WANLUTECH LT-40

WANLUTECH LT-40 Mini Laser Distance Meter User Manual

Model: LT-40

1. Introduction

Thank you for choosing the WANLUTECH LT-40 Mini Laser Distance Meter. This compact and versatile tool is designed for accurate distance, area, and volume measurements, featuring multiple measurement modes and a clear LCD backlight. This manual provides essential information for safe and effective use of your device.

2. Product Overview

2.1 Key Features

- Multiple Measurement Modes: Includes single, continuous, area, volume, and Pythagorean measurements.
- Compact Design: Small size (5.6 x 1.2 x 2.1 cm) and lightweight (28g) with an aluminum alloy housing for portability.
- Long Measuring Distance: Measures up to 131ft (40m).
- USB Charging: Convenient micro-USB charging port.
- LCD Backlight: Ensures clear data readability in various lighting conditions.
- Selectable Reference Points: Choose between front or rear reference for measurements.
- Unit Conversion: Switch between meters (m), inches (in), and feet (ft).

2.2 Device Components and Display

The following diagram illustrates the main components and display indicators of the LT-40 Laser Distance Meter.

Figure 1: LT-40 Device Layout and Function Buttons

Figure 2: LT-40 Display Indicators and Dimensions

- **Main Button:** Used for power on, single measurement, and confirming selections.
- **F/R Button:** Functions switch / Front-Rear reference switch.
- **Power Off / Backlit Button:** Turns the device off and controls the LCD backlight.
- **Display:** Shows measurement values, units, battery status, laser strength, and measurement mode icons.

3. Setup

3.1 Charging the Device

The LT-40 features a built-in Lithium-Ion battery and is rechargeable via a micro-USB port.

1. Connect the provided micro-USB cable to the device's charging port.
2. Connect the other end of the USB cable to a standard USB power adapter (not included) or a computer's USB port.
3. The battery indicator on the display will show charging status. Charge fully before first use.

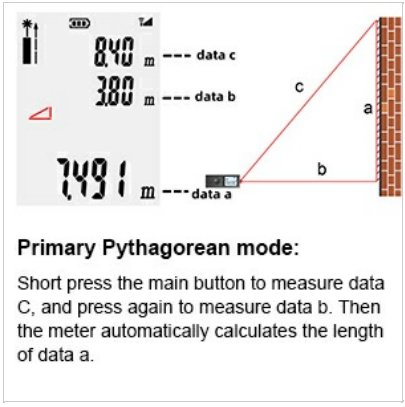

Figure 3: USB Charging Port

3.2 Powering On/Off and Backlight

- **Power On:** Short press the main button.
- **Power Off:** Long press the Power Off / Backlit button.
- **Backlight Control:** Short press the Power Off / Backlit button to toggle the LCD backlight on or off.

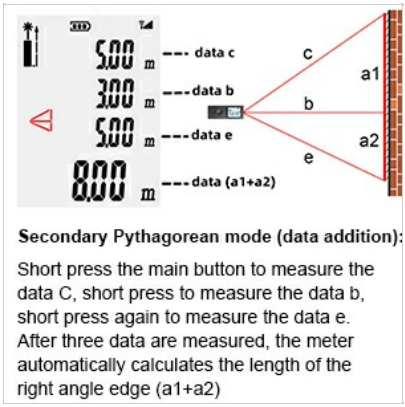

Figure 4: LCD Backlight in Operation

3.3 Setting Measurement Reference Point

The device allows you to choose the measurement reference point:

- **Front Reference:** Measurements are taken from the front edge of the device. The device's length is not included in the result.
- **Rear Reference:** Measurements are taken from the rear edge of the device. The device's length is included in the result.

To switch between reference points, short press the **F/R** button. An icon on the display will indicate the currently selected reference point.

3.4 Changing Measurement Units

The LT-40 supports meters (m), inches (in), and feet (ft).

- To cycle through units, long press the **F/R** button. The unit displayed on the screen will change accordingly.

4. Operation - Measurement Modes

The LT-40 offers various measurement functions. To switch between modes, short press the **F/R** button until the desired mode icon appears on the display.

4.1 Single Measurement

Measures the direct distance between the device and a target.

1. Turn on the device.
2. Point the laser at the desired target.
3. Short press the main button to emit the laser.
4. Short press the main button again to take the measurement. The result will be displayed instantly.

Figure 5: Single Measurement

4.2 Continuous Measurement (Tracking)

Measures distances continuously as the device is moved, displaying real-time maximum and minimum values.

1. Turn on the device.
2. Long press the main button for approximately 1 second to enter continuous measurement mode.
3. Move the device slowly. The display will update with real-time measurements, showing MAX and MIN values.
4. Short press the main button again to exit continuous measurement mode.

Figure 6: Continuous Measurement

4.3 Area Measurement

Calculates the area of a rectangular surface by measuring two sides.

1. Select the Area Measurement mode (icon: rectangle).
2. Short press the main button to measure the first side (e.g., length).
3. Short press the main button again to measure the second side (e.g., width).
4. The device will automatically calculate and display the area.

Figure 7: Area Measurement

4.4 Volume Measurement

Calculates the volume of a space by measuring three dimensions.

1. Select the Volume Measurement mode (icon: cube).
2. Short press the main button to measure the first dimension (e.g., length).
3. Short press the main button again to measure the second dimension (e.g., width).
4. Short press the main button a third time to measure the third dimension (e.g., height).
5. The device will automatically calculate and display the volume.

Figure 8: Volume Measurement

4.5 Pythagorean Measurement

Uses the Pythagorean theorem to calculate indirect distances.

Figure 9: Pythagorean Measurement Modes

4.5.1 Primary Pythagorean Mode (Indirect Height)

Calculates the height of an object (side 'a') by measuring the hypotenuse ('c') and the base ('b').

1. Select the Primary Pythagorean mode (icon: right triangle with 'a' unknown).
2. Short press the main button to measure the hypotenuse (data 'c').
3. Short press the main button again to measure the base (data 'b').
4. The device will automatically calculate and display the height (data 'a').

4.5.2 Secondary Pythagorean Mode (Data Addition)

Calculates a total height (a1+a2) by measuring two hypotenuses and two bases.

1. Select the Secondary Pythagorean mode (data addition) (icon: two right triangles stacked).
2. Short press the main button to measure the first hypotenuse (data 'c').
3. Short press the main button again to measure the first base (data 'b').
4. Short press the main button a third time to measure the second hypotenuse (data 'e').
5. The device will automatically calculate and display the total height (a1+a2).

4.5.3 Secondary Pythagorean Mode (Data Subtraction)

Calculates a height difference (a) by measuring two hypotenuses and two bases.

1. Select the Secondary Pythagorean mode (data subtraction) (icon: two right triangles overlapping).
2. Short press the main button to measure the first hypotenuse (data 'e').
3. Short press the main button again to measure the first base (data 'c').
4. Short press the main button a third time to measure the second base (data 'b').
5. The device will automatically calculate and display the height difference (data 'a').

5. Maintenance

5.1 Cleaning

- Wipe the device with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Keep the laser lens clean and free of dust or debris to ensure accurate measurements. Use a soft, lint-free cloth for the lens.

5.2 Storage

- Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.
- If storing for an extended period, ensure the battery is partially charged (around 50%) to prolong battery life.

6. Troubleshooting

If you encounter issues with your LT-40, please refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on	Low battery or no charge	Charge the device using the USB cable.
Inaccurate measurements	Laser lens is dirty; Unstable measurement surface; Incorrect reference point selected; Strong light interference.	Clean the laser lens; Ensure a stable surface; Verify the front/rear reference setting; Measure in a shaded area or use a target plate in bright conditions.

Problem	Possible Cause	Solution
Display is dim or unreadable	Backlight is off; Low battery.	Short press the Power Off / Backlit button to turn on the backlight; Charge the device.
Device freezes or becomes unresponsive	Temporary software glitch.	Long press the Power Off / Backlit button to force a shutdown, then restart the device.

7. Specifications

Feature	Specification
Model	LT-40
Measuring Range	Up to 40 meters (131ft)
Units	m / in / ft
Laser Class	Class II, Output power <1mW
Battery Type	Lithium-Ion (rechargeable via Micro-USB)
Material	Aluminum alloy and ABS
Color	Gray
Product Dimensions	5.6 x 1.2 x 2.1 cm
Item Weight	28 g
Water Resistance Level	Waterproof (IP54 rating)

8. Warranty & Support

WANLUTECH is dedicated to providing high-quality products and excellent customer service. For any questions, technical support, or warranty inquiries regarding your LT-40 Mini Laser Distance Meter, please contact our customer support team through the retailer where you purchased the product or visit the official WANLUTECH website for contact information.
Please retain your proof of purchase for warranty claims.