

# UNI-T<sup>®</sup> LM A Series Laser Distance Meters



## UNI-T LM A Series Laser Distance Meters User Manual

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# UNI-T<sup>®</sup>

UNI-T LM A Series Laser Distance Meters

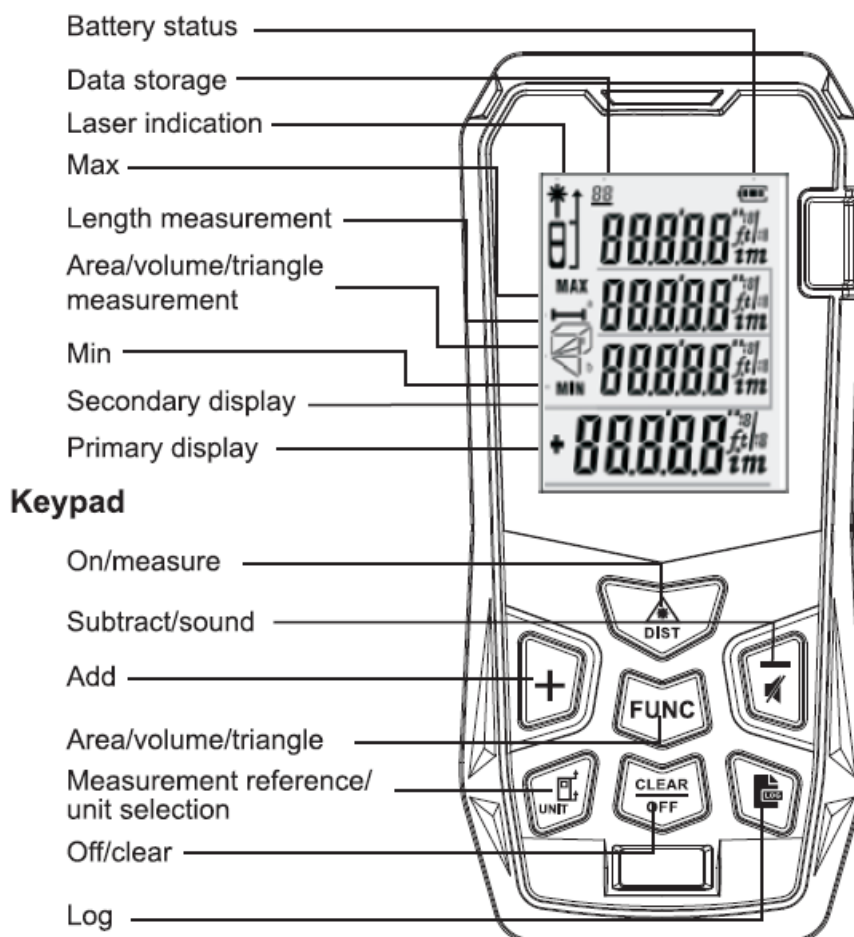


## Safety Information

**Before using the meter for the first time, please read the safety information and operating instructions carefully.**

- Use the meter only as specified in this manual. Otherwise, it may cause damage to the meter, affect measurement accuracy and result in personal injury.
- Do not disassemble or repair the meter without authorization. Do not refit or change the performance of the laser transmitter illegally. Please keep the meter properly, do not place it where children can reach it, and avoid use by irrelevant personnel.
- Do not irradiate the laser at eyes and other parts of the body, and on the surface of highly reflective objects.
- The electromagnetic radiation of the meter may cause interference to other equipment. Please do not use the meter near airplanes, medical equipment or in flammable and explosive environments.
- The replaced batteries and discarded meters cannot be disposed of together with domestic garbage. Please dispose of them in accordance with relevant national or local laws and regulations.
- If the meter has any quality problems, or if users have any questions about the use of the meter, please contact the local dealer or manufacturer in time.

## Product Introduction Display




## Batteries




1. Open the battery door on the back of the meter, install the battery according to the polarity instructions, and close the battery door.
2. The meter can only use 1.5V AAA alkaline batteries.
3. When the meter is not used for a long time, please take out the battery to prevent it from corroding the meter's main body.


## Power On and Function Settings

### 1. Power On/Off

In the shutdown state, press  , the meter and the laser will be started at the same time.


In the power-on state, press and hold 0  for 3 seconds to turn off the meter. If no operation is performed within 150 seconds, the meter will automatically shut down.

### 2. Unit Settings

Long press  , to enter the unit setting state and the current unit can be reset. The default unit of the meter is 0.000m. There are 6 optional units.

## Measurement units

### Measurement Reference Settings

Short press  to measure from front or end. The default setting is end measurement.

#### Backlight



The backlight is automatically turned on and off. It will turn on for 15 seconds when any button is pressed. The backlight will automatically turn off if there is no operation after 15 seconds to save power.

#### Sound


Long press ( to turn on or off the sound of the beeper).

#### Self-Calibration

Self-calibration function can ensure the measurement accuracy. Calibration method: In the shutdown state, press






and hold  "OFF", and then short press  to turn on the meter. When the screen shows 'CAL' with a flashing number at the bottom, the meter enters the self-calibration mode. At this time, users can press + ; i to calibrate values according to the error of the meter. Calibration range: -9-9mm

**Examples:** The actual distance is 3.780m. f the measured value is 3. 778m, which is 2mm smaller than the actual value, press + to increase the calibration value by 2mm. f the measured value is 3. 783m, which is 3mm larger






than the actual value, press j to lower the calibration value by 3mm. After adjustment, press  to save the calibration results.

### Measurement Modes


#### • Single Measurement




- While the meter is on, press  to transmit the laser. Press  again to make the distance measurement. The measurement results will show on the primary display.
- Continuous Measurement
- While the meter is on, long press  to enter the continuous measurement tate. The maximum and minimum values during the measurement will show on the secondary display. The measurement results will show on the primary display. Short press  or "  " to exit the continuous measurement.

#### • Area Measurement

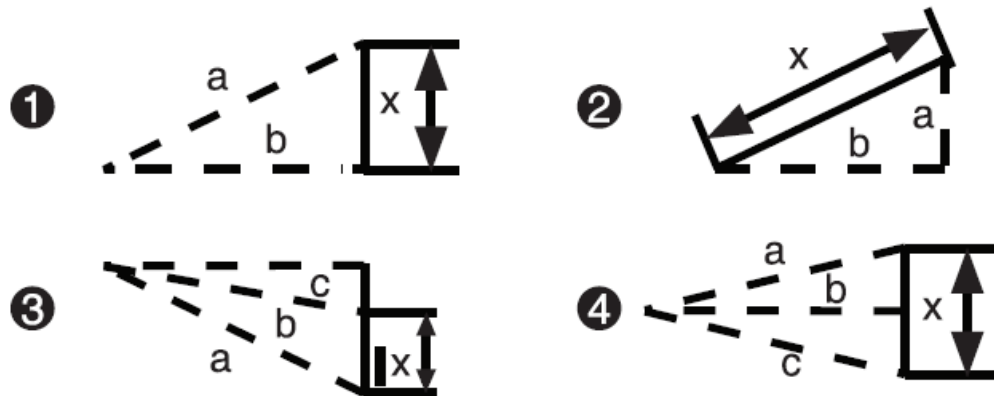
- Press FUNC 1x. The  symbol will appear on the display and one side of the rectangle will flash. Press  to make the first measurement (length). Press  again to make the second measurement (width). The meter will automatically calculate the area, and the result will show on the primary display. The length and width will show on the secondary display. During the measurement process, press  "OFF" to clear the measurement result and re-measure. Press  "OFF" to exit the area measurement and enter the length measurement mode.

#### • Volume Measurement



- Press FUNC 2x. The EII symbol will appear on the display.
- Press  to make the first measurement (length).

- Press  again to make the second measurement (width).
- Press  again to make the third measurement (height).
- The meter will automatically calculate the volume, and the result will show on the primary display. The length, width and height will show on the secondary display.
- During the measurement process, press **•••** to clear the measurement result and re-measure.
- Press  to exit the volume measurement and enter the length measurement mode



## Indirect Measurement






### • Measure the hypotenuse and base-side, indirectly measure the height

- Press **FUNC 3x**.
- Press  to measure the length of the hypotenuse (a).
- Press  to measure the length of the base-side (b).
- The meter will automatically calculate the length of the leg (x).




### • Measure the leg and base-side, indirectly measure the hypotenuse Press FUNC 4x

- Press  to measure the length of the leg (a).
- Press  to measure the length of the base-side (b).
- The meter will automatically calculate the length of the hypotenuse (x).

### • Press FUNC 5x, the hypotenuse flashes A

- Press  to measure the length of the hypotenuse (a).
- Press  to measure the length of another hypotenuse (b).
- Press  to measure the length of the base-side ©.
- The meter will automatically calculate the length of the leg (x).

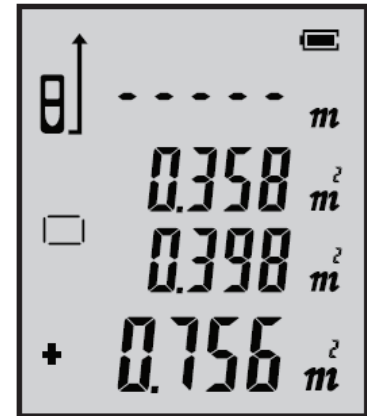
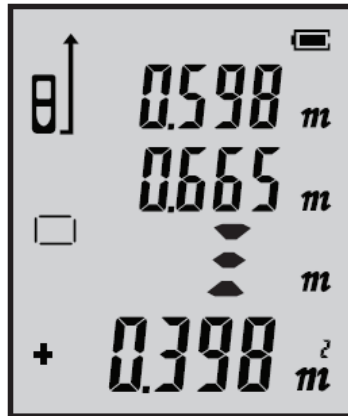
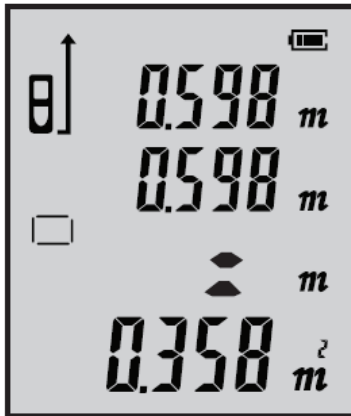
### • Press FUNC 6x, the hypotenuse flashes




- Press  to measure the length of the hypotenuse (a).
- Press  to measure the length of the base-side (b).
- Press  to measure the length of another hypotenuse ©.

- The meter will automatically calculate the length of the leg (x).


In the Pythagorean measurement mode, the length of the leg must be less than the length of the hypotenuse; otherwise the meter will display an error signal prompt. In order to ensure the measurement accuracy, users should make sure to measure from the same starting point and in the order of hypotenuse and leg.

## Addition/Subtraction






- The single distance measurement values can be added or subtracted. After getting the result when taking a single distance measurement, press + to enter the addition/subtraction mode.
- Short press +, the “+” symbol will show on the primary display, and then it will enter the addition mode. The addition value of the last and the current measurement values will show on the display.
- Short press , the “-” symbol will show on the primary display, and then it will enter the subtraction mode. The subtraction value of the last and the current measurement values will show on the display.
- Not only the distance can be added and subtracted, but also the area and the volume.
- Area addition: Measure the first area and get the result, as shown in Figure 1 below. Then press  to measure the second area and get the result, as shown in Figure 2 below, and a plus sign will be displayed in the lower left corner. Finally, press  to get the result of adding these two areas, as shown in Figure 3. The addition and subtraction of volume is similar to it.

## Data Storage

- If the current data is valid when measuring, press and hold  for 3 seconds, and the data will be automatically stored in the meter memory. In the area, volume and indirect measurement modes, the data can also be stored after all the tests are over. At this time, the meter will store the complete measurement record under this mode.

## View/Delete Data

- Short press  to query the stored data. Press + to scroll forwards, and press  to scroll backwards.

When viewing data, short press **CLEAR** **OFF** to delete the current record, and long press **CLEAR** **OFF** to delete all records. Press It or  to exit.

## Error Codes

Code	Cause	Resolution
Err	Out of distance measurement range	Use the meter in designated environments.
Err1	Signal too weak	Measure the target point with strong reflection ability.
Err2	Signal too strong	Measure the target point with weak reflection ability.
Err3	Battery power too low	Replace batteries.
Err4	Out of operating temperature range	Use the meter within the range.
Err5	Pythagorean measurement error	Re-measure to ensure that the hypotenuse is longer than the leg.

## Specifications

Items	LM50A	LM?0A	LM100A	LM120A
Measurement range	50m	?0m	100m	120m
Measurement accuracy	$\pm(2\text{mm}+5*10^{-5}\text{D})$			
Continuous measurement				
Area/volume measurement				
Pythagorean measurement				
Addition/subtraction				
Area/volume addition/subtraction				

Max/min	
Self-calibration	
Laser class	Class II
Laser type	Class 2 630-670nm, < 1mW
Data storage	99 groups
Auto laser off	20s (single measurement)
Auto power off	About 150s
Battery life	Up to 8000 measurements
Sound prompt	
Storage temperature	-20°C – 60°C
Operating temperature	0°C – 40°C
Storage humidity	20%-80%RH
Batteries	1.5V 2xAAA
Product size	112x50x25mm

“**d**” means actual distance.

Under harsh environments, such as excessive sunlight and ambient temperature fluctuations, weak reflection on reflective surfaces, and insufficient battery power, the measurement results will have errors. At this time, using the target reflector can improve the measurement accuracy.

## Maintenance

Do not place the meter in a high temperature and humidity environment for a long time. When not using the meter for a long time, please take out the battery and put the meter in the carrying bag, and store it in a cool and dry place.

Remove dirt with a moist, soft cloth. Do not use aggressive detergents or solutions. The laser window and focusing lens can be wiped according to the method of wiping the optical device.

## Packing List

All accessories are shown in the table below.




Accessories	Quantity
Meter	
Carrying bag	
AAA batteries	2
User manual	
Gift box	

## MORE INFO

- No. 6, Gong Ye Bei 1st Road, Songshan Lake National High-Tech Industrial Development Zone, Dongguan City, Guangdong Province, China

## Documents / Resources

	<p><a href="#">UNI-T LM A Series Laser Distance Meters</a> [pdf] User Manual LM50A, LM70A, LM100A, LM120A, LM A Series Laser Distance Meters, LM A Series, Laser Distance Meters, Distance Meters</p>
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## References

- [User Manual](#)

[Manuals+.](#) [Privacy Policy](#)

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