Mastech MS6450

Mastech MS6450 Ultrasonic Distance Estimator User Manual

Model: MS6450 | Brand: Mastech

INTRODUCTION

The Mastech MS6450 Ultrasonic Distance Estimator is a precision instrument designed for quick and accurate measurement of length, area, and volume. Utilizing ultrasonic technology with a laser pointer for targeting, this device is ideal for indoor applications, providing efficient measurements for various tasks.
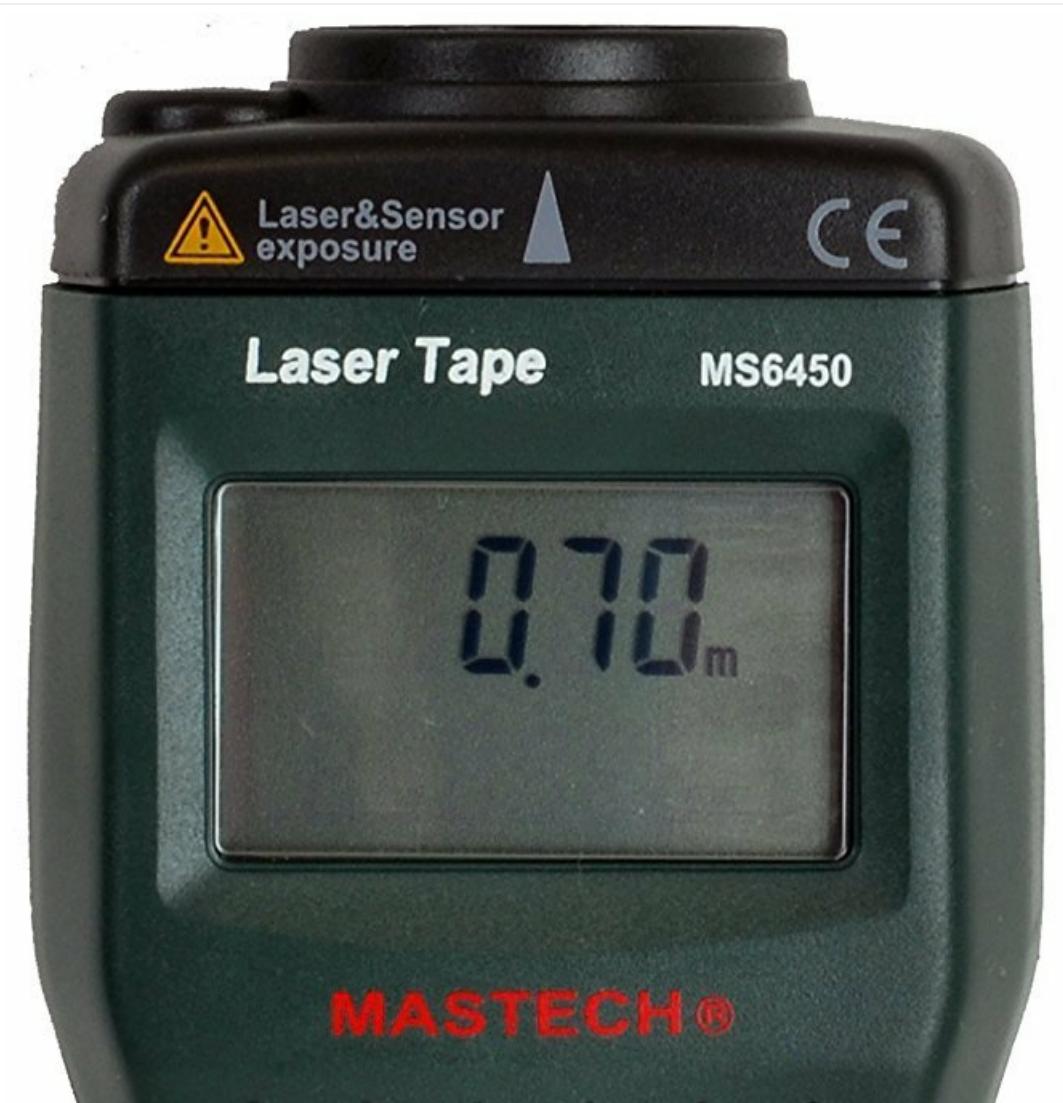
PRODUCT OVERVIEW

Figure 1: Mastech MS6450 Front Panel. This image displays the front of the Mastech MS6450 Ultrasonic Distance Estimator. Key features visible include the LCD screen showing "0.70m", the "MASTECH" brand logo, and various control buttons. At the top, a warning symbol indicates "Laser & Sensor exposure" and the "CE" mark. The model number "MS6450" is also visible. Below the screen, buttons are arranged for functions such as "LIGHT", "READ", "MEM INPUT", "MEM RECALL", "FT/M", and calculation buttons for area, volume, and addition/subtraction. The phrase "Measure From Base" is printed at the bottom.

Key Components:

- **LCD Display:** Shows measurement readings, units, and calculation results.
- **Laser & Sensor Aperture:** Located at the top, emits the laser for targeting and the ultrasonic sensor for measurement.
- **LIGHT Button:** Activates the display backlight for improved visibility in low-light conditions.
- **READ Button:** Initiates a measurement.
- **MEM INPUT Button:** Stores the current measurement into memory.
- **MEM RECALL Button:** Recalls stored measurements from memory.
- **FT/M Button:** Toggles between feet and meters measurement units.
- **Area Calculation Button (L x W icon):** Used for calculating area.
- **Volume Calculation Button (H x L x W icon):** Used for calculating volume.

- **+/- Button:** Used for addition or subtraction of measurements.
- **Battery Compartment:** Located on the rear (not visible in image), houses the 9V battery.

SETUP

Battery Installation:

1. Locate the battery compartment cover on the back of the device.
2. Slide or unclip the cover to open.
3. Insert one 9V (6F22) alkaline battery, ensuring correct polarity (+/-).
4. Replace the battery compartment cover securely.

Note: A fresh 9V alkaline battery provides approximately 10 hours of continuous dynamic measurement.

Powering On:

Press any button to power on the device. The LCD display will illuminate.

OPERATING INSTRUCTIONS

Taking a Measurement:

1. Ensure the device is powered on.
2. Point the laser target to the desired measurement point. The device measures from its base.
3. Press the **READ** button. The measurement will be displayed on the LCD screen.
4. For optimal accuracy, ensure the measurement path is clear and the target surface is flat and perpendicular to the device.

Changing Units (Feet/Meters):

Press the **FT/M** button to toggle between feet and meters. The display will indicate the current unit.

Calculating Area:

1. Take the first measurement (e.g., length) and press the **MEM INPUT** button.
2. Take the second measurement (e.g., width) and press the **MEM INPUT** button again.
3. Press the **Area Calculation Button** (L x W icon). The calculated area will be displayed.

Calculating Volume:

1. Take the first measurement (e.g., length) and press the **MEM INPUT** button.
2. Take the second measurement (e.g., width) and press the **MEM INPUT** button.
3. Take the third measurement (e.g., height) and press the **MEM INPUT** button.
4. Press the **Volume Calculation Button** (H x L x W icon). The calculated volume will be displayed.

Memory Functions:

- **MEM INPUT:** Stores the current measurement. Can be used sequentially for area/volume calculations.
- **MEM RECALL:** Recalls previously stored measurements.

Backlight:

Press the **LIGHT** button to turn the LCD backlight on or off.

Important Operating Notes:

- The recommended operating environment is indoors.
- Accuracy is stated as 0.5% ± 1 digit. Factors such as surface texture, angle, and environmental conditions can affect accuracy.
- The device measures from its base. Ensure this is accounted for in your measurements.

MAINTENANCE

Cleaning:

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Keep the laser and sensor apertures clean and free of dust.

Battery Replacement:

When the battery indicator on the display shows low power, replace the 9V battery as described in the "Setup" section. Remove the battery if the device will not be used for an extended period to prevent leakage.

Storage:

Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed battery.	Check battery polarity or replace with a fresh 9V battery.
Inaccurate measurements.	Obstruction in measurement path. Target surface not flat or perpendicular. Measurement taken outdoors or in unsuitable environment. Device not held steady. Limitations of ultrasonic technology (e.g., soft surfaces absorbing sound).	Ensure clear line of sight to target. Measure to a flat, solid surface. Use indoors as recommended. Hold the device firmly and steadily. Be aware of the device's inherent accuracy limitations (0.5% ± 1 digit).
Unit switches to metric unexpectedly.	Possible accidental button press or internal setting.	Press the **FT/M** button to switch back to the desired unit.
Display is dim or flickering.	Low battery.	Replace the 9V battery.

SPECIFICATIONS

Feature	Detail

Feature	Detail
Measurement Range	0.6 to 15 m (2 to 50 feet)
Accuracy	0.5% ± 1 Digit
Resolution	0.01M (1 Feet)
Recommended Operating Environment	Indoors
Aperture Angle	Approx. 5 Degrees
Laser Diode Type	Red Laser Diode 650nm
Power Supply	6F22 9V Battery
Battery Life	10 hours (continuous dynamic measurement)
Calculation Range (Length)	9999 m
Calculation Range (Area)	99999 m²
Calculation Range (Volume)	99999 m³
Item Size	14 x 5.7 x 3.8 cm
Item Weight	120 g
Color	Yellow
Water Resistance Level	Water Resistant

WARRANTY INFORMATION

Specific warranty details for the Mastech MS6450 Ultrasonic Distance Estimator are provided by the manufacturer. Please refer to the warranty card included with your product or contact Mastech directly for comprehensive warranty terms and conditions.

CUSTOMER SUPPORT

For technical assistance, troubleshooting beyond this manual, or service inquiries, please contact Mastech customer support. Contact information can typically be found on the manufacturer's official website or on the product packaging.

Documents - Mastech – MS6450

[pdf] User Manual

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