capacitor is fully discharged before measurement to prevent damage to the meter.
3. Connect the test probes across the capacitor terminals.
4. The multimeter will display the capacitance value.

6.7 Non-Contact Voltage (NCV) Detection

The NCV function allows for detection of AC voltage without direct contact with conductors.

1. Press the **NCV** button to activate the NCV mode.
2. Move the top end of the multimeter (where the NCV sensor is located) close to the conductor or outlet.
3. The meter will indicate the presence of AC voltage through an audible beep and/or visual indicator on the display.



Figure 6.1: Using the NCV function to detect voltage.

6.8 Live Wire Test

This function helps identify live wires in an AC circuit.

1. Connect the red test lead to the VΩHz jack and the black test lead to the COM jack.
2. Touch the red test probe to the suspected live wire or terminal.
3. The meter will indicate if it is a live line or a null line.



Figure 6.2: Performing a live wire test.

6.9 Flashlight Function

The built-in flashlight can be used to illuminate dark work areas.

1. Press the **Flashlight** button to turn the flashlight on or off.



Figure 6.3: Using the integrated flashlight.

6.10 Data Hold

Press the **HOLD** button to freeze the current reading on the display. Press it again to release the hold function.

6.11 Auto Power-Off (APO)

The multimeter will automatically power off after approximately 15 minutes of inactivity to conserve battery life. Press any button or rotate the function dial to wake it up.

7. MAINTENANCE

7.1 Cleaning

Wipe the meter with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the meter is completely dry before use.

7.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 5.1.

Remove batteries if the meter is not used for an extended period.

7.3 Test Lead Inspection

Regularly inspect test leads for any signs of damage, such as cracked insulation or exposed metal. Replace damaged leads immediately to ensure safety and accurate measurements.

8. TROUBLESHOOTING

- **Meter does not power on:** Check battery installation and ensure batteries are not depleted.
- **Incorrect readings:** Ensure test leads are properly connected to the correct jacks and the circuit. Verify the circuit is de-energized for resistance/capacitance measurements.
- **No display:** Check battery level. If the display is blank or dim, replace batteries.
- **"OL" or "OVER" displayed:** This indicates an overload or out-of-range measurement. Ensure the input value does not exceed the meter's maximum specifications.

9. SPECIFICATIONS

Parameter	Specification
Display	LCD, 6000 Counts
DC Voltage Range	6V/60V/600V/1000V
AC Voltage Range	6V/60V/600V/750V
DC Current Range	6A/10A
AC Current Range	6A/10A
Resistance Range	600Ω/6kΩ/60kΩ/600kΩ/6MΩ/60MΩ
Capacitance Range	60nF/600nF/6μF/60μF/600μF/6mF/60mF (30mF <10mF for reference)
True RMS	Yes
NCV	AC Non-Contact Electric Field Measurement
Flashlight Function	Yes
Buzzer	0.1Ω-50Ω
Continuity Test	Approx. 0.6V
Data Hold	Yes
LCD Backlight	Yes
Low Battery Tips	Yes
Auto Shutdown	Approx. 15 minutes
Power	2 x AAA Battery (not included)
Operating Environment	18°C~28°C (64°F~82°F), Relative humidity ≤75%

Parameter	Specification
Item Size	139 x 63 x 28.5mm (5.5 x 2.5 x 1.1in)
Item Weight	199g (7.0oz)

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the seller/manufacturer directly. Keep your purchase receipt as proof of purchase.