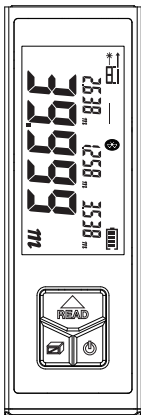


Bluetooth Laser Distance Meter

User Manual





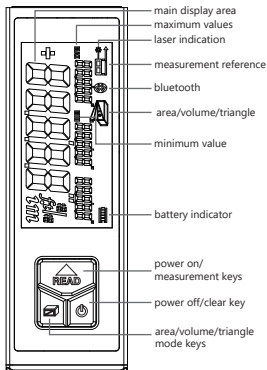
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Safety Regulation

Before using the instrument for the first time, please read the safety terms and operating instructions carefully.

- ⚠ Please read all operating instructions and safety regulations in this manual carefully before using the instrument. Failure to use the instrument in accordance with the guidelines in this manual may result in damage to the instrument, affect the accuracy of the measurements, or cause personal injury to the user or a third party.
- ⚠ Do not open or repair the instrument by yourself in any way, and it is strictly prohibited to illegally modify or change the performance of the laser transmitter of the instrument. Please take good care of the instrument, do not place it in a place accessible to children, and avoid the use of the instrument by unrelated persons.
- ⚠ It is strictly prohibited to irradiate the eyes and other parts of the body of yourself or others with the instrument laser, and it is strictly prohibited to irradiate the laser on the surface of highly reflective objects.
- ⚠ Electromagnetic radiation from the instrument may cause interference with other equipment and devices, do not use the instrument near airplanes or medical equipment, and do not use the instrument in flammable or explosive environments.
- ⚠ Used batteries and end-of-life instruments should not be disposed of with household garbage. Please dispose of used batteries and end-of-life instruments in accordance with national or local laws and regulations.
- ⚠ If there is any quality problem with the instrument, or if you have any questions about the use of the instrument, please contact your local distributor or the manufacturer of SHENDAWEI Instruments, and we will solve the problem for you at the first time.

1. Product Function Indication



2. Li-ion Battery

- Built-in 3.7V 850mAh lithium battery power supply, non-removable. The instrument comes with a charging circuit with clear undervoltage indication and charging indication. Battery charging: please use a DC 5V \geq 1A charger with safety certification, it is recommended to charge with a cell phone charger.
- When the battery is used for a period of time with insufficient capacity, it can not be turned on or after the power on, the battery symbol blank flashing display, you need to charge in time. Plug in the USB to charge, the battery symbol bar scrolling display




 , When fully charged it will show  , and flashing.

▶ **Battery Maintenance**




When not in use for a long time, fully charge the product first and recharge it every six months to avoid battery discharge damage.

3. Starting the Instrument, Function Setting


▶ **Starting Up and Shutting Down the Instrument**

- In the off state, long press  button, for more than 2 seconds, start the instrument and enter the standby mode.
- When the instrument is turned on and the laser is off, press the  key for 2 seconds to turn off the instrument, and the instrument will turn off automatically if no operation is performed within 300 seconds.
- When the instrument has an unanticipated error, press and hold the  key for more than 10 seconds to force the instrument to shut down.

▶ **Activating and Deactivating the Laser**

- In standby mode, press  key, activate laser, screen
The laser function is activated in the upper left corner of the display , if there is no operation 20 seconds to turn off the laser.
- With the laser activated, press  off button to turn off the laser.


▶ **Measurement Reference Setting**

- When the laser is on, long press  to convert the front-end datum and end-end datum to each other, and the instrument factory defaults to end-end datum.

► **Backlight On/Off**

- The backlight of this instrument is automatically switched on and off. When the instrument is keyed into any key, the backlight will be continuously turned on for 15 seconds, and after 15 seconds the instrument will automatically turn off the backlight without operation to save energy.





► **Unit Setting**

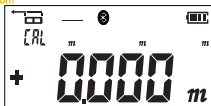
- In the standby mode, long press  key, to enter the measurement unit adjustment state, you can reset the current measurement unit, the instrument provides 6 kinds of units for choice.



	Lengths	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	0.00 ft	0.00 ft ²	0.00 ft ³
5	0 1/16 in	0.00 ft ²	0.00 ft ³
6	0'00" 1/16	0.00 ft ²	0.00 ft ³


► **Self-calibration Function and Sound On/Off Settings**


● **Self-calibration Function**

To ensure the accuracy of the instrument, the self-calibration function is provided. Calibration method: In the power off state, simultaneously press and hold the  key and  key, the moment the screen lights up  key release immediately,  key stays pressed, and the screen will display for a period of 3s 'CAL', flashing numbers at the lower end to enter self-calibration mode.




At this point, the user can use the instrument's error according to the  and  key adjust this value, the adjustment range is -9~9mm. e.g.: the actual distance is 3.780m.

If the measured value of this machine is 3.778m, which is 2mm smaller than the actual value, you can enter the calibration mode, Use the  key to adjust the calibration value by 2 mm from the existing value.

If the measured value of the machine is 3.783m, which is 3mm larger than the actual value, you can enter the calibration mode and use the  key to adjust the calibration value downward by 3mm from the existing one.

When the adjustment is complete, press the  key to save the calibration result.

● Sound Switch Setting

Press READ to save the calibration result and enter the sound switch setting, "b" appears on the screen with blinking letters at the bottom. Press  to set sound on/off, "oN" for sound on, "off key back for sound off. When the setting is finished, press READ or power button to set.



4. Distance Measurement\Area\Volume \Collinear Indirect Measurement



▶ **Single Measurement**

- Press the READ key in the standby mode, the instrument laser is emitted and the measurement point is locked. Press the READ key again to measure the single distance data, and the measurement result is shown in the main display area.


▶ **Continuous Measurement**

- Press and hold down the READ key in the standby mode to enter the continuous measurement state, and the auxiliary display area on the screen will show the maximum and minimum measurement values during this continuous measurement.
- The main display area will show the current measurement value, short press READ or power button to exit the continuous measurement mode.



▶ **Area Measurement**

- Press the  key briefly once,  the screen will display a rectangular flashing edge.
- Follow the prompts to complete the following actions.
Press READ for the first edge measurement (long).
Press the READ key to measure the second edge (width).
- The instrument automatically performs the area calculation and the result is displayed in the main display area. The car auxiliary display shows the measurement of the length and width of the rectangle.

► Volume Measurement

- Short press the  key twice, the system enters the volume measurement state, the instrument enters the volume state, a cube will flash on the screen.
- Follow the prompts to complete the following actions.
 - Press READ for the first edge measurement (length).
 - Press the READ key to measure the second edge (width).
 - Press the READ key to measure the third edge (height).
- The instrument performs the volume calculation automatically and the result is displayed in the main display area. The auxiliary display area shows the measured values of the length, width and height of the cube.
- During the measurement, you can also press the power button to clear this measurement and re-measure.

► Wall Areas Measurement

- Press  three times to display 
 - Follow the prompts to complete the following.
 - Press the READ measurement key to measure the height of the wall surface;
 - Press the READ key to measure the width1 of the wall1.
 - The instrument will automatically calculate the area of the wall = height*width1.
 - Press the READ key to measure the width of wall 2.

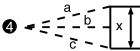
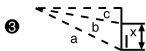
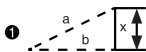
The instrument will automatically calculate the total area of the wall.

Area sum = height * (width 1 + width 2) and so on, press the READ measurement key to measure the width n of the wall n;

Area sum = height x (width 1 + width 2 + + width n).


During the measurement, you can also type the power key to clear this measurement and re-measure.

► Indirect Measurement of the Pythagorean Theorem



The instrument is pre-programmed with four modes of measuring the distance to a single side of a triangle using the Pythagorean Theorem, which facilitates the user to make indirect measurements in specific complex environments.

1 Measurement of hypotenuse and base, indirect measurement of altitude


Press the  key four times to enter the indirect measurement mode.

Press the READ key to measure the length (a) of the hypotenuse according to the prompts on the screen.

Press the READ key to measure the length of the dotted right-angled edge (bottom edge) (b).

The instrument automatically calculates the length (x) of the solid right-angled edge (height).



- 2 Measures the two right-angled sides of a right triangle, and indirectly measures the length of the hypotenuse.

Press  key five times, the screen display: the right-angle edge flashes, according to the screen prompts.

Press the READ key to measure the length of a dotted line right-angled edge (a).

Press the READ key to measure the length of another dotted line right-angle edge (b).

Press READ to automatically calculate the length of the solid diagonal edge (x).



- 3 Press  key six times, the screen display:  the right-angle edge flashes, according to the screen prompts.

Press READ to measure the length of a dashed edge (a).

Press the READ key to measure the length of the center dashed edge (b).

Press the READ key to measure the length of the other dashed edge (c).

The instrument automatically calculates the length of one side of a solid triangle (x).

- 4 Press  key seven times, the screen display:  the right-angle edge flashes, according to the screen prompts.

Press READ to measure the length of a dashed edge (a)


Press the READ key to measure the length of the center dashed edge (b).

Press the READ key to measure the length of the other dashed edge (c).

The instrument automatically calculates the length of the solid right-angled edge (x).

In the hook and strand measurement mode, the right angle side must be less than the length of the hypotenuse for the instrument to calculate, otherwise the instrument will display an error signal prompt. In the hook and strand measurement mode, in order to ensure the accuracy of the measurement, must ensure that the measurement from the same starting point, and in the order of the measurement of the hypotenuse, right-angled edge measurement.

5. Bluetooth Function (only models with Bluetooth)

The Bluetooth function is factory set to be turned on by default, and is always on, and cannot be turned off. There is a "  " prompt on the screen. We provide professional APP to facilitate the data interaction between the rangefinder and smart terminals such as cell phones.

6. Measurement to Preliminary Design Assistant APP

(only models with Bluetooth)

APP download:

1) Search for [Know Your Household] in the Android app market to download; IOS APP Store Search [Know Your Household] to download;

2) Scan the QR code to download



Laser rangefinder through APP convenient to realize:

1) Intelligent terminal rangefinder easily interconnected, real-time measurement and data sharing, without the need to assist a person can easily measure the room.

2) Mobile collaborative design, rapid on-site drawings, export CAD3Dmax and other professional files, seamless collaboration with mainstream design software.

3) Exclusive rights activation path: rangefinder to keep the power on → open the upper left corner of the APP to know the house type into the personal center → activation code ' hardware (immediate activation) → connect the rangefinder, activate the exclusive rights.

7. Technical Parameters

Model	SW-B40/50/60	SW-BT40/50/60
Measurement Range	40m/50m/60m	40m/50m/60m
Measurement Accuracy	$\pm(2\text{mm}+d*\text{one ten thousandth})^*$	
Minimum Display Units	0.001m	
Continuous Measurement	√	
Area Volume Measurement	√	
Indirect Measurement of Hook and Loop	√	
If-calibration Function	√	
Max/Min	√	
Sound On/Off	√	
Sound Alert	√	
Bluetooth	x	√
Laser Type	2級 630-670nm, <1mW	
Auto Off Laser Time	20s	
Auto Power Off Time	300s	
Storage Temperature Range	-20°C~60°C	
Operating Temperature Range	0°C~40°C	
Storage Humidity	20%~80%RH	
Battery	3.7V 850mAh li-ion battery	
Charge and Discharge Times	500次	
Charge Specification	DC 5V \geq 1A Type-C USB port	
Number of Full Charge Operations	8000 times	
Screen	Segment LCD	
External Dimension	100.3*33.4*18.3mm	

* "d" indicates actual distance

** In harsh environments such as: Sunlight is too strong, the ambient temperature fluctuation is too large, the reflective surface reflection effect is weak, the battery power is insufficient in the case of the measurement results will have a large error, such a situation with the target reflective plate to use the effect is better.

8. Instrument Daily Maintenance

- It is prohibited to store the instrument in a high temperature and high humidity environment for a long time. When the instrument is not used for a long time, please place the instrument in the randomized instrument cover and store it in a cool and dry place.
- Please keep the surface of the instrument clean, use a wet soft cloth to wipe the surface dust, do not use corrosive cleaning fluid to clean the instrument. The laser window and focusing mirror can be wiped according to the method of wiping the optics table.

9. Error Message

- The following message may appear in the main display area during use:

Err1	too weak a signal	Measurement of target points with high reflectivity
Err2	signal is too strong	Measurement of weakly reflective targets
Err3	low battery voltage	Charging the battery
Err4	out of range of operating temperature	Use within the specified temperature range
Err5	hookah measurement violation	Re-measure to ensure that the hypotenuse is larger than the right-angle
Err6	out of measurement range	Use within range
Err9	Bluetooth chip damage	Please return to factory for repair

10. Packing List

- When purchasing the instrument, please check carefully whether all accessories of the instrument are complete according to the following list?

Projects	Name	Unit	Quantities	Note
1	Host	desktop	1	
2	Li-ion Battery	piece	1	built-in non-removable
3	USB Type-C Cable	strip	1	
4	Manual	book	1	
5	Bag	unit	1	

