

Laser Distance Meter User's Manual





Safety regulations

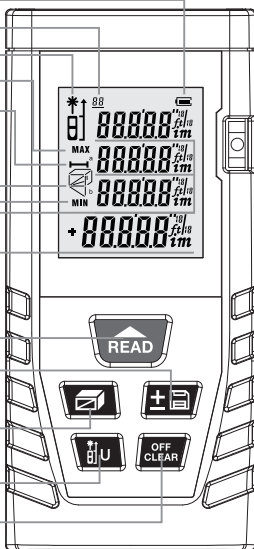
Please read the safety regulations and operation guide carefully before operating.

- ⚠ Please read all of the operational guide and safety regulations in this manual before operation . Improper operations without complying with this manual guided could cause damage to the device, influence on measurement result or bodily injury to the user.
- ⚠ 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 using by any irrelevant personnel.
- ⚠ It is strictly prohibited to shoot eyes or other parts of body with the laser. It is not allowed take the laser to shoot any objects' surface with strong reflecting.
- ⚠ 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 batteries or meter device shall not processed just like household garbage, please handle them 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
- Laser on
- Maximum
- Length
- Area, Volume and Pythagorean
- Minimum
- Auxiliary Display
- Major Display

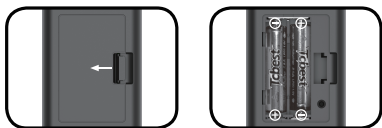


● Keyboard

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

Batteries Installation


● Battery Installation and Replacement




- Discharge the battery door on the back of device, and place battery according to correct polarity, then cover the battery door.
- Only 1.5 V AAA alkaline battery is applied to the meter.
- If not used for a long time, please take out the battery to avoid battery corrosion to meter body.


Start the Instrument / Menu Setting

● Turn On/Off the Instrument

Under off status, press button  , device and laser get starting simultaneously 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: 0.000m. There are 6 units for selection.

Units:

	Length	Area	Volume
1	0.000m	0.000 m ²	0.000 m ³
2	0.00m	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  key to change the reference point. The device reference point by default is rear.

● 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.



● Keys sound


When the rangefinder is turned on, the buzzer sound will be turned on by default and cannot be muted.

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 shows on the screen.


User can adjust the figure with button   according to the accuracy of the meter.

Adjusting range: -9 to 9mm, then, press button  to save the calibration result.



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 and Minimum measuring results display 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

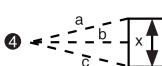
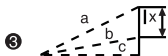
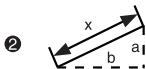
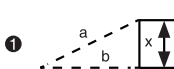
Press  thirdly for height

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.


Pythagoras



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

1. Calculate the second leg by measuring the hypotenuse and another leg.



Short press  three times to enter Pythagoras mode, the hypotenuse of  blinking.

Press  , measure the length of hypotenuse (a)

Press  , measure the length of one leg (b)

Device the length of another leg (x)



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

Short press  four 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  five 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  six times till the hypotenuse of  blinking on the screen.

Press  , measure the length of one hypotenuse (a)


Press  , measure the length of one leg (b)


Press  , measure the length of another hypotenuse(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.

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

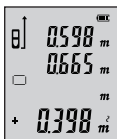
Do round-robin selection between continuous addition and continuous subtraction by pressing button  .

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

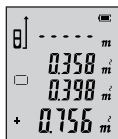
Area cumulative function: Measure the first area as showing in PIC1. Then press button , and measure the second area as showing in PIC2, there is a "+" in the left bottom. At last, press button  to get the summation result of these two areas which is showing in PIC3.



PIC1



PIC2









PIC3

Record Function

In measurement mode, the current data is valid, the instrument will automatically store, and the record number **88** at the top of the screen will continue to accumulate.

● Read / Delete the Record:

Long press button , read the records by press button  . Long press  to clear up all the records. Short press  or  to exit record mode.

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	Change the power supply.
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.

Technology Specifications

ITEM	SW-G4S	SW-G6S	SW-G8S	SW-G10S
Working Range	0.05-40m	0.05-60m	0.05-80m	0.05-100m
Distance measurement precision	$\pm(3\text{mm}+d*10^{-4}) *$			
Continuous measurement function	√			
Area and Volume measurement function	√			
Pythagorean proposition measurement function	√			
Add and subtract measurement function	√			
Area measurement function	√			
Min/Max value	√			
Self-Calibration	√			
Laser level	II			
Laser type	630-670nm, <1mW			
Max storage	99 units			
Automatically cut off laser	20s (single measurement)			
Automatic shutdown	150s			
Battery life	8000 times for single measurement			
Buttons/Keys sound	√			
Storage temperature	-20°C~60°C			
Working temperature	0°C~40°C			
Storage humidity	20%~80% RH			
Battery	1.5V 2xAAA			
Dimension	104x48x25mm			

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

- * Typical Tolerance: $\pm 3\text{mm}$, when reflectivity 100% (white surface), environment light $< 2000\text{ LUX}$. 25°C
Tolerance is usually affected by the distance, reflectivity, and environment light etc. It probably gets tolerance around $\pm (3\text{mm}+0.1\text{mm/m})$.

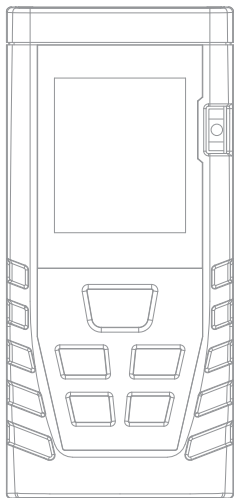
Instrument Maintenance

- The meter should not be stored in high temperature and strong humidity environment for long time. If it is not used very often, please take out the battery and place the meter in the allocated potable bag and store in cool and dry place.
- Please keep the device surface cleaning. Wet soft cloth is applied to clean dust, but erosion liquid is never allowed to use for the meter maintenance. Laser output window and its focus lens can be maintained according to maintenance procedures for optical device.

Delivery Package

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

No.	Item	Unit	QTY	Note
1	Laser distance meter	pc	1	
2	User' s manual	pc	1	
3	Giftbox	pc	1	



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