



LASER DISTANCE METER

User Manual

T9-104-230









Read this manual thoroughly before use



Safety Regulations

Please read the safety regulations and operation guide carefully before operating.

-  Please read all of the operational guide and safety regulations in this manual before operation . Improper operations without complying with this manual may cause damage to the device, influence on measurement result or cause personal injury to the user or a third party.
-  The instrument is not allowed to disassemble or repair in any ways. It is forbidden to do any illegal modification or performance change for laser emitter. Please keep it out of reach of children and avoid being used by any irrelevant person.
-  It is strictly prohibited to shoot eyes or other parts of body with the laser. It is not allowed to take the laser to shoot the surface of any highly reflective objects.
-  Due to electromagnetic radiation interference to other equipment and devices, please don't use the meter in the plane or around medical equipment, don't use it in inflammable, explosive environment.
-  Discarded meter device should not be processed just like household garbage, please handle it in line with related law and regulations.
-  Any quality issues or any questions on the meter, please contact local distributors or manufacturer in time, we are ready to offer solutions for you.

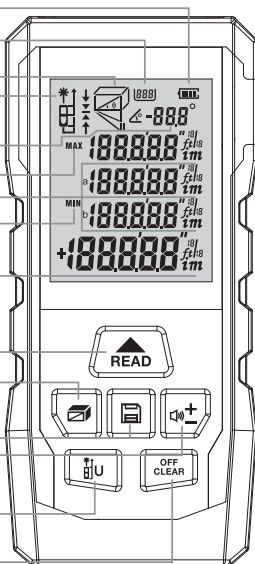
Display / Keyboard

● Display



- Power Supply
- Record
- Length, Area, Volume and Pythagorean
- Laser on
- Angle
- Maximum
- Auxiliary Display
- Minimum
- Major Display

● Keyboard

- Turn on/ Measuring
- Area/Volume/ Pythagorean Measuring
- Save
- Sound/Addition/ Subtraction
- Reference Point/ Unit Switch
- Turn off/ Remove



Lithium Battery

- The built-in 3.7V 850mAh lithium battery is non-removable. The instrument has its own charging circuit, with clear undervoltage indication and charging indication.
- Battery charging: The charging head should be of good quality and DC5V >0.8A output. It is recommended to use the mobile phone charging head for charging.
- The instrument shall be charged in time when running out of battery or its battery symbol shows blank and flashes after being turned on due to its insufficient battery capacity. Insert USB to charge, and the battery symbol scrolls display . When fully charged, it will display  and flash.


Battery Maintenance

Keep it with full power if no operations for a long time; and charge it once every half year to avoid the battery damage.


Start the instrument/Menu Setting

● Turn on/off the Instrument

Under off status, press button , device get starting and stand by for measurement.

Under on status, long press button  for 3 seconds to turn the device off. The device can also be shut off without any operation for 150 seconds.

● Unit setting

Long press button , reset current measurement unit, the default unit is: 0.00ft.

There are 6 units for selection.

Units:

	Length	Area	Volume
1	0.000 m	0.000 m ²	0.000 m ³
2	0.00 m	0.00 m ²	0.00 m ³
3	0.0 in	0.00 ft ²	0.00 ft ³
4	0 1/16 in	0.00 ft ²	0.00 ft ³
5	0'00" 1/16	0.00 ft ²	0.00 ft ³
6	0.00 ft	0.00 ft ²	0.00 ft ³

● Changing Reference Point

Short press  to change the reference point .


System default reference point is bottom.

● Back Light On/Off








The back light is set to turn on and off automatically.

The back light can be on for 15s while operating, and it will be shut off automatically in 15s when there is no operation to the device.

● Sound On/Off



Long press  button to turn on or off the buzzer.

Self-Calibration




This function can keep the precision of the device. Instruction: Power off, Long press button , and then press . Release the button , then release button  till "CAL" and a figure under it display on the screen. User can adjust the figure with button   according to the accuracy of the meter. Adjusting range: -9 to 9mm, then, long press button  to save the calibration result.

Length Measurement & Calculation



● Single Distance Measuring:

Turn on the laser beam by short press of the button  under measuring mode, press the button  again for single measurement of length, then the measured results displayed in the major display area.

● Continuous Measuring:

Long press button  under measuring mode and enter into continuous measuring mode. Maximum measuring result displays in auxiliary display area, present result displays in major display area. Short press button  or  to exit continuous measuring mode.

● Area Measurement:


Press button  ,  shows on the screen. One of the side of rectangle blinking on the display, please follow the below.


instructions for area measuring:

Press  once for length



Press  again for width

The device calculates and shows the result in the major display area.

The resent measuring result of length is showed in the auxiliary display area. Press  , clear off the result and measuring again if necessary.

Press  again to exit the mode.

● Volume Measurement


Press button  twice to enter volume measurement mode. A  will shows on the top of screen. Please follow the below instruction for volume measuring:

Press  for Length

Press  again for Width

Press  thirdly for height



The device calculates and shows the result in the major display area.

Press  , clear off the result and measuring again if necessary.


Press  again to exit the mode.


● Painter Function

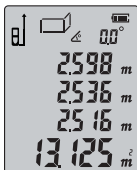
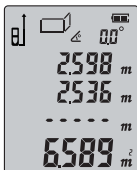
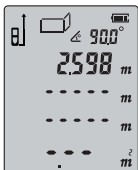
When the meter is in area mode, you can use the add / subtract function to total up the area of several surfaces.


Press button  three times till  showing in the display.


Press  to measure the height of the wall first;

Press  to measure the bottom edge of the first wall, get the first area in the major display area;

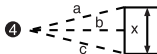
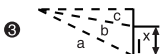
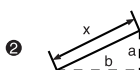
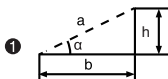
Press  to measure the bottom edge of another wall, get the sum of these two walls.



Repeat these operations for more walls. Press button  to clear the previous measuring result and start new measurement.



When there is no data in the Auxiliary Display area, press button  to exit the mode.


● Pythagoras



There are four Pythagoras modes in case that user gets hard to reach the target.



1. Calculate the length of two legs by measuring the hypotenuse and the angle.

Short press  four times, when the hypotenuse of  blinking,


Press  , measure the length of hypotenuse (a), and calculates the angle (α) between the bevel and the bottom at the same time.

Device calculates the horizontal distance (b) and vertical height (h) .











2. Calculate the hypotenuse by measuring the length of two legs.

Short press  five times, when one leg of  blinking,


Press  , measure the length of one leg (a)


Press  , measure the length of another leg (b)


Device calculates the length of hypotenuse (x)


3. Press  six times till the one side of  blinking on the screen.
 Press , measure the length of one side (a)
 Press , measure the length of the median line (b)
 Press , measure the length of another side (c)
 Device calculates the length of the leg in full line (x)
 4. Press  seven times till the hypotenuse of  blinking on the screen.
 Press , measure the length of one hypotenuse (a)
 Press , measure the length of another hypotenuse (b)
 Press , measure the length of one leg (c)
 Device calculates the length of the leg in full line (x)
- Legs must short than hypotenuse, or there will be "Err" shows on screen. In order to guarantee the accuracy, please make sure all measurements are start from the same point.

● Addition / subtraction

The device can be used for length addition and subtraction. Press  to select the function once get the length measuring result.

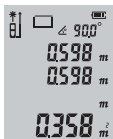
Short press , "+" shows in the major display area, entering cumulation mode. Value of last measurement and the result of cumulation will be showed on the screen.

Press  again, "-" shows in the major display area, entering regressive mode. Value of last measurement and the result of cumulation will be showed on the screen.

Do round-robin selection between continous addition and continuous subtraction by pressing button .

Not only length can be calculated in addition and subtraction, but area and volume can do the calculation as well. Take area as sample:

Area cumulative function: Measure the first area as showing in PIC1. Then press button **⏏±**, and measure the second area as showing in PIC2, there is a "+" in the left bottom. At last, press button **READ** to get the summation result of these two areas which is showing in PIC3.



PIC1



PIC2









PIC3

Record Function

Long press button **📄** for 3s to record your measuring result under measuring mode.

It can also record the result under Area, Volume and Pythagoras mode. All the calculating records can be saved by the device.

● Read / Delete the Record:

Short press  key to view the stored measurement records and browse the records with  or  key. When browsing the records, short press  to delete the current record; Long press  to clear all records; Short press  key to exit the state.

● Angle measurement

The angle information is displayed at the top of the screen, and the angle measurement range is -90.0° to 90.0° .

Tips

You may get some warning information as below:

Info message	Cause	Solution
Err	Out of distance measurement range	Use the device within the range
Err1	Signal is too weak	Chose the surface with stronger reflectance. Use the reflecting plate.
Err2	Signal is too strong	Chose the surface with weaker reflectance. Use the reflecting plate.
Err3	Low battery voltage	Charging the battery
Err4	The working temperature is out of working range	Use the device in the specified temperature.
Err5	Pythagoras measuring error.	Re-measure and ensure that Hypotenuse is bigger than Cathetus.
Err6	Angle sensor error	Depot Repair

Technology Specifications

ITEM	T9-104-230
Working Range	0.165 – 230 ft
Distance measurement precision	$\pm(2\text{mm}+d*1/10000)$ *
Angle Range	$\pm 90^\circ$
Angle accuracy	$\pm 1^\circ$
Continuous measurement function	✓
Area and Volume measurement function	✓
Pythagorean proposition measurement function	✓
Add and subtract measurement function	✓
Area measurement function	✓
Wall area measurement	✓
Min/Max value	✓
Self-Calibration	✓
Buttons/Keys sound	✓
Display screen	2.2" segment LCD
Laser level	II
Laser type	500-800nm, <1mW
Max storage	99 units
Automatically cut off laser	20s (single measurement)
Automatic shutdown	150s
Operating times	Single measuring 5000 times after one time full charging
Storage temperature	-20°C~60°C
Working temperature	0°C~40°C
Storage humidity	20%~80% RH
Battery	3.7V 850mAh Li-ion
Charging Specification	DC5V 0.8A Type-C
Charging Time	About 1.5 hours
Dimension	118x54x25mm

Note:* "d" indicates the actual distance.

** In harsh environment, such as: sunlight is too strong, the ambient temperature fluctuates excessively, the reflection effect of the object's surface is weak, the battery is low, the measurement results will have a large error, so a reflecting plate is needed.

Instrument Maintenance

- The meter should not be stored in high temperature and humid environment for a long time. If it is not used very often, please place the meter in the box and store it in cool and dry place.
- Please keep the device surface clean. Use a soft wet cloth to wipe the dust on the surface. Do not use corrosive liquid to clean the device. Use the same method as wiping optical devices to wipe the meter and focusing mirror.

Packing List

Please check if the accessories are completed according to the below list.

No.	Item	Unit	QTY	Note
1	Meter	pc	1	
2	Portable Bag	pc	1	
3	Hand Strap	pc	1	
4	User Manual	pc	1	
5	Gift Box	pc	1	
6	Type-C Cable	pc	1	

DISPOSAL OF THIS ARTICLE

Dear Customer,

If you at some point intend to dispose of this article, then please keep in mind that many of its components consist of valuable materials, which can be recycled.

Please do not discharge it in the garbage bin, but check with your local council for recycling facilities in your area.

