

深达威® 手持式激光测距仪

Laser Distance Meter

用户手册

User Manual



SW-M30A



SW-M30B

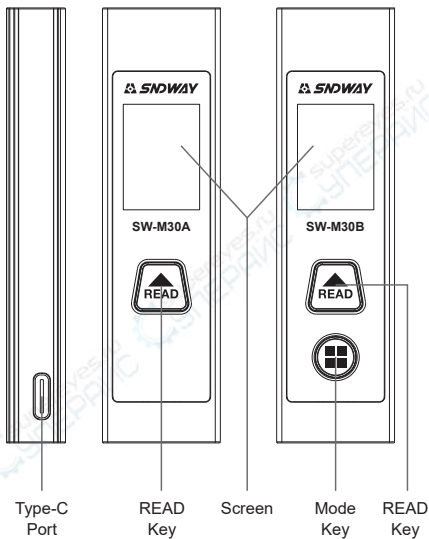


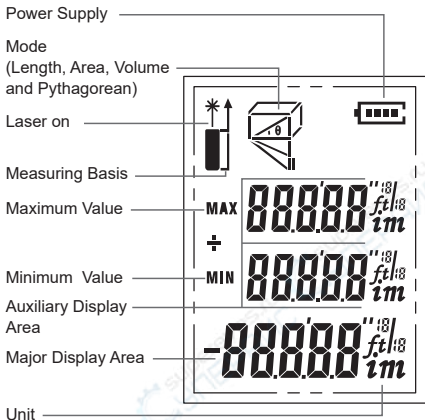
Safety Regulations

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.

Product introduction





Lithium Battery


- The built-in 3.7V 220mAh 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 >0.5A 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

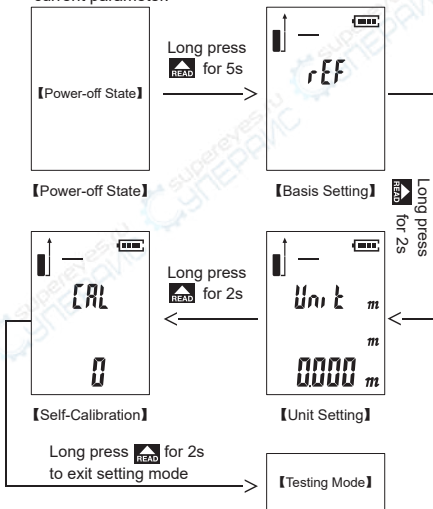
● Turn on/off the Instrument

Turn on: Under off state, short press  , device and laser get started simultaneously and the device enters the measurement mode.


Turn off: If no operation is performed within 150s, the instrument will shut down automatically. Or long press  for more than 5s to turn off it.

● Function Setting


1. Enter baseline Settings: In the shutdown state, long press  for 5s.
2. Switch setting options: Long press  for 2s to switch setting options order: **【Basis Setting (REF)】** -> **【Unit Setting (Unit)】** -> **【Self-Calibration (CAL)】** -> Exit the setting and enter the testing mode.
3. Modify the setting parameters: Press  to modify the current parameter.



● Changing Reference Point

In the basis setting state, short press  to change the reference point. The default reference point is the terminal baseline.




● Unit Setting

In the unit setting state, short press  to switch the measurement unit. There are 6 units for selection.


	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

● Self-Calibration

To ensure the precision of the instrument, a self-calibration function is provided.



Calibration method: In the self-calibration state, press  to adjust the self-calibration value. The default self-calibration value of the instrument is 0, when the value is adjusted to 9, then press , it will become -9, the adjustment range is -9~9mm. After adjustment, long press  2s to save the calibration result.

For example, the actual distance is 3.780m.


If the measured value is 3.778m, 2mm smaller than the actual value, the calibration value can be adjusted up by 2mm on the existing basis with  through the calibration function.

If the measured value is 3.783m, 3mm larger than the actual value, the calibration value can be lowered by 3mm on the existing basis with  through the calibration function.



Single Distance Measurement

Under the test mode, press , and the instrument emits laser to lock the measuring point. Press  again for single distance measurement, and the measurement result will be displayed in the major display area.


Continuous Measurement

In the testing mode, long press  for 2s to enter the continuous measurement mode. The auxiliary display area will show the maximum and minimum measurement values during the measurement process.

Area Measurement(Only SW-M30B)


In the testing mode, press  once to switch to the area measurement function. The screen displays , and one side of the rectangle flashes. Follow the prompts to complete the measurements:

Press  to measure the first side (length);

Press  to measure the second side (width);


The instrument will automatically calculate the area and the result is displayed on the screen.


Volume Measurement(Only SW-M30B)

In the testing mode, press \square twice to switch to the volume measurement function. The screen displays , and one side of the cubic flashes.

Follow the prompts to complete the measurements:

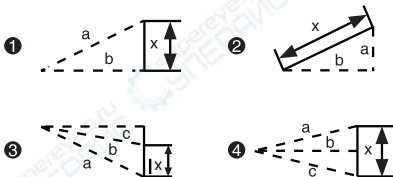
Press  to measure the first side (length);

Press  to measure the second side (width);

Press  to measure the third side (height);



The instrument will automatically calculate the volume and the result is displayed on the screen.


Pythagoras(Only SW-M30B)



There are four Pythagoras modes which is convenient for indirect measurement in a specific complex environment.

① Measurement of the height of right triangle



Under test mode, press  three times to switch to the height measurement function of right triangle. The screen displays  and the hypotenuse of triangle flashes. Follow the prompts to complete the measurements:

Press  to measure the first side a;


Press  to measure the second side b;

The instrument will automatically calculate the height of the right triangle x , and the result will be displayed on the screen.

② Measurement of the hypotenuse of the right triangle



Under test mode, press  four times to switch to the hypotenuse measurement function of right triangle. The screen shows , and the bottom edge of the triangle flashes. Follow the prompts to complete the measurements:

Press  to measure the first side a;

Press  to measure the second side b;


The instrument will automatically calculate the hypotenuse x of the right triangle, and the result will be displayed on the screen.

③ Measurement of the height of triangular auxiliary lines

Under test mode, press  five times to switch to the height measurement function of triangle auxiliary line. The screen shows , and the hypotenuse of the triangle flashes. Follow the prompts to complete the measurements:



Press  to measure the first side a;


Press  to measure the second side b;

Press  to measure the third side c;


The instrument will automatically calculate the height x of the triangular auxiliary line, and the result will be displayed on the screen.

④ Measurement of the third side of a non-right triangle


Under test mode, press  six times to switch to the function of measuring the third side of a non-right triangle. The screen shows , complete the measurement according to the prompts:

Press  to measure the side a of the triangle;


Press  to measure the height b of the triangle;

Press  to measure the other side c of the triangle;

After the measurement, the instrument automatically calculates the third side x of the triangle, and the result is displayed on the screen.

In the state of area, volume and pythagorean measurement state, long press  to return to the straight-line distance measurement mode.

Tips

If $\{Err\}X$ is displayed on the screen, it indicates that the measurement failed. Press  again to measure again. The error messages are shown in the following table:

Prompt	Cause	Solution
Err1	Signal is too weak	Choose the surface with stronger reflection. Use the reflecting plate.
Err2	Signal is too strong	Choose the surface with weaker reflection.
Err3	Low battery voltage	Charge the battery
Err4	Beyond working temperature	Use the device in the specified temperature.
Err5	Pythagoras measuring breaks the rules	Re-measure and ensure that hypotenuse is longer than legs.
Err6	Out of the measurement range	Use the device within the measurement range

Specification

ITEM	SW-M30A	SW-M30B
Measurement Range	0.05-30m	
Precision	$\pm(5\text{mm}+d*1/10000)$ (Note 1)	
Minimum Unit	0.001m	
Continuous Measurement	✓	
Area/Volume Measurement	✗	✓
Pythagorean Measurement	✗	✓
Max/Min Value	✓	
Self-Calibration	✓	
Laser Type	Class II 630-670nm, <1mW	
Automatically Cut off Laser	20s	
Auto Power-off	150s	
Storage Temperature	-20°C~60°C	
Working Temperature	0°C~40°C	
Storage Humidity	20%~80%RH	
Battery	3.7V 220mAh lithium battery	
Charge and Discharge Times	500 times	
Charging Specification	DC 5V >0.5A, Type-C USB interface	
Full Charge Measurement Times	5000 times	
Screen	Segment LCD	
Dimension	85x23x11.5mm	

Note 1: "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 all accessories are complete according to the following list.

No.	Item	Unit	QTY	Note
1	Meter	pc	1	
2	User Manual	pc	1	
3	Gift Box	pc	1	
4	Type-C Cable	pc	1	



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