Laser Distance Meter English Manual

LM40-I/LM50-I/LM60-I/LM80-I
LM100-I/LM120-I/LM150-I

1. Physical leveler
Observe the plane level

2. Distance button
Short press to enter single measurement mode;
Long press to turn on the meter (off state)/enter continuous measurement mode.

3. +/- button
Short press to add;
Long press to subtract.

4. Function button
Short press to switch measurement functions

5. Log button
Short press to scroll through history;
Long press to save records.

6. Clear/off button
Short press to delete records (returns back after clearing);
Long press to turn off the meter.

7. Unit/reference switching button
Short press to switch the reference;
Long press to switch the unit.

8. Buzzer button
Short press to turn on/off the buzzer

9. Battery compartment

Symbols

	Single/continuous measurement
	Area measurement
	Volume measurement
	Direct Pythagoras measurement
	Indirect Pythagoras measurement ①
	Indirect Pythagoras measurement ②
	Auto horizontal measurement
	Auto vertical measurement

Operation Instructions

Turn on the meter and it will enter the single measurement by default. Press FUNC and the flashing edge is the edge to be measured.

* Please pay attention to the measurement reference. The starting point will be different when different reference points are selected.

The measurement reference in this manual refers to the rear reference.

Single Measurement

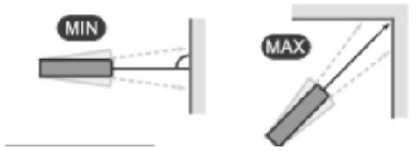
Turn on the meter and it will enter single measurement mode by default. Point the laser at the measurement target, then press DIST and the measurement result will be displayed at the bottom of the screen.

Continuous Measurement (Max/Min Measurement)

This function can be used to measure the diagonal of a house, to look for levels, to stake out, etc.

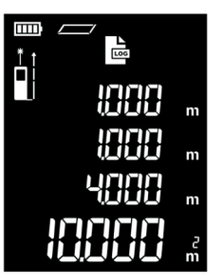
Long press DIST to enter the continuous measurement. Point the laser at the measurement target, then press DIST to stop measuring. The MIN/MAX/current measured value will be displayed on the screen.

* This function will stop automatically after 5 minutes of continuous measurement.



Area Measurement

1) Press FUNC to switch to area measurement.
2) According to the flashing edge, point the laser at the first point of the target, press DIST to measure the first edge (length).
3) Point at the second point, press DIST to measure the second edge (width).
4) The calculation results of the length, width, circumference and area will be displayed on the screen.



Volume Measurement

1) Press FUNC to switch to volume measurement.
2) According to the flashing edge, point the laser at the first point of the target, press DIST to measure the first edge (length).
3) Point at the second point of the target, press DIST to measure the second edge (width).
4) Point at the third point of the target, press DIST to measure the third edge (height).
5) The volume calculation results will be displayed at the bottom of the screen.

Pythagorean Measurement

All Pythagorean measurements can be applied to different plane measurements, just ensure that the right-angle side is perpendicular to the object being measured.

Note: In Pythagorean Theorem, the right-angle side cannot be longer than the hypotenuse; otherwise a calculation error will occur.

Direct Pythagoras Measurement

1) Press FUNC to switch to direct Pythagoras measurement.
2) According to the flashing edge, point the laser at the first point of the target, press DIST to measure the hypotenuse.
3) Rotate to the direction perpendicular to the target with the set reference as center, press DIST to measure one right-angle side.
4) The calculation result of the other right-angle side is displayed at the bottom of the screen.

Indirect Pythagoras Measurement ①

1) Press FUNC to switch to indirect Pythagoras measurement ①.
2) According to the flashing edge, point the laser at the first point of the target, press DIST to measure the first hypotenuse.
3) Rotate to the direction perpendicular to the target with the set reference as center, press DIST to measure one right-angle side.
4) Rotate to the third point of the target with the same reference as center, press DIST to measure the second hypotenuse.
5) The calculation result of the length between the first point and the third point is displayed at the bottom of the screen.

Indirect Pythagoras Measurement ②

1) Press FUNC to switch to indirect Pythagoras measurement ②.
2) Point the laser to the first point of the target, press DIST to measure the first hypotenuse.
3) Rotate to the second point of the target with the set reference as center, press DIST to measure the second hypotenuse.
4) Rotate to the direction perpendicular to the target with the same reference as center, press DIST to measure the third right-angle side.

5) The calculation result of the length between the first point and the second point is displayed at the bottom of the screen.

Auto Horizontal Measurement

1) Press FUNC to switch to auto horizontal measurement.
2) According to the flashing edge, point the laser to the first point of the target and press MEAS.
3) The angle degree between the hypotenuse and the horizontal edge, the length of the hypotenuse/vertical edge/horizontal edge will be displayed on the screen from top to bottom.

Auto Vertical Measurement

1) Press FUNC to switch to auto vertical measurement.
2) According to the flashing edge, point the laser to the first point of the target, press MEAS to measure the first hypotenuse.
3) Rotate to the second point of the target with the set reference as center, press MEAS to measure the second hypotenuse.
4) The angle degree between both hypotenuses, the length of both hypotenuses, the vertical distance will be displayed on the screen in sequence.

Fault Code – Problems and Solutions

All information is displayed in code or "Error". The following shows the codes and their explanations and the corresponding solutions:

Code	Problems	Solutions
204	Calculation error	Follow the instructions and operate again
220	Low battery	Please replace the battery or charge it
255	The reflected light received is weak, or the measurement time is too long	Please improve the reflective surface (use a reflector, white paper, etc.)
256	The received signal is too strong	Please improve the reflective surface (use a reflector, or do not aim at strong light)
261	Over range	Please measure within the range
500	Hardware malfunction	If it still appears after the meter has been turned on/off multiple times, please contact your dealer.

Technical Parameters

Range (m)	Depending on the model
Accuracy (mm)	±(2.0mm+5x10^{-5} D)
Single measurement	√
Continuous measurement	√
Area measurement	√
Volume measurement	√
Direct Pythagoras	√
Indirect Pythagoras ①	√
Indirect Pythagoras ②	√
Add/Subtract	√
Electronic horizontal angle	LM80-**I**/LM100-**I**/LM120-**I**/LM150-**I**
Auto horizontal measurement	LM80-**I**/LM100-**I**/LM120-**I**/LM150-**I**
Auto vertical measurement	LM80-**I**/LM100-**I**/LM120-**I**/LM150-**I**
Display type	LM40-**I**/LM50-**I**/LM60-**I**: 2.0" EBTN screen LM80-**I**/LM100-**I**/LM120-**I**/LM150-**I**: 2.0" TN screen
Measurement reference	Front/rear reference
Measurement units	m/ft/in/ft+in
Data logging	20 groups
Auto power off	3 minutes without operation
Auto laser off	30 seconds without operation
Laser class	2
Laser type	630-670nm, <1mW
Battery type	AAA x2
Operating temperature	0°C ~ +40°C (32°F ~ +104°F)
Storage temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Size (mm)	122 * 52 * 29.5

Laser Class 2 products;
Do not look into the beam directly or indirectly with optical aids.

1. Range

The range data is based on the rear reference; the maximum range may vary depending on the model version, please refer to the product packing for the actual ranges.

2. Accuracy ("D" represents the measured length)

Under good measurement conditions (good measurement surface/room temperature/indoor lighting, etc.): up to the rated range.

Under bad measurement conditions (too much light, weak reflection on the surface of the measured objects or large temperature difference, etc.): the error may increase.

Tip: Use a target board or a good reflective surface in case of poor daylight or target reflection.

3. In the ideal state, the short distance accuracy can be up to 1mm

(Ideal state refers to constant speed (speed < 1m/s) and flat contact surface; short distance means <1.5m)

4. Angle Error

0.1°is the error caused by the temperature, D is +/-0~45°.

For example, the 0 degree error is +/-0.3°at room temperature, the 45 degrees error is +/-0.85°at non-room temperature.

UNI-T®
UNI-TREND TECHNOLOGY (CHINA) CO., LTD.
No6, Gong Ye Bei 1st Road,
Songshan Lake National High-Tech Industrial
Development Zone, Dongguan City,
Guangdong Province, China
Tel: (86-769) 8572 3888
http://www.uni-trend.com

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