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LiebeWH XL830L

LiebeWH XL830L Digital Multimeter User Manual

Model: XL830L | Brand: LiebeWH

1. PRODUCT OVERVIEW

The LiebeWH XL830L is a handheld digital multimeter designed for measuring DC/AC voltage, DC current, resistance, diode, and transistor (hFE). It features a clear LCD display with backlight, data hold function, and overload protection, making it a reliable tool for various electrical testing applications.



LiebeWH XL830L Digital Multimeter with red and black test leads connected, ready for use.

Key Features:

- **LCD Display with Backlight:** Provides clear and accurate readings, with a maximum display value of 1999.
- **Durable Construction:** Wrapped with thickened silicone for shockproof and fall-proof protection.
- **Multiple Measurement Functions:** Includes DC/AC voltage, DC current, resistance, diode, and transistor (hFE) tests.
- **Safety Features:** Equipped with overload protection and low battery indication.
- **Convenient Functions:** Data hold and on-off measurement capabilities.

2. SAFETY INFORMATION

Please read and understand all safety instructions before operating this multimeter. Improper use can result in electric shock, injury, or damage to the meter or equipment under test.

- Always ensure the test leads are properly connected and the function switch is set to the correct range before making any measurements.
- Do not exceed the maximum input values for any range.
- Exercise extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Before measuring current, ensure the circuit is de-energized and the meter is connected in series.
- Replace the battery when the low battery indicator appears to ensure accurate readings.
- Do not operate the meter if it appears damaged or if the test leads are damaged.
- To avoid electrical shock, remove test leads before opening the case for battery replacement or fuse inspection.

3. PRODUCT COMPONENTS

The package typically includes the following items:

- 1 x Digital Multimeter (XL830L)
- 2 x Test Leads (Red and Black)
- 1 x English Manual

4. SETUP

4.1 Battery Installation

The XL830L multimeter requires one 9V (6F22) battery (not included). To install the battery:

1. Ensure the multimeter is turned OFF and disconnect the test leads from the meter.
2. Locate the battery compartment cover on the back of the meter.
3. Remove the screw (if present) and slide off the cover.
4. Connect a new 9V battery to the battery clips, observing correct polarity.
5. Place the battery into the compartment and replace the cover, securing it with the screw.



Rear view of the XL830L Digital Multimeter, showing the integrated kickstand and the battery compartment cover.

4.2 Connecting Test Leads

The multimeter comes with two test leads: one red and one black. Follow these steps to connect them:

1. Insert the black test lead into the "COM" (common) jack.
2. For most measurements (voltage, resistance, diode, hFE), insert the red test lead into the "VΩmA" jack.
3. For measuring high DC current (up to 10A), insert the red test lead into the "10ADC" jack. Ensure the function switch is set to the appropriate current range.



Front view of the XL830L Digital Multimeter, showing the input jacks for test leads.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off

To turn the multimeter ON, rotate the function switch from the "OFF" position to any desired measurement function. To turn it OFF, rotate the switch back to "OFF".

5.2 Function Selection (Rotary Switch)

The central rotary switch allows you to select the desired measurement function and range. Always select a range higher than the expected value to prevent damage to the meter.

5.3 Measuring DC Voltage (V=)

1. Connect the black test lead to the "COM" jack and the red test lead to the "VΩmA" jack.

2. Set the rotary switch to the desired DC Voltage (V=) range (e.g., 20V, 200V, 600V).
3. Connect the test probes in parallel across the component or circuit to be measured.
4. Read the voltage value on the LCD display.

5.4 Measuring AC Voltage (V~)

1. Connect the black test lead to the "COM" jack and the red test lead to the "VΩmA" jack.
2. Set the rotary switch to the desired AC Voltage (V~) range (e.g., 200V, 600V).
3. Connect the test probes in parallel across the AC source or component.
4. Read the voltage value on the LCD display.

5.5 Measuring DC Current (A=)

1. **Important:** Ensure the circuit is de-energized before connecting the meter.
2. Connect the black test lead to the "COM" jack. For current up to 200mA, connect the red test lead to the "VΩmA" jack. For current up to 10A, connect the red test lead to the "10ADC" jack.
3. Set the rotary switch to the desired DC Current (A=) range (e.g., 200μA, 2mA, 20mA, 200mA, 10A).
4. Open the circuit where current is to be measured and connect the multimeter in series with the load.
5. Re-energize the circuit and read the current value on the LCD display.

5.6 Measuring Resistance (Ω)

1. Ensure the component is de-energized and isolated from the circuit.
2. Connect the black test lead to the "COM" jack and the red test lead to the "VΩmA" jack.
3. Set the rotary switch to the desired Resistance (Ω) range (e.g., 200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ).
4. Connect the test probes across the component.
5. Read the resistance value on the LCD display.



With LCD display and backlight, the data display is clear and accurate, and the maximum display value is 1999.

This instrument has stable performance, high precision, high reliability, clear reading and overload protection function.

Using the XL830L Digital Multimeter to measure components on a circuit board.

5.7 Diode Test

1. Connect the black test lead to the "COM" jack and the red test lead to the "VΩmA" jack.
2. Set the rotary switch to the diode symbol (▲).
3. Connect the red probe to the anode and the black probe to the cathode of the diode. The display will show the forward voltage drop.
4. Reverse the probes. The display should show "OL" (Open Loop) for a good diode.

5.8 Transistor (hFE) Test

1. Set the rotary switch to the "hFE" position.
2. Identify if the transistor is NPN or PNP.
3. Insert the transistor's Emitter (E), Base (B), and Collector (C) leads into the corresponding holes in the hFE socket on the meter.
4. Read the hFE value (DC current gain) on the display.

5.9 Continuity Test (On-off measurement)

1. Connect the black test lead to the "COM" jack and the red test lead to the "VΩmA" jack.
2. Set the rotary switch to the continuity symbol (★ or similar).
3. Connect the test probes across the circuit or component.

4. If there is continuity (low resistance), the meter will typically emit an audible beep and display a low resistance value. If there is no continuity, it will display "OL".

5.10 Data Hold Function

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

5.11 Backlight Function

Press the "BACK LIGHT" button to turn on the display backlight for improved visibility in dimly lit environments. Press it again to turn off the backlight.



The XL830L Digital Multimeter display with backlight activated.

6. MAINTENANCE

6.1 Cleaning

Wipe the meter with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the display clean and dry.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace the 9V battery as described in Section 4.1. Remove the battery if the meter is not used for an extended period.

6.3 Storage

Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures. Ensure the function switch is in the "OFF" position during storage.

7. TROUBLESHOOTING

7.1 No Display or Faint Display

- Check if the battery is installed correctly and has sufficient charge. Replace the battery if necessary.
- Ensure the function switch is not in the "OFF" position.

7.2 Incorrect Readings

- Verify that the function switch is set to the correct measurement type and range.
- Ensure test leads are properly connected to the correct input jacks.
- Check the battery voltage; a low battery can affect accuracy.
- Ensure the probes are making good contact with the circuit or component.

7.3 Overload Indication ("OL")

- The measured value exceeds the selected range. Switch to a higher range.
- For resistance or continuity, "OL" indicates an open circuit.

8. SPECIFICATIONS

Specification	Value
Item Type	Digital Multimeter
Material	Plastic + Silicone
Color	Red
Maximum Display	1999 (3-bit semi-LCD display)
LCD Size	45x20mm / 1.8x0.8in
Input Resistance	1M Ω

Specification	Value
Battery	9V, 6F22 (Not included)
Triode Measurement	Yes (PNP/NPN triode hFE)
Diode Measurement	Yes
On-off Measurement	Yes
Data Hold	Yes
Backlight	Yes
Size	35x67x33mm / 1.4x2.6x1.3in
Weight	240g / 8.5oz
Measurement Type	Ammeter, Multimeter, Ohmmeter, Voltmeter

9. WARRANTY AND SUPPORT

Warranty information for the LiebeWH XL830L Digital Multimeter is not explicitly provided in the product details. For specific warranty terms or technical support, please refer to the contact information provided by your retailer or the manufacturer, LiebeWH.

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Related Documents - XL830L

	<p>Beizkna XL830L Digital Multimeter User Manual & Specifications</p> <p>Comprehensive guide to the Beizkna XL830L Digital Multimeter, covering safety information, detailed specifications for DC/AC voltage, current, resistance, diode testing, continuity, transistor testing, and usage instructions.</p>
	<p>Stalwart XL830L Digital Multimeter Instruction Manual</p> <p>Comprehensive instruction manual for the Stalwart XL830L digital multimeter, covering safety, specifications, operating instructions, and maintenance for accurate electrical measurements.</p>
	<p>ANENG XL830L Digital Multimeter: Operator's Instruction Manual</p> <p>This operator's instruction manual provides detailed information on the ANENG XL830L Digital Multimeter, covering safety precautions, specifications, and operating instructions for various measurements like voltage, current, resistance, and more.</p>

