

## MTX 316119

# MTX Electronic Vernier Caliper (Model 316119, 150mm) User Manual

Precision Measurement Instrument

## 1. INTRODUCTION

This manual provides instructions for the proper use and maintenance of your MTX Electronic Vernier Caliper, Model 316119. This precision measuring instrument is designed for accurate internal, external, depth, and step measurements up to 150mm.

Constructed from durable tool stainless steel, the caliper features a clear LCD display for easy reading of measurements. Its robust design ensures longevity and resistance to rust, while its compact size makes it highly portable.



Figure 1: Overall view of the MTX Electronic Vernier Caliper.

## 2. PRODUCT COMPONENTS

Familiarize yourself with the main components of the electronic vernier caliper:

- **External Jaws:** Used for measuring external dimensions.
- **Internal Jaws:** Used for measuring internal dimensions.
- **Depth Rod:** Used for measuring depths.
- **Main Scale:** Graduated scale for reference.
- **Sliding Jaw:** Moves along the main scale.
- **Thumb Roller:** For fine adjustment of the sliding jaw.
- **Locking Screw:** To fix the sliding jaw in position.
- **LCD Display:** Digital readout of measurements.
- **ON/OFF Button:** Powers the caliper on or off.
- **ZERO Button:** Sets the display to zero at any position.
- **mm/inch Button:** Switches between metric (mm) and imperial (inch) units.



Figure 2: Key components of the electronic vernier caliper.

### 3. SETUP AND BATTERY INSTALLATION

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#### 3.1 Battery Installation

The caliper requires one 1.5V SR44 type battery. To install or replace the battery:

1. Locate the battery compartment cover on the back of the LCD display unit.
2. Slide the cover open.
3. Insert the SR44 battery with the positive (+) side facing upwards.
4. Close the battery compartment cover securely.

#### 3.2 Initial Cleaning

Before first use, gently wipe the measuring surfaces with a clean, dry, lint-free cloth to remove any protective oils or dust.

### 4. BASIC OPERATION

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## 4.1 Power On/Off

- Press the **ON/OFF** button to turn the caliper on.
- Press the **ON/OFF** button again to turn the caliper off. The caliper may also automatically shut off after a period of inactivity to conserve battery.

## 4.2 Zeroing the Display

For accurate measurements, it is crucial to zero the caliper before use:

1. Close the external jaws completely, ensuring they are clean and free of debris.
2. Press the **ZERO** button. The display should now read 0.00mm or 0.000in.
3. The caliper is now ready for measurement.

## 4.3 Unit Conversion (mm/inch)

Press the **mm/inch** button to switch between metric (millimeters) and imperial (inches) units at any time during measurement.



Figure 3: Caliper display showing a measurement in millimeters.

## 5. MEASUREMENT TECHNIQUES

Always ensure the caliper is clean and zeroed before taking measurements.

## 5.1 External Measurement

To measure the external dimension of an object:

1. Open the external jaws wider than the object.
2. Place the object between the external jaws.
3. Use the thumb roller to gently close the jaws until they make firm contact with the object. Do not apply excessive force.
4. Read the measurement on the LCD display.



Figure 4: Measuring an external dimension.

## 5.2 Internal Measurement

To measure the internal dimension of an object (e.g., a hole or groove):

1. Insert the internal jaws into the opening.
2. Use the thumb roller to gently open the jaws until they make firm contact with the internal surfaces.
3. Read the measurement on the LCD display.

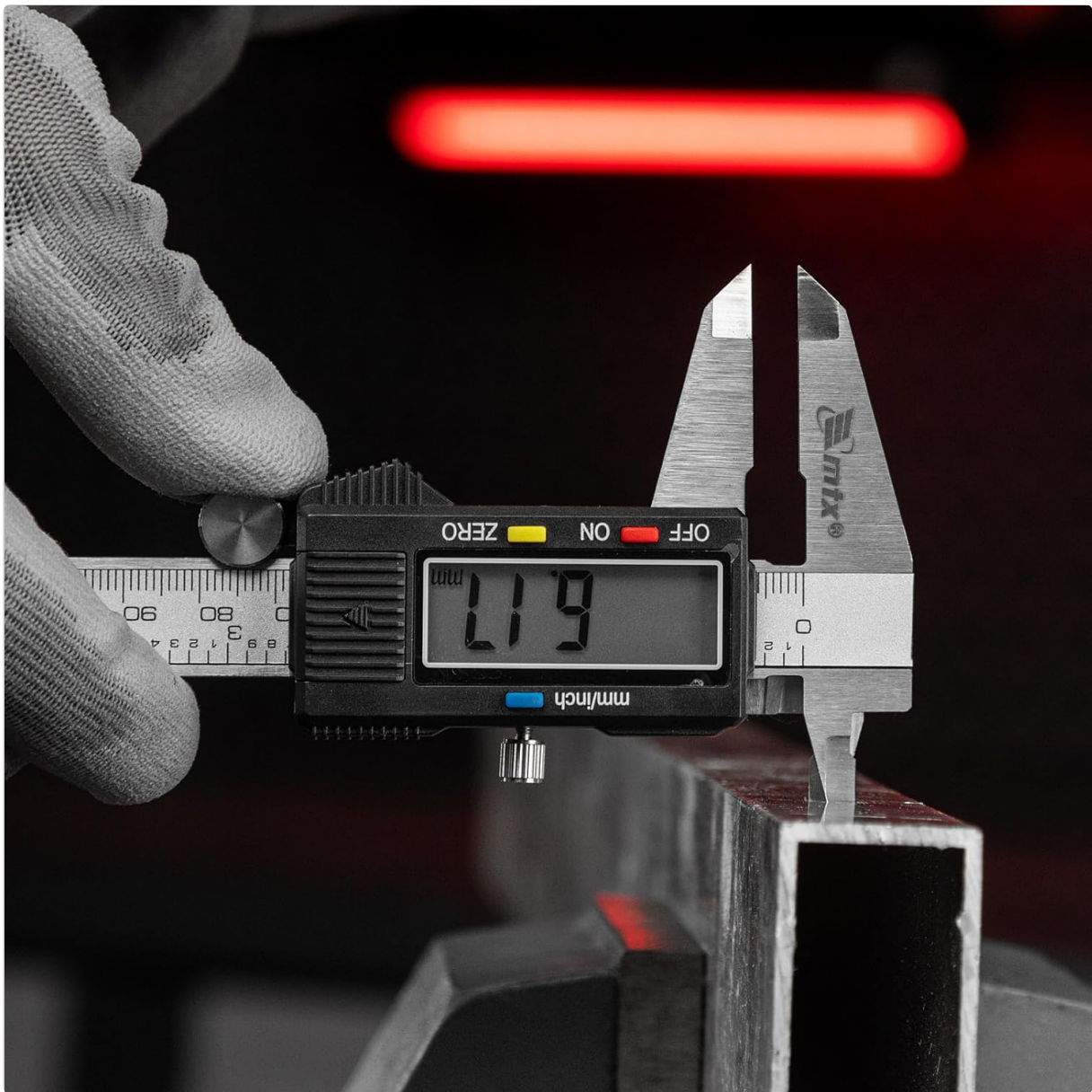


Figure 5: Measuring an internal dimension.

### 5.3 Depth Measurement

To measure the depth of a hole or step:

1. Place the end of the main scale firmly on the top surface of the object.
2. Extend the depth rod into the hole or down to the step until it touches the bottom.
3. Read the measurement on the LCD display.

## 6. MAINTENANCE AND STORAGE

Proper care will ensure the longevity and accuracy of your caliper.

- **Cleaning:** After each use, wipe the caliper clean with a dry, soft cloth. Avoid using solvents or harsh chemicals, as these can damage the display or measuring surfaces.
- **Battery Care:** If the caliper will not be used for an extended period, remove the battery to prevent leakage and damage.
- **Storage:** Store the caliper in its original plastic case with foam insert to protect it from impacts, dust, and moisture. Keep it in a dry environment away from direct sunlight and extreme temperatures.
- **Avoid Damage:** Do not drop the caliper or subject it to strong impacts. Avoid scratching the

measuring surfaces.

## 7. TROUBLESHOOTING


If you encounter issues with your caliper, refer to the following common problems and solutions:

- Display is blank or flickering:**  
**Solution:** Check the battery. Replace with a new 1.5V SR44 battery if necessary. Ensure the battery is inserted correctly.
- Inaccurate readings:**  
**Solution:** Ensure the measuring surfaces are clean and free of debris. Close the jaws completely and press the **ZERO** button to re-zero the caliper. Avoid applying excessive force during measurement.
- Sliding jaw movement is stiff:**  
**Solution:** Clean the main beam and sliding surfaces with a dry, lint-free cloth. A very small amount of light machine oil can be applied to the main beam, then wiped clean to leave a thin film.


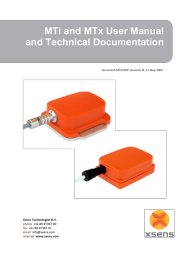


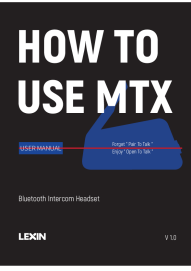
## 8. SPECIFICATIONS

| Feature            | Specification                                |
|--------------------|--|
| Model              | 316119                                       |
| Measuring Range    | 0-150 mm                                     |
| Material           | Tool Stainless Steel                         |
| Display            | LCD Digital Display                          |
| Power Source       | 1 x 1.5V SR44 Battery                        |
| Measurement Error  | 0.02 mm (up to 100 mm), 0.03 mm (100-200 mm) |
| Product Dimensions | 15 x 15 x 0.1 cm                             |
| Product Weight     | 320 g  |
| Manufacturer       | MTX  |

### Related Documents - 316119

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|  | <p><a href="#">MTX Marine Series Amplifiers MA Series - User Manual &amp; Specifications</a></p> <p>Comprehensive user manual and technical specifications for MTX Marine Series Amplifiers, including models MA750.1, MA1500.1, MA2500.1, MA400.4, MA800.4, MA1400.5, and MA900.6. Covers installation, wiring, controls, features, and warranty.</p> |
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|  <p><b>Mikasa</b><br/>SPARE PARTS MANUAL<br/>MIKASA TAMPING RAMMER<br/>MTX-60E</p>                     | <p><a href="#">Mikasa Tamping Rammer MTX-60E Spare Parts Manual</a></p> <p>Comprehensive spare parts manual for the Mikasa Tamping Rammer MTX-60E, detailing components, part numbers, and diagrams for maintenance and repair. Includes information on various Mikasa rammer models like MTX-60, MTX-60F, MTX-70, MTX-80, and MTX-90.</p>   |
|  <p>MTi and MTx User Manual<br/>and Technical Documentation</p>                                       | <p><a href="#">MTi and MTx User Manual and Technical Documentation</a></p> <p>Discover the Xsens MTi and MTx series, miniature inertial measurement units (IMUs) offering precise 3D orientation, acceleration, and rate of turn data. This manual details their technical specifications, communication interfaces, and application use cases for robotics, biomechanics, and more. Learn about Xsens' advanced sensor fusion technology for reliable motion tracking.</p>              |
|  <p><b>Honeywell Home</b> Actuators<br/>MT4/MT8<br/>Small Linear Thermoelectric Actuators</p>         | <p><a href="#">Honeywell Home MT4/MT8 Small Linear Thermoelectric Actuators - Product Specification</a></p> <p>Detailed product specification sheet for Honeywell Home MT4 and MT8 series small linear thermoelectric actuators, covering applications, features, technical data, dimensions, and ordering information.</p>  |
|  <p><b>EBG</b><br/>High-Voltage - High-Power - Non-Inductive Resistors<br/>Product Catalog 2016</p> | <p><a href="#">EBG High-Voltage High-Power Non-Inductive Resistors Product Catalog 2016</a></p> <p>Discover the EBG RESISTORS 2016 Product Catalog, showcasing a comprehensive range of High-Voltage, High-Power, and Non-Inductive Resistors. EBG, a Miba Group Company, offers advanced electronic components with exceptional stability, precision, and performance for demanding industrial applications. Explore detailed specifications, custom solutions, and technical data.</p> |
|  <p><b>HOW TO<br/>USE MTX</b><br/>USER MANUAL<br/>Bluetooth Intercom Headset<br/>LEXIN</p>          | <p><a href="#">LEXIN MTX Bluetooth Intercom Headset User Manual</a></p> <p>Comprehensive user manual for the LEXIN MTX Bluetooth Intercom Headset, covering features, installation, operation, pairing, and maintenance. Includes instructions for Bluetooth and MESH intercom, phone calls, music sharing, and FM radio.</p>  |