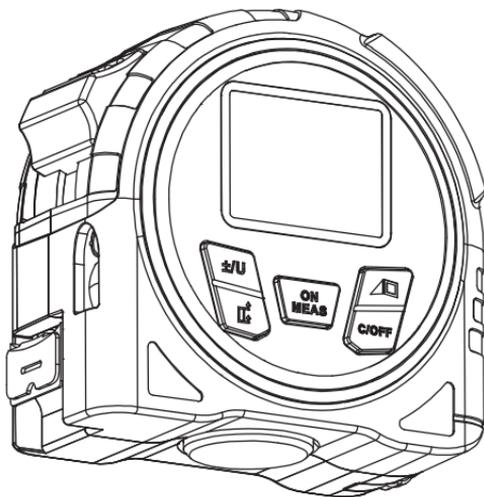


# Laser Tape Measure

## User's manual



# Laser Tape Measure User's manual

Thank you for purchasing our laser tape measure products.



Please read the safety terms and instructions carefully before using this product for the first time.

## I.Safety Clause



Please carefully read all the terms and operating instructions in this manual before using this product. Failure to follow these safety provisions and operating instructions may lead to dangerous laser radiation injury ,electric shock or personal injury.



Do not try to change the performance of the laser in any way,which will lead to laser exposure and danger.Only turn on the laser when using this instrument, Do not look directly at the laser.Please keep your instrument properly to avoid the use of irrelevant personnel.

- Do not irradiate others with laser deliberately or in the dark.
- Do not irradiate the laser beam on object with high reflective surface.
- Do not place it where children can reach.



Do not repair this instrument without authorization.If the instrument is damaged ,please contact with your local dealer.



Electromagnetic radiation may cause interference to local equipment and devices (such as pacemakers or hearing aids and other medical instruments).

- Do not use this instrument in flammable and explosive environment.
- Do not use this instrument near medical equipment.
- Do not use this instrument on the aircraft.



Please dispose of discarded instruments according to the laws and regulations of your location.

### **Special Statement:**

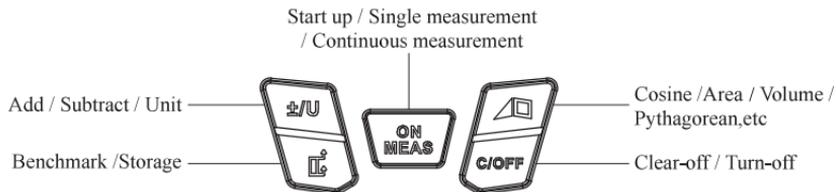
Our company does not assume legal responsibility for any derivative results of using this product; Our company reserves the right to make changes to product design, upgrades, and user manuals. Any

changes are subject to no prior notice!

## II. Overview

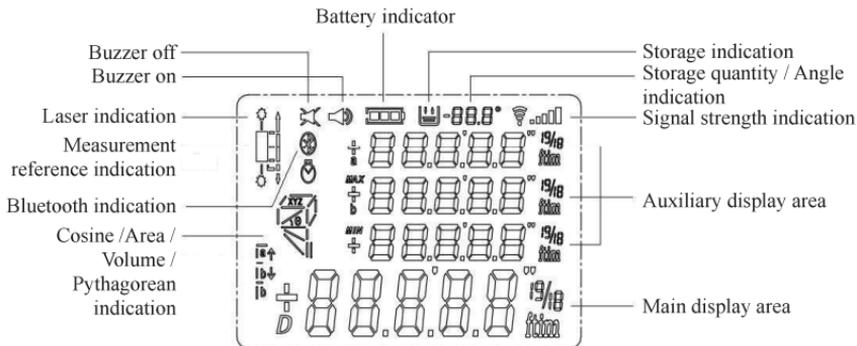
### ☞ Keyboard

See the figure below{A}:



### ☞ Screen

See the figure below{B}:



## III. Operations

### ☞ Turn on / Turn off

Press and hold the  ,after about two seconds,the instrument is powered on and started.The instrument enters the mode to be tested.

Press the  after about two seconds,the instrument is turn off.

### ☞ Clear key

 Cancel the last instruction.For a single measurement (area or volume, etc.) within the same function, you can use the clear key to clear the measurement result and re-measure.

### ☞ Datum edge

The default reference edge of the instrument is the rear end of the instrument.

 Press this key briefly to switch the datum edge.Restore the default settings after shutdown.The instrument currently supports two kinds of benchmarks: front benchmark and rear benchmark.

Front Benchmark: Measure the distance with the front of the instrument as the starting point.

Rear Benchmark : Measure the distance with the rear end of the instrument as the starting point.

### ☞ Set unit

 Long press this key to switch the required units.

Alternative units:

Length	Area	Volume
0.000 m	0.000 m <sup>2</sup>	0.000 m <sup>3</sup>
0.00 ft	0.00 ft <sup>2</sup>	0.00 ft <sup>3</sup>
0'0" <sup>1/16</sup>	0.00 ft <sup>2</sup>	0.00 ft <sup>3</sup>
0.0 in	0.00 ft <sup>2</sup>	0.00 ft <sup>3</sup>
0 in <sup>1/16</sup>	0.00 ft <sup>2</sup>	0.00 ft <sup>3</sup>

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### **⌘ Battery power indication**

When the segment code in the battery box is displayed, it means that the battery is in a full state, and the number of displayed segments is reduced, which means that the power is relatively reduced. When only the battery box is displayed, it should be ready for charging in time.

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### **⌘ Laser measurement self calibration function**

The laser measurement has been calibrated before leaving the factory. If the user wants to calibrate the laser measurement accuracy themselves, the operation method is: In the "shutdown" mode, press and hold the  key for about 5 seconds until "boot" flashes on the main screen, and then press and hold the  key, until "CAL.0" is displayed on the main screen, and then press the  key for adjustment. The adjustment range is -7~7mm. After calibration, press the  key to save the setting.

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### **⌘ Roller measurement self calibration function (only for products with roller function)**

The measurement accuracy of the roller has been calibrated before leaving the factory. Considering that long-term use of the roller can cause friction attenuation and slight changes in gear radius, which can affect the accuracy of roller distance measurement and result in errors, users can calibrate the roller measurement accuracy themselves, the operation method is: In the "shutdown" mode, press and hold the  key for about 5 seconds until "boot" flashes on the main screen, and then press and hold the  key, until "CAL.0" is displayed on the main screen, and then press and hold the  key again until "roLL" is displayed on the main screen, and then enter the self calibration function of the roller measurement. Short press , , and  keys can adjust the setting values, and after the adjustment is complete, press the  key to save the settings.

**Note 1:** The default value for factory settings is "1.000".

**Note 2:** The setting value here represents that the actual measurement value of the roller will be multiplied by the accuracy value set by the user calibration. In the subsequent process of using the roller for measurement, if there is a consistently large error in the measurement value, the error can be reduced by setting the roller accuracy value. The recommended setting value is generally 0.950~1.050, depending on the user's needs.

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### **⌘ Bluetooth factory reset function (only for products with Bluetooth function)**

For products with Bluetooth function, Bluetooth is already set up at the factory. If the user encounters Bluetooth abnormalities for some reason during use, they can try to restore the factory settings function of Bluetooth. The operation method is: In the "shutdown" mode, press and hold the  key for about 5 seconds until "boot" flashes on the main screen, and then press and hold the  key, until "CAL.0" is displayed on the main screen, and then press and hold the  key again until "roLL" is displayed on the main screen, and then press and hold the  key again until "bP.on" is displayed on the main screen, and then press and hold the  key again until "CLEAR" is displayed on the main screen, and then enter the Bluetooth factory reset function. Short press the  key, you will hear a "beep beep" sound, and then it will automatically shut down, indicating that Bluetooth has been restored to factory settings.

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### **⌘ Electronic angle self calibration function (only for products with electronic angle function)**

The electronic angle has been calibrated before leaving the factory. If the user wants to calibrate the angle themselves, the operation method is: In the "shutdown" mode, press and hold the  key for about 5 seconds until "boot" flashes on the main screen, and then press and hold the  key, until "CAL.0" is displayed on the main screen, and then press and hold the  key again until "roLL" is displayed on the main screen, and then press and hold the  key again until "bP.on" is displayed on the main screen, and then press and hold the  key again until "CLEAR" is displayed on the

main screen, and then press and hold the **ON MEAS** key again until "AG.CAL" is displayed on the main screen, indicating that the instrument has entered the angle calibration mode. Short press the **ON MEAS** key, then place the instrument on a horizontal surface and let it rest for about 6 to 10 seconds to complete angle calibration.

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### **☞ Turn on and off sound**

In the "shutdown" mode, press and hold the **ON MEAS** key for about 5 seconds until "boot" flashes on the main screen, and then press and hold the **ON MEAS** key, until "CAL.0" is displayed on the main screen, and then press and hold the **ON MEAS** key again until "roLL" is displayed on the main screen, and then press and hold the **ON MEAS** key again until "bP.on" is displayed on the main screen, and then press the **ON MEAS** key to adjust between "bP.on" and "bP.oFF". After the adjustment is completed, press the **C\OFF** key to save the setting.

bP.on: Sound on.

bP.oFF: Sound off.

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### **☞ Signal strength indication**

When all signal segment codes are displayed, it indicates that the measured echo signal strength is high, and the number of displayed segments is reduced, indicating that the measured echo signal strength is relatively reduced.

## **IV.Measurement**

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### **☞ Single measurement**

When the laser is off, briefly press the **ON MEAS** key to turn on the laser. At this time, the laser mark on the display screen will flash. Briefly press the **ON MEAS** key again for measurement.

The instrument will automatically save the normal measurement results.

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### **Continuous measurement**

Short press the  key to turn on the laser, long press this key for about 2 seconds to start continuous measurement. To stop continuous measurement, briefly press this key again.

During continuous measurement, the main display area displays the real-time measured values, and the auxiliary display area displays the maximum and minimum values in the measurement process.

## V. Functions

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### **Add / Subtract**

Single segment distance, area and volume measurement can be accumulated or reduced through addition / subtraction operation. Short press  to switch addition or subtraction, and the operation symbol will be displayed in front of the main display. After selecting the operation method, in the distance measurement mode, the calculation will be carried out automatically after the measurement is completed, and the results will be displayed in the main display area and the measured values in the auxiliary display area; In the area and volume mode, after completing the area or volume measurement, press  to calculate, and the results are displayed in the main display area, and the latest measured value is in the auxiliary display area.

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### **Cosine measurement**

Briefly press the  key until  is displayed on the display. Press  to complete the bevel measurement, and then the instrument will automatically calculate the other two right angle edges and display them on the screen.

In cosine measurement mode, there is also an angle measurement function: the measured angle can be

displayed in the auxiliary display area for viewing and recording. The operation method is: In cosine measurement mode, short press . When the main display area displays "HoLd" character, the auxiliary display area displays the measured angle. Short press  again to return to the normal cosine measurement mode.

Note: this function is only available for laser tape measure with electronic angle function.

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### **Area**

Briefly press the  key until  is displayed on the screen. Press  to complete the measurement of the first edge, and then press  to complete the measurement of the second edge. The area calculation will be carried out automatically, and the results will be displayed in the main screen area.

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### **Volume**

Briefly press the  key until  is displayed on the display. Press  to complete the measurement of three edges respectively, and the volume calculation will be carried out automatically. The results will be displayed in the main display area, and the relevant information will be displayed in the auxiliary display area.

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### **Pythagorean**

Pythagorean measurement is mainly used to measure the distance that cannot be measured directly because the measured object has occlusion or no effective reflecting surface. Only when the laser beam forms a right angle with the measured target can the accurate measurement value be obtained.

Pythagorean measurement 1: briefly press the  key until  is displayed on the display screen. According to the prompt on the screen, press  to complete the measurement of oblique edge and right angle edge respectively, and then the Pythagorean operation will be carried out automatically. During the measurement, ensure that the right angle edge is perpendicular to the measured surface.

The results are displayed in the main screen area.

Pythagorean measurement 2: briefly press the  key until  is displayed on the display screen. According to the prompts on the screen, press  to complete the measurement of the three edges respectively. When measuring the second edge, it should be vertical to the target edge. The calculation results are displayed in the main display area.

Pythagorean measurement 3: briefly press the  key until  is displayed on the display screen. According to the prompts on the screen, press  to complete the measurement of the three edges respectively. When measuring the third edge, it should be vertical to the target edge. The calculation results are displayed in the main screen area.

- When measuring in the Pythagorean mode, the length of the right angle side must be less than the length of the beveled side, otherwise the instrument will display a prompt message number.

- When measuring in the Pythagorean mode, it must be ensured that the measurement starts from the same starting point; Beveled edge --- right angle edge mode, and ensure that the right angle edge is perpendicular to the measured surface.

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### **Biaxial electron angle**

Short press the  key until two angles are displayed on the display screen, indicating that the dual axis electronic angle mode has been entered.

For the convenience of users to view and record angles, they can use the angle retention function. The operation method is: in this mode, short press , when the "HoLd" character is displayed in the main display area, the auxiliary display area maintains the measured angle. Short press  again to return to normal measurement mode.

Note: this function is only available for laser tape measure with electronic angle function.

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### **Data storage view**

Press and hold  key until  is displayed on the display screen, indicating that the storage mode is entered. Press  key and  key to cycle through the stored data. Press the  key to return to the measurement mode.

## VI. Other functions

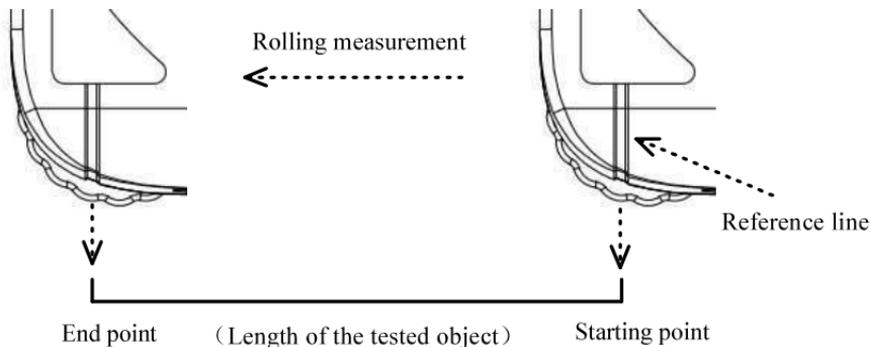
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### **Roller measurement**

In power on mode, hold down the  key for about 2 seconds until "roLL" is displayed on the main screen, indicating that the roller measurement mode has been entered. The user can roll the roller on the tape measure to measure. Press and hold the  key again for about 2 seconds until the "roLL" on the screen disappears, then release it to exit the roller measurement mode.

#### **Several operations of the scroll mode are explained here:**

- (1) Clear scroll wheel data: In scroll wheel mode, users can short press the  key to clear the scroll wheel data on the screen.
- (2) Local saving of roller data: In roller mode, after each measurement is completed, if you need to save the measurement data, press the  key briefly.
- (3) Sending scroll wheel data via Bluetooth: If the product has Bluetooth function, after each scroll wheel measurement is completed, the short  button will send the scroll wheel data to Bluetooth.
- (4) Unit conversion: In scroll mode, you can also switch units by long pressing the  key.
- (5) In order to facilitate the user's roller measurement, a measurement reference line is set on the housing, and the usage method is shown in the following figure:



- At the beginning of the measurement, the reference line should be aligned with the starting point of the measurement.
- During the measurement process, the roller should maintain good contact with the surface of the measured object.
- At the end of the measurement, the reference line should be aligned with the endpoint of the measurement.

**Note:** This function is only available for laser tape measure with roller measurement function.

## **Bluetooth**

Bluetooth is turned on automatically after power on. After shutdown, Bluetooth will also be turned off. In the power on mode, use the mobile app to search for and connect devices with ZB-XX Bluetooth name. Please refer to the app instructions for the use of the app.  
 Note: this function is only available for laser tape measure with Bluetooth function.

## VII.Prompt code and solution

Message	Reason	Solution
Er.BL	Battery voltage too low.	Charge as soon as possible.
Er.TL	Temperature too low.	Instrument temperature rise.
Er.TH	Temperature too high.	Instrument cooling.
Er.DH	Data overflow.	Remeasure.
Er.DE	Pythagorean measurement error.	The measured edge and edge length are wrong, please check.
Er.SL	The signal is too weak.	Measure the target point with strong reflection target or use the reflector.
Er.SH	The signal is too strong.	Measure the target point with weak reflection target or use the reflector.
Er.HF	Hardware error	Restart the machine many times, but the problem still hasn't been solved.Please contact your dealer.

If the product has a roller function, the following prompt codes are related to the roller:

Message	Reason	Solution
ER.180	Hardware error	Restart the machine many times, but the problem still hasn't been solved.Please contact your dealer.
ER.181	Hardware error	
ER.182	Hardware error	

## VIII.Technical parameter

Specification and model	G1 30/40/60
Laser measurement accuracy	$\pm(2\text{mm}+5*10^{-5}*D)$ D:Distance
Laser measuring range	0.05~30/40/60m
Roller measurement accuracy	$\pm 2\text{mm}$
Roller measurement range	0~100m
Display accuracy	1 mm

Unit	m/in/ft
Measuring time	0.3~4S
Laser level	Class II
Laser type	630~670 nm, <1 mW /500~540 nm, <1 mW
Turn off the laser	15S
Backlit screen	√
Measurement reference switching	√
Data clear	√
Power display	√
Signal strength indication	√
Single measure	√
Continuous measure	√
Add/Subtract	√
Area/Volume/Pythagorean	√
Data storage	√
Data storage quantity	50
Electronic angle	Version with electron angle only.
Cosine measure	Version with electron angle only.
Roller measurement	Version with roller measurement only.
Bluetooth	Version with Bluetooth only.
Battery capacity and life	200mah/500mah(With Bluetooth, Roller measurement version), 3000times
Product size	83*47*78mm
Weight	G1 : 243g G1 (Bluetooth version) : 245g G1 (Roller measurement version) : 248g G1 (Roller measurement and Bluetooth version) : 250g
Operating temperature range	0°C~40°C
Storage temperature range	-25°C~60°C

\* In the case of poor measurement conditions, such as too strong outdoor or ambient light, too large temperature fluctuations, too weak reflection of the measurement surface or too rough surface, etc., large measurement errors will occur.

\* Under bad measurement conditions (such as too strong ambient light, too large or too small diffuse reflection coefficient of the measured point, and too large temperature difference), there will be large errors in measurement accuracy:  $\pm 1 \text{ mm}+40\text{PPM}$ 。

\* In case of strong sunlight or poor reflection of the target, please use the reflector or corresponding tools.

## IX.Maintenance

It is forbidden to immerse the instrument in water. Wipe the dust on the surface with a wet soft cloth. Do not use an etching lotion. Wipe the surface of optical components (including laser exit window and signal receiving lens) by wiping the camera lens.

## X.Service

1.In order to better serve customers, our company immediately has a warranty card. Please keep it properly to enjoy our service.Since the date of purchase, the product has not been disassembled and repaired in normal operation, and it will enjoy warranty service within one year.

2.The following conditions are not covered by the free warranty.

·The instrument is damaged due to abuse or man-made.

·The instrument is damaged due to excessive vibration during transportation.

3. If the user does not have a warranty card, he will charge as appropriate.

4.When users need maintenance, please fill in the warranty card carefully and send it back to our company.



# Laser Tape Measure

## Warranty Card

Instrument name:		instrument model:	
Purchase channel:			
Invoice code or order code:			
User information	User name:		
	User telephone:		
	User address:		
Dealer name, address and telephone			
Fault description			
Note: when the product needs warranty, please tear off this page and send it back with the product.			

Made in China

