Megger

MLM50

Laser Distance Meter

USER MANUAL

MLM50 Laser Distance Meter

1. Introduction

The Megger MLM50 Laser Distance Meter is a compact, easy to use meter designed for indoor and outdoor use. It allows the user to make fast, reliable distance measurements, as well as add and subtract measured values and make automatic calculations for area and volume.

For your own safety and to get the maximum benefit from your instrument, please ensure that you read and understand the following safety warnings and instructions before using the instrument.

This user guide describes the operation and functions of the MLM50 Laser Distance Meter.

The meter should only be used for the purpose intended: measuring distance and computing values of area and volume.

2. Safety Warnings

Safety Warnings and Precautions must be read and understood before the instrument is used. They must be observed during use.

THE INSTRUMENT MUST BE USED ONLY BY SUITABLY TRAINED AND COMPETENT PERSONS.

Laser Classification:

This product produces a visible laser beam from the front of the instrument.

Laser Class 2 products:

Do not stare into the laser beam or direct it towards other people. Looking into the laser beam may be hazardous and cause permanent damage to the eyes. Measurement should be made either above or below eye level.

The spirit level contains a mineral oil. Should the glass be broken, ensure any glass and oil is carefully cleaned up using an absorbent towel and disposed of appropriately.

Symbols as marked on the instrument

CE — Conforms to EU directives

UKCA — Conforms to UKCA directives

Do not discard this product or throw away

3. The Meter Description

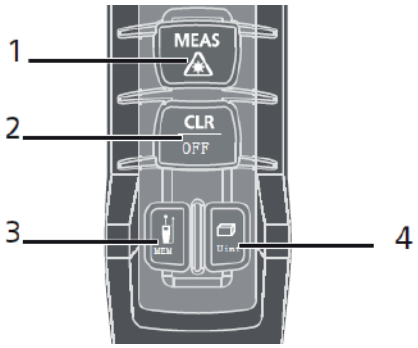
Keypad

1 - ON/MEAS button

2 - CLR/OFF button

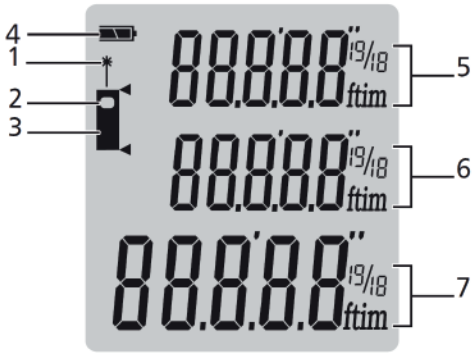
3 - MEM/Reference button

4 - Function/Unit Button



LCD Display

1 – Laser active
2 – Reference level (front)
3 – Reference level (rear)
4 – Battery Status
5 – Intermediate line 1
6 – Intermediate line 2
7 – Summary line



4. Operation and Settings

On/Off/Auto Measurement

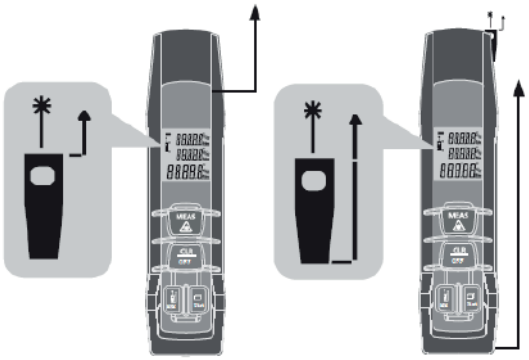
Switches on the instrument and measurement laser.

Press and hold this button for 1 second to initiate automatic measurement mode.

Clear Button

The last action is cancelled, or the data display is cleared. If in History storage mode, by pressing the Storage and Clear button simultaneously, you will clear all stored data in the memory. Press and hold this button to switch off the instrument. The instrument switches off automatically after three minutes of inactivity to save battery life.

Reference Level Setting



The default measurement reference is taken from the rear of the instrument. Long press this button prior to taking a measurement to switch between the front and rear edge. A special beep sounds whenever the reference setting is changed. When powering up the meter, the measurement reference automatically returns to the default setting (rear reference).

Measurement Unit Setting

Hold down this button to cycle through the available measurement units. The following unit can be set:

	Distance	Area	Volume
1	0.000 m	0.000 m^2	0.000 m^3
2	0.0 in	0.000 ft^2	0.000 ft^3
3	0 1/16 in	0.000 ft^2	0.000 ft^3
4	0.000 ft	0.000 ft^2	0.000 ft^3
5	0’00” 1/16	0.000 ft^2	0.000 ft^3

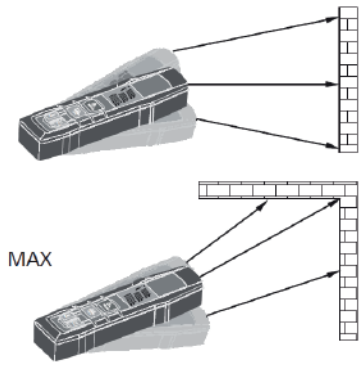
5. Measuring

Single Distance Measurement

Press to activate the laser

Press again to trigger the distance measurement. The measured value is displayed immediately.

Continuous & Max and Min Measurement



The continuous measurement updates the measured value continuously in the third (summary) line of the display. The corresponding minimum and maximum values are displayed dynamically in the first and second lines respectively, updated every 0.5 seconds.

For continuous measurement, hold down the MEAS button until the instrument beeps. Press either the MEAS or CLR/OFF button to stop the function. The function is terminated automatically after 100 continuous measurements.

6. Functions

Area Measurement

Pressing the Unit button once will start the area measurement function.

Press the MEAS button to take the first length measurement (e.g. length).

Press the MEAS again to take the second length measurement (e.g. width).

The result of the area measurement is displayed in the third summary line of the display. The two individually measured values are displayed in lines 1 and 2.

Volume Measurement

By pushing the Unit button twice, it will start the volume measurement function.

Press the MEAS button to take the first length measurement (e.g. length).

Press the MEAS again to take the second length measurement (e.g. width).

The result of the area measurement from the values already measured is displayed in the summary line.

Pressing MEAS takes the third distance measurement (e.g. height). The value is displayed in the second line.

The resulting volume measurement is displayed in the third summary line. The last two measured values are displayed in lines 1 and 2.

Historical Storage

The previous 20 measurements or calculated results can be recalled on the display, in reverse order (newest first). To enter memory mode, quick press this button to cycle through the stored results. The memory location is shown at the top of the display.

You can clear all stored records by pressing MEM and CLR buttons simultaneously when in historical storage mode.

6. Technical Specifications

Range	0.05 to 50 m (0.2 to 164 ft) *
Measuring accuracy up to10m	Typically: ±1.5 mm (±1/16 in)**
Standard deviation	2 σ
Measuring units	m, in, ft
Laser Class	Class II
Laser Type	650 nm, <1mW
Smallest unit displayed	1mm
Area, Volume Calculations	√
Built-in spirit level	√
Continuous Measurement	√
Min/Max Distance Tracking	√
Backlit display	√
Soft-Touch buttons	√
Dust Protect/Splash proof	IP54
History measurement records	20
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-10°C to 60°C (14°F to 140°F)
Batteries	2 x AAA 1.5V
Battery Life	up to 5,000 measurements
Auto laser switch-off	after 30 seconds
Auto instrument switch-off	after 3 min
Dimension	135 x 33 x 24mm
Weight	80g

* Use a target plate to increase the measurement range during daylight or if the target has poor reflective properties!

** in favorable conditions (good target surface properties, room temperature) up to 10 m (33 ft). In unfavorable conditions, such as intense sunshine, poorly reflecting target surface or high temperature variations, the deviation in distances above 10 m (33 ft) can increase by ± 0.15 mm/m (± 0.0018 in/ft).

Product manufactured in China

7. Inserting or Replacing Batteries

i) Remove the rear battery compartment lid.

ii) Insert 2 x AA batteries, observing their correct polarity.

iii) Replace the rear battery compartment lid.

Replace the batteries when the  symbol flashes permanently in the display.

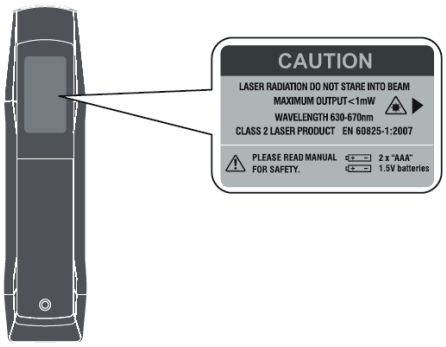
It is recommended to use alkaline batteries only.

Batteries should be removed prior to any long period of non-use.

8. Error Codes

Code	Cause	Corrective measure	
208	Received signal too weak. Measurement time too long. Distance >50M	Use target plate.	
252	Temperature too high		Cool instrument down
253	Temperature too low	Warm up instrument	
255	Hardware error	Switch on/off the device several times. If the error persists, please contact your local service center.	

9. Labelling



10. Measuring Conditions

Measuring Range

The range is limited to 50m.

Use a target plate to increase the measurement range during daylight or if the target has poor reflective properties.

Target Surfaces

Measuring errors can occur when measuring toward colorless liquids (e.g. water) and clear glass, Styrofoam or similar semi-permeable surfaces. Aiming at high gloss surfaces may deflect the laser beam and lead to measurement errors. Against non-reflective and dark surfaces, the measuring time may increase.

Maintenance

Do not attempt to repair this meter. It contains no user serviceable parts. Repair or servicing should only be performed by qualified personnel.

Cleaning

Should the MLM50 require cleaning, remove the batteries and wipe the instrument down with a damp cloth. Ensure the meter is dry before reinserting batteries.

Never use a solvent based cleaner.

Section head

WEEE Directive

The crossed out wheeled bin symbol on the instrument is a reminder not to dispose of the product with general waste at the end of life.

Megger is registered in the UK as a Producer of Electrical and Electronic equipment. The registration No is; WEE/DJ2235XR.

Users of Megger products in the UK may dispose of them at the end of their useful life by contacting B2B Compliance at www.b2bcompliance.org.uk or by telephone on 01691 676124.

Users of Megger products in other regions should contact their local Megger office or distributor.

Warranty (3 years)

This product is warranted to the original purchaser against defects in material and workmanship for three years from the date of purchase. During this warranty, the manufacturer will either replace or repair the defective unit, subject to verification of the defect or malfunction.

This warranty does not cover fuses, disposable batteries, or damage from abuse, neglect, accident, unauthorised repair, alteration, contamination, or abnormal conditions of operation or handling.

Any implied warranties arising out of the sale of this product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. The manufacturer shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expense or economic loss. Some states or countries laws vary, so the above limitations or exclusions may not apply to you.

Battery Disposal

The batteries in this product are classified as Portable Batteries under the Batteries Directive. Please contact either Megger Ltd, your local Megger office or distributor for instructions on the safe disposal of these batteries. Megger is registered in the UK as a producer of batteries. The registration number is BPRN01235.