

LOUISWARE IP54 Digital Caliper

LOUISWARE IP54 Digital Caliper User Manual

1. INTRODUCTION

This manual provides detailed instructions for the proper use and maintenance of your LOUISWARE IP54 Digital Caliper. Designed for precision measurement, this tool offers high accuracy and durability for various applications. Please read this manual thoroughly before operating the device to ensure optimal performance and longevity.

2. PRODUCT FEATURES

- **IP54 Waterproof Stainless Steel:** Features IP54 level strong waterproofing, protecting the caliper from water contact. Constructed from fine polished stainless steel for enhanced hardness and durability.
- **Large Clear Display Screen:** Equipped with an oversized LCD screen for easy reading of clear numerical values. The thumb rolling and locking screw mechanisms facilitate smooth sliding, accurate positioning, and fine adjustments.
- **Inch/Millimeter Conversion:** Allows quick conversion between inch and millimeter units with a single button press. Measuring Range: 0 - 150mm (6 inches) / Resolution: 0.01mm (0.0005 inches) / Accuracy: ± 0.02 mm (0.001 inches).
- **Multifunctional Use:** Capable of accurately measuring internal, external, height, and depth dimensions.
- **Automatic Shut-Off:** The caliper automatically powers off after 4 minutes of inactivity to conserve battery life.

3. COMPONENTS AND PARTS IDENTIFICATION

Familiarize yourself with the different parts of your digital caliper:

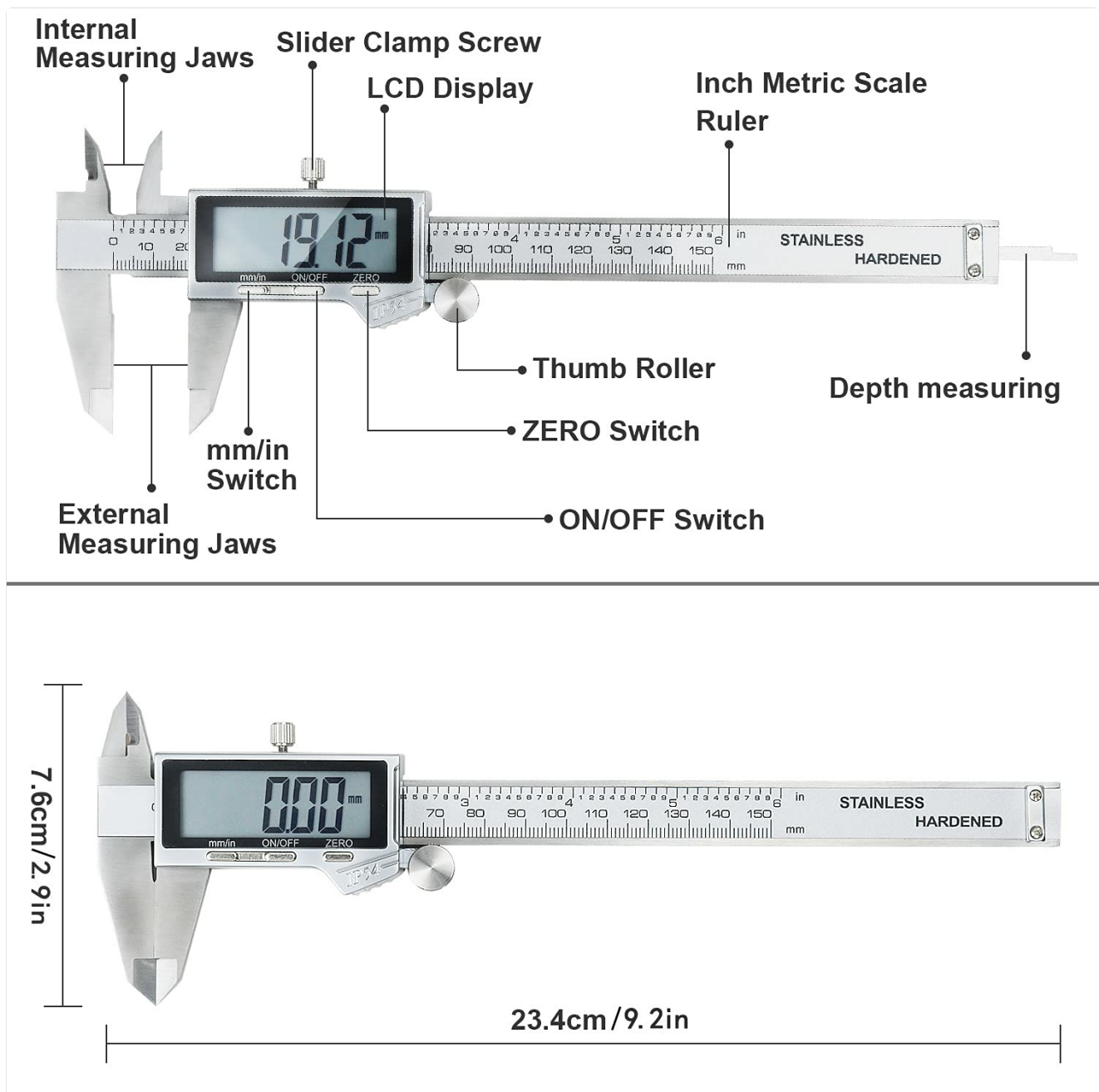


Figure 3.1: Labeled diagram of the LOUISWARE IP54 Digital Caliper, showing Internal Measuring Jaws, Slider Clamp Screw, LCD Display, Inch Metric Scale Ruler, Thumb Roller, ZERO Switch, ON/OFF Switch, External Measuring Jaws, and Depth Measuring Rod.

Easily switch between inch and mm



Figure 3.2: The LOUISWARE IP54 Digital Caliper displaying its overall dimensions: 7.6cm (2.9 inches) jaw length and 23.4cm (9.2 inches) total length.

4. SETUP

4.1 Battery Installation

The caliper comes with pre-installed batteries and usually includes spare batteries. To install or replace batteries:

1. Locate the battery compartment cover on the back of the LCD display unit.
2. Use the small screwdriver (often included) to remove the screw and open the cover.
3. Insert a new CR2032 3V lithium button cell battery with the positive (+) side facing up.
4. Replace the cover and secure it with the screw.

4.2 Initial Power On

Press the **ON/OFF** button to power on the caliper. The LCD screen will display a reading. If the display is blank, check the battery.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off

- Press the **ON/OFF** button to turn the caliper on.
- The caliper will automatically turn off after approximately 4 minutes of inactivity.

5.2 Zeroing the Caliper

Before taking any measurements, it is crucial to zero the caliper for accuracy:

1. Ensure the caliper is clean and free of debris.
2. Close the external measuring jaws completely.
3. Press the **ZERO** button. The display should now read 0.00mm or 0.000 inches.

5.3 Inch/Millimeter Conversion

To switch between measurement units:

- Press the **mm/in** button. The display will toggle between millimeters (mm) and inches (in).



Figure 5.1: The caliper's LCD screen showing a measurement of 20.55 mm and its conversion to 0.8090 inches.

5.4 Taking Measurements

The caliper can perform four types of measurements:

- **External Measurement (Length/Outer Diameter):** Use the large external jaws to measure the outside dimensions of an object.
- **Internal Measurement (Inner Diameter):** Use the small internal jaws to measure the inside dimensions of an object.
- **Depth Measurement:** Use the depth rod at the end of the sliding jaw to measure the depth of a hole or step.
- **Step Measurement:** Use the step between the end of the main beam and the sliding jaw to measure step distances.

Large Measurement Methods



Length Measurement



Internal Measuring Faces



Depth Measurement



Step Measurement

Figure 5.2: Illustrations of Length Measurement, Internal Measuring, Depth Measurement, and Step Measurement using the digital caliper.

To ensure accurate readings:

- Gently slide the jaws open or closed using the thumb roller until they make firm contact with the object.

- Tighten the slider clamp screw to lock the measurement in place if needed.
- Read the measurement directly from the LCD screen.

6. MAINTENANCE

6.1 Cleaning

Regular cleaning helps maintain accuracy and extends the life of your caliper:

- Wipe the caliper surfaces with a clean, dry, lint-free cloth after each use.
- For stubborn dirt, use a cloth lightly dampened with isopropyl alcohol. Avoid harsh chemicals or abrasive cleaners.
- Ensure no liquid enters the electronic components. Despite its IP54 rating, excessive exposure to liquids should be avoided.

6.2 Storage

Store the caliper in its protective case when not in use. This prevents damage from impacts, dust, and moisture. Keep it in a dry environment away from direct sunlight and extreme temperatures.

6.3 Battery Replacement

Refer to Section 4.1 for instructions on battery replacement. Replace the battery when the display becomes dim or erratic.

7. TROUBLESHOOTING

- **Display is blank or dim:** Check the battery. Replace if necessary (refer to Section 4.1).
- **Inaccurate readings:** Ensure the caliper is properly zeroed (refer to Section 5.2). Clean the measuring surfaces to remove any debris. Check for physical damage to the jaws or scale.
- **Jaws do not slide smoothly:** Clean the main beam and sliding surfaces. A very small amount of light machine oil can be applied to the sliding surfaces, then wiped clean.
- **Locking screw feels loose:** Ensure the screw is tightened appropriately. If it consistently loosens, inspect for wear or damage.

8. SPECIFICATIONS

Specification	Value
Model Number	IP54 Digital Caliper
Brand	LOUISWARE
Material	Stainless Steel
Measurement Range	0 - 150 mm (6 inches)
Resolution	0.01 mm (0.0005 inches)
Accuracy	± 0.02 mm (0.001 inches)
Waterproof Rating	IP54

Specification	Value
Product Dimensions	3.15"L x 1.54"W (main body)
Item Weight	12.63 ounces

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation included with your purchase or contact the LOUISWARE customer service directly. Keep your purchase receipt as proof of purchase.

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