



User Manual

Laser Distance Meter



Model: ☐ S3-50 ☐ S3-100 ☒ S4-60

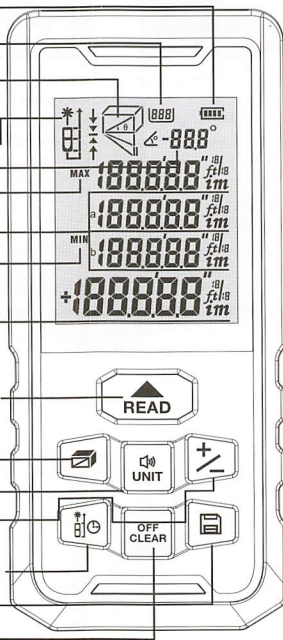
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DISPLAY / KEYBOARD

● Display

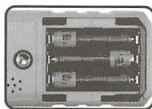
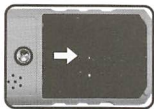
- Power Supply
- Record
- Length, Area, Volume and Pythagorean
- Laser on
- Angle
- Maximum
- Auxiliary Display
- Minimum
- Major Display



● Keyboard

- Turn on/Measuring
- Area/Volume/Pythagorean Measuring
- Unit/Sound
- Addition/Subtraction
- Reference Point/Delay Measurement
- Save
- Turn off/Clear up

Battery Installation




- 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 the meter is not used frequently, please take out the battery to avoid battery corrosion to meter body.


Start and Settings

- **Turn on / off the Instrument**

Under off status, press button  **READ**, device and laser get starting instantly and start to work.

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

- **Unit setting**


Under the measuring mode, long press button  **UNIT**, reset measurement unit, the default unit is: 0.000m

There are 6 units for selection.




Units:


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

- **Changing Reference Point**

Short press  key to change the reference point. System default reference point is under its bottom.

- **Delaying Measurement**


Long press  , values shows in the screen. User can press  or  to adjust the time of measurement between 3s to 60s.

Press  to start, the measure start when the time turns to 0.





- **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**



Short press button  to turn on or off the buzzer.

Self-Calibration




This function can keep the precision of the device automatically. Instruction: Power off, press button  till "CAL" and a figure under it displays 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.

Length Measurement & Calculation



- **Single Distance Measuring:**


Short press  to turn on the laser beam under measuring mode. Press the button  again for single measurement of length, then the measured results will display on the major display area.


- **Continuous Measurement:**

Long press button  under measuring mode and enter into continuous measuring mode. Maximum and Minimum measuring result will display in auxiliary display area, current result will show in major display area. Short press button  or  to withdraw continuous measuring mode.

• Area Measurement

Press button  once,  shows on the screen. One of the side of rectangle blinking on the display, please follow the below instructions for area measuring:

Press  READ once for length measurement

Press  READ again for width measurement



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  READ for Length measurement


Press  READ again for Width measurement

Press  READ thirdly for height measurement

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.


• Painter Function

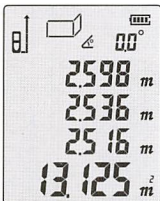
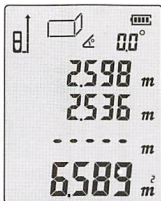
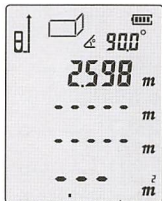
When the meter is in area mode, you can use the add / subtract function to total up the area of several surfaces.

Press button  three times till  showing in the display.

Press  READ to measure the height of the wall first;

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

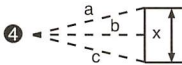
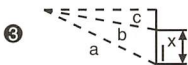
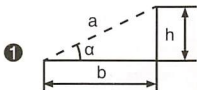
Press  READ to measure the bottom edge of another wall, get the sum of these two walls.



Repeat these operations for more walls. Press button to ^{OFF}CLEAR clear the previous measuring result and start new measurement.



When there is no data in the Auxiliary Display area, press ^{OFF}CLEAR to exit the mode.

• Pythagoras

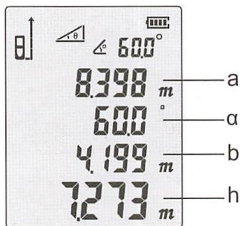
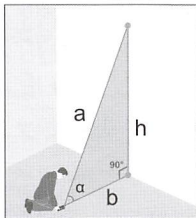






There are four Pythagoras modes in case that user gets difficulties to measure directly.






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






Short press  four times, when the hypotenuse of  blinking, Press ^{READ}, 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 $\frac{+}{-}$ to select the function once get the length measuring result.

Press $\frac{+}{-}$, "+" shows in the major display area, entering cumulation mode. Value of last measurement and the result of cumulation will be showed on the screen.

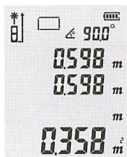
Press $\frac{+}{-}$ again, "-" shows in the major display area, entering regressive mode. Value of last measurement and the result of cumulation will be showed on the screen.

Can choose the addition or subtraction mode by pressing the button $\frac{+}{-}$.

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

Area cumulative function: Measure the first area as showing in PIC1.

Then press button $\frac{+}{-}$, and measure the second area as showing in PIC2, there is a "+" in the left bottom. At last, press button \triangle READ to get the summation result of these two areas which is showing in PIC3.



PIC1



PIC2










PIC3

Memory Function

Long press button [Memory] 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 button  , read the records by press button  and  .
Short press  to delete recent record and long press  to clear up all the records. Press  or  to exit rec ord mode.

When the storage is full, the screen will display the **FULL** mark.

- **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	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.
Err6	Angle sensor error	Depot Repair

Technology specifications :

ITEM	S3-50	S3-100	S4-60
Working Range	0.05 ~ 50m	0.05 ~ 100m	0.05 ~ 60m
Distance measurement precision	±2mm *		
Continuous measurement function	yes		
Area measurement function	yes		
Volume measurement function	yes		
Pythagorean proposition measurement function	Full mode		
Painter function	yes		
Angel function	yes		
Add and subtract measurement function	yes		
Min/Max value	yes		
Self-Calibration	yes		
Laser level	II		
Laser type	635nm,<1mW		500-535nm,<1mW
Max storage	99 units		
Automatically cut off laser	20s		
Automatic shutdown	150s		
Battery life	8000 times for single measurement		
Laser level	II		
Storage temperature	-20°C~60°C		
Working temperature	0°C~40°C		
Storage humidity	RH 20%~85%		
Battery	3x1.5V AAA		
angle Range	±90°		
Dimension	118*52*27mm		

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

Typical Tolerance: $\pm 2\text{mm}$, 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 $\pm (2\text{mm} + 0.2\text{mm/m})$.

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 portable 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.