Pilipane LC-100-A

Pilipane LC-100-A Digital Capacitance and Inductance Meter User Manual

Model: LC-100-A
Brand: Pilipane

1. Introduction

This manual provides detailed instructions for the safe and effective use of your Pilipane LC-100-A Digital Capacitance and Inductance Meter. This device is designed for precise measurement of capacitance and inductance, featuring automatic gear selection and a mini USB interface for power.
The LC-100-A offers high accuracy measurements across a wide range, utilizing digital bridge technology for reliable results. Its compact size and user-friendly design make it suitable for various applications in electronics testing.



Figure 1.1: Pilipane LC-100-A Digital Capacitance Meter and included accessories.

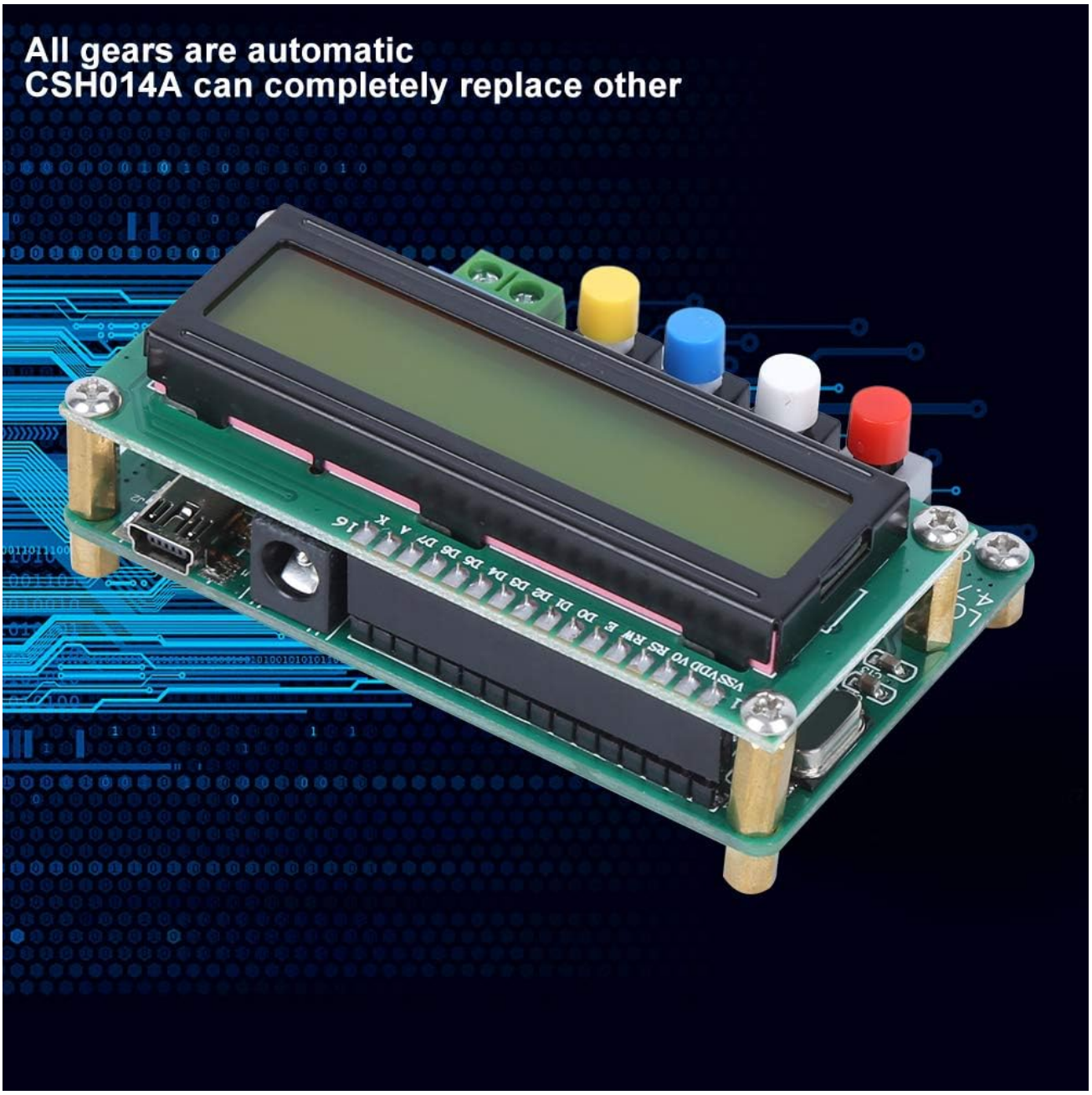


Figure 1.2: The LC-100-A meter features automatic gear selection for versatile performance.

2. Package Contents

Please check the package for the following items:

- 1 x LC-100-A Capacitance Meter
- 2 x Test Clips (Red and Black)
- 1 x Mini USB Power Cord

3. Device Overview

Familiarize yourself with the components and controls of your LC-100-A meter:

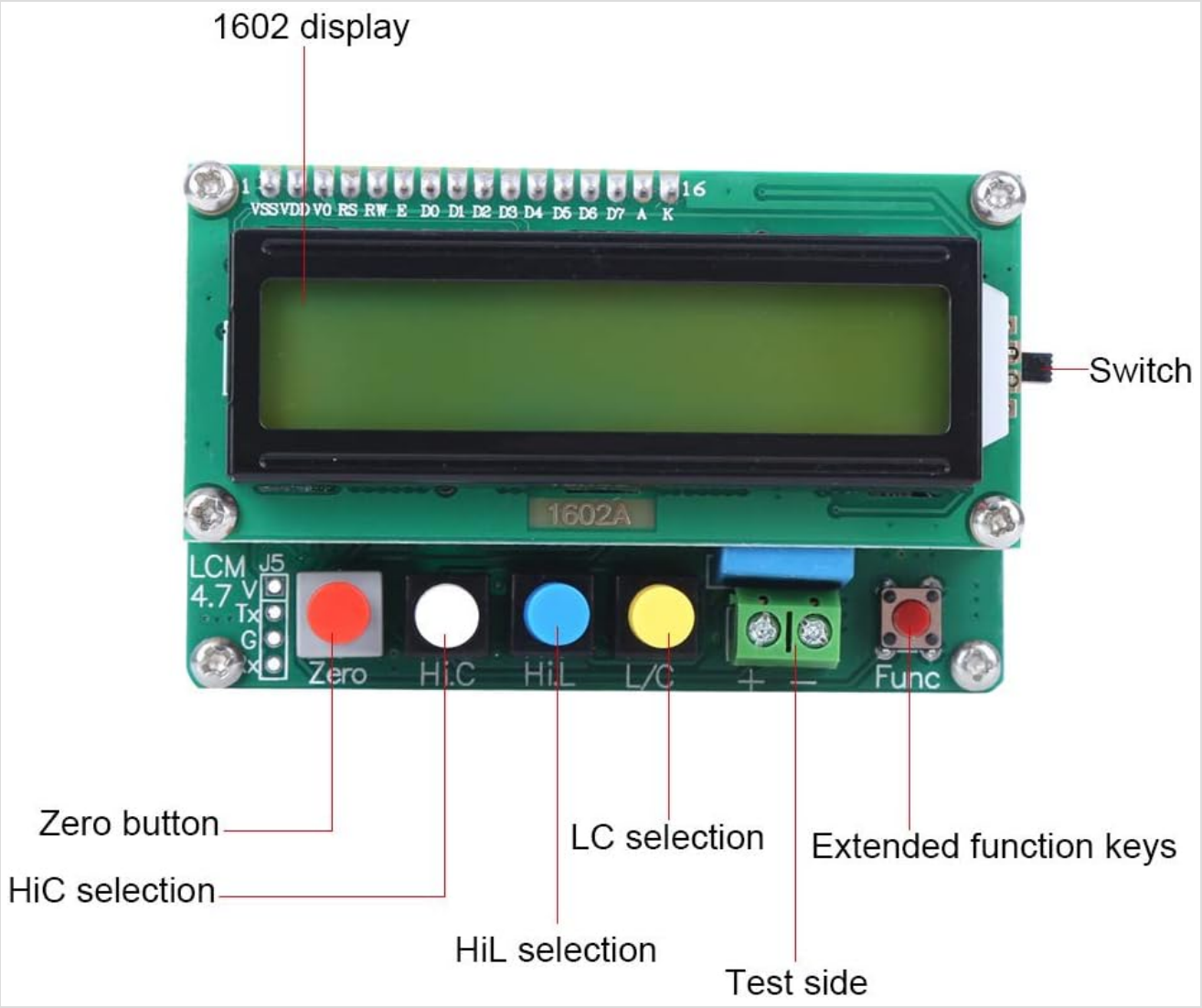


Figure 3.1: LC-100-A Meter Controls and Interfaces.

- **1602 Display:** Shows measurement values and mode information.
- **Zero Button (Red):** Used to calibrate the device and compensate for test lead capacitance/inductance.
- **Hi.C Selection Button (White):** Selects the high capacitance measurement mode.
- **Hi.L Selection Button (Blue):** Selects the high inductance measurement mode.
- **L/C Selection Button (Yellow):** Selects the standard inductance/capacitance measurement mode.
- **Test Side (+/-):** Terminals for connecting test clips to the component under test.
- **Func Button (Red):** Extended function key (refer to advanced documentation if applicable).
- **Switch:** Power on/off switch.
- **Mini USB Interface:** For power supply (+5V).

4. Setup

Follow these steps to set up your LC-100-A meter:

1. **Connect Power:** Connect the provided mini USB power cord to the mini USB interface on the side of the device. Connect the other end to a stable +5V power source (e.g., a USB wall adapter or computer USB port).

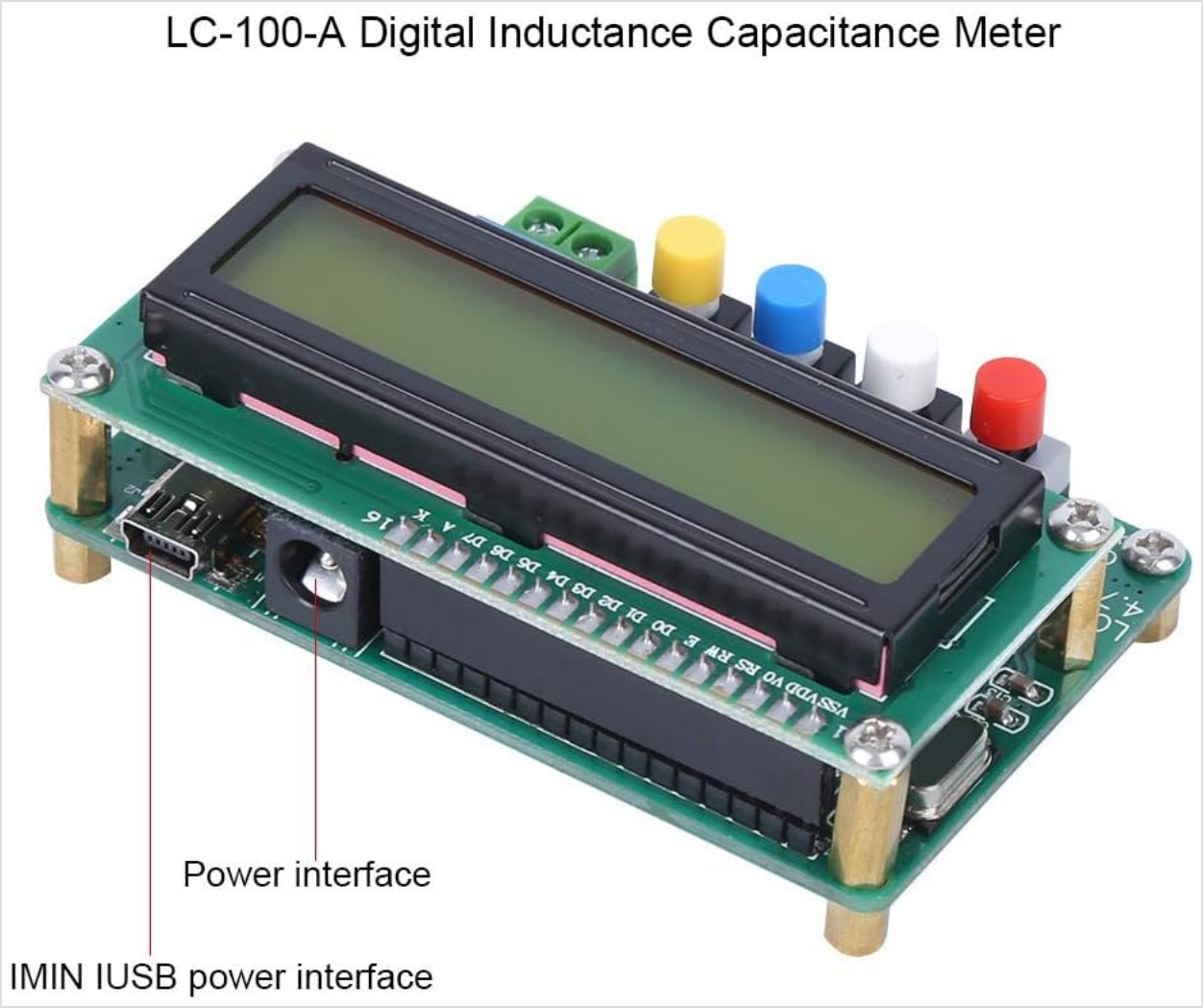


Figure 4.1: Mini USB Power Interface.

2. **Attach Test Clips:** Securely attach the red and black test clips to the corresponding positive (+) and negative (-) test terminals on the meter.
3. **Power On:** Flip the power switch located on the side of the device to the 'ON' position. The 1602 LCD display should illuminate.

5. Operating Instructions

This section details how to perform measurements using your LC-100-A meter.

5.1. Zeroing the Device

Before taking any measurements, it is crucial to zero the device to ensure accuracy. This compensates for any stray capacitance or inductance introduced by the test leads themselves.

1. Ensure no component is connected to the test clips. The clips should not be touching each other.
2. Press the **Zero** button (red button). The display will show 'CALIBRATING...' and then 'ZERO OK' or a similar confirmation.

5.2. Selecting Measurement Modes

The LC-100-A offers three primary measurement modes:

- **L/C (Standard Inductance/Capacitance):** For general purpose inductance (0.001 uH - 100 mH) and capacitance (0.01 pF - 10 uF) measurements.

- **Hi.C (High Capacitance):** For larger capacitance values (up to 100 H, though the specification mentions 10uF for C and 100H for L, this seems to be a typo in the original description, assuming Hi.C is for larger C values).
- **Hi.L (High Inductance):** For larger inductance values (0.001 mH - 100 H).

Press the corresponding button (**L/C**, **Hi.C**, or **Hi.L**) to select the desired measurement mode. The selected mode will be indicated on the LCD display.

5.3. Taking Measurements

1. **Prepare the Component:** Ensure the component to be measured is discharged (for capacitors) and isolated from any circuits.
2. **Select Mode:** Choose the appropriate measurement mode (L/C, Hi.C, or Hi.L) based on the component type and expected value.
3. **Zero the Device:** Perform the zeroing procedure as described in Section 5.1.
4. **Connect Component:** Connect the leads of the component to the red and black test clips. Ensure a firm and stable connection.
5. **Read Measurement:** The measured value will be displayed on the 1602 LCD screen. The unit (e.g., pF, uF, uH, mH, H) will also be shown.

6. Maintenance

Proper care and maintenance will extend the lifespan of your LC-100-A meter.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the meter in a dry, dust-free environment away from direct sunlight and extreme temperatures.
- **Avoid Impact:** Protect the device from drops and physical shocks.
- **Power Off:** Always turn off the device when not in use to prevent unnecessary power consumption.

7. Troubleshooting

If you encounter issues with your LC-100-A meter, refer to the following common problems and solutions:

- **No Display or Device Not Powering On:**
  - Ensure the mini USB power cord is securely connected to both the device and a functional +5V power source.
  - Check that the power switch on the side of the device is in the 'ON' position.
  - Try using a different USB power source or cable.
- **Inaccurate or Unstable Readings:**
  - Perform the zeroing procedure (Section 5.1) before each measurement.
  - Ensure the test clips have good, clean contact with the component leads.
  - Verify that the correct measurement mode (L/C, Hi.C, Hi.L) is selected for the component type and expected value.
  - Ensure the component is isolated and not part of an active circuit during measurement.
- **'OVERLOAD' or 'OUT OF RANGE' Message:**
  - The component value may exceed the selected measurement range. Try switching to a higher range mode (e.g., from L/C to Hi.C or Hi.L).

- Ensure the component is not short-circuited.

8. Specifications

Parameter	Value
Model	LC100-A
Power Supply	+5V, mini USB interface
Measurement Accuracy	1%
Capacitance Measurement Range	0.01 pF - 10 uF (Minimum Resolution: 0.01 pF)
Inductance Measurement Range	0.001 uH - 100 mH
Large Inductance Measurement Range	0.001 mH - 100 H (Minimum Resolution: 0.001 uH)
Test Frequency Range	L/C about 500 KHz / Large Inductance 500 Hz
Effective Display Digits	4 digits
LCD Display Mode	1602
Item Weight	4.9 ounces (0.14 Kilograms)
Batteries Required	No

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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.

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