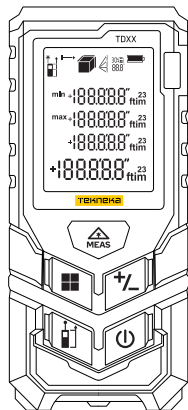


# LASER DISTANCE METER TB Series

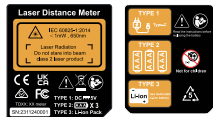


TB40/60/80/100/120m

## OVERVIEW

Thank you for purchasing and selecting this product. Please read this manual carefully before using it. This is an excellent value product without sacrificing on high quality. The device equipped with single measurement and multiple measurement functions, such as Area, Volume, and Pythagorean measurement functions and Electronic Angle Sensor Function etc. The device housing has a soft-wrapped rubber coating design for a comfortable grip and is not easy to slip off when using the device and meets the usage needs of various scenarios, provides a high standard of measurement.

## GENERAL SAFETY RULES



The safety instructions and the user manual should be read through carefully before the product is used for the first time and the instructions contained therein are strictly followed. Never make warning labels on the measuring tool unrecognizable. Please DO NOT remove any safety warning labels on product!

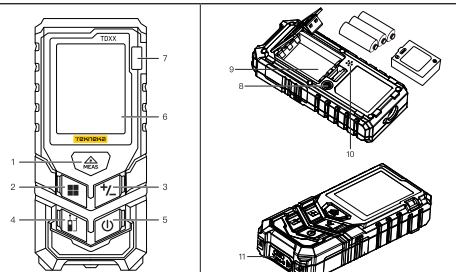
### ! SAVE THESE INSTRUCTIONS.

**Caution - The use of other operating or adjusting equipment or the application of other processing methods than those mentioned here, can lead to dangerous radiation exposure. The product is permitted to use for skilled persons only.**

- Do not use the product if you are unsteady on your feet.
- Do not attempt to repair or disassemble the laser-measuring tool. Any repair required on this laser product should be performed only by qualified service personnel, otherwise it will result in an increase of laser emission power and unnecessary harm to human body.
- Do not use the laser viewing glasses as safety goggles. The laser viewing glasses are used for improved visualization of the laser beam, but they do not protect against laser radiation.
- Do not direct the laser beam at persons or animals and do not stare into the laser beam yourself. This can lead to persons being blinded.
- Do not use any optical tools such as, but not limited to, telescopes or transits to view the laser beam. Serious eye injury could result.
- Do not allow children to use the laser measuring tool without supervision. They

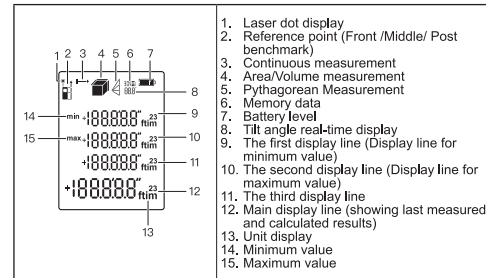
- could unintentionally blind other persons or themselves.
- Do not operate the measuring tool in explosive environments, such as in the presence of flammable liquids, gases or dusts. Sparks can be created in the measuring tool which may ignite the dust or fumes.
- Carry out periodic test measurements. Particularly before, during and after important measurement.
- It is forbidden to use a power supply other than the rated voltage to supply power to the device.
- It is recommended to use 3 x AAA alkaline dry cell batteries or lithium battery. Do not charge alkaline batteries.
- Do not mix old and new batteries. Do not dispose of batteries in fire. Replace all of them at the same time with new batteries of the same brand and type.
- Keep batteries out of reach of children.
- Remove batteries if the device will not be used for several months.
- The product and batteries must not be disposed of with household waste.
- It is forbidden to shoot the device directly into the sun.
- It is forbidden to immerse the device in water.
- It is forbidden to wipe the lens with organic solvents.

## BUTTONS AND DISPLAY ICONS



- POWER ON/Measurement button
- Volume/Area/ Pythagorean Measurement/Data storage
- Plus, Minus
- Benchmark /Unit Switch button
- Cancel / Power OFF button
- LCD display
- Level bubble
- 1/4"-20 mounting thread
- Battery compartment(3\*AAA alkaline dry batteries/ Lithium battery)
- Loudspeaker
- Type-C port

## LCD DISPLAY



## OPERATION

### Startup

Battery mounting:

- Open from the bottom end of the battery cover.
- Load the 3\*AAA alkaline batteries according to the battery polarity mark (+) /(-) at the end of the battery compartment or replace by the Lithium battery.
- Install the battery cover and snap it tightly.

### Note:

- Please do not mix the new and old batteries.
- When the battery power is too low, please replace 3\*1.5 V AAA alkaline dry batteries. It is strictly forbidden to charge dry batteries.
- When the device is not used for a long time, please take out the battery.
- Please recycle the waste battery in accordance with the relevant national or local regulations.

### Lithium battery charging:

The lithium battery can be removed and charged separately(charging time 1.5h) or placed in the device for charging(charging time: 2.5h).

- Open the Type-C silicone plug at the bottom of the device;
- Connect the Type-C charging cable to the device and the power interface respectively;
- Do not operate the device in any way when charging the device.
- Only when using rechargeable lithium battery, the Type-C charging cable is allowed.

- Keep away from children, fire, and water sources when charging!
- The battery icon is displayed dynamically during charging, and the screen displays OFF when fully charged. Unplug the charger to automatically shut down, and unplug the charger during the charging process to automatically shut down.

### Power on

Press the MEAS button for one second to turn the device on, the backlight will light up and the device will automatically switch to single measurement mode. Long press the MEAS button to enable the state of continuous measurement.

### Power off

To power off, long press the Power OFF button for 2 seconds to turn the device off.

The laser dot will automatically shut down when no operations are performed within 15 seconds. The device will automatically shut down when no operations are performed within 45 seconds.

### Data recording


Query the stored data:

- Press and hold button in the boot state to enter the data query mode, the data icon will display on the LCD screen.
- Short press the +/- key to browse the stored data, this device can store up to 30 sets of data.
- Short press the power off button will clear the last commands or clear screen data line by line or from the data storage. During the Area/Volume or Pythagorean measurements, each individual measurement value can be gradually removed and be remeasured.


### Plus/Minus

Plus: Short press +/- button , the first display line will be shining as added number.  
The next measuring value will be added by the former one.  
The result will be calculated and shown at the last line automatically.



Minus: Again short press +/- button  , the first display line will be shining as subtracted number. The next measuring value subtracts the former one. The result will be calculated and shown at the last line automatically.

### Unit switch:

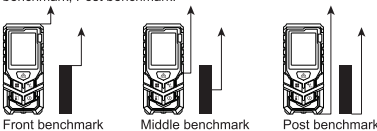
Long press button  , switch the distance units until it displays the units which you required: m, ft, in, ft+in.

	Distance	Area	Volume
1	0.000 m	0.000 m <sup>2</sup>	0.000 m <sup>3</sup>
2	0.000 ft	0.000 ft <sup>2</sup>	0.000 ft <sup>3</sup>
3	0.000 in	0.000 in <sup>2</sup>	0.000 in <sup>3</sup>
4	0'00" ft+in	0.000 ft <sup>2</sup>	0.000 ft <sup>3</sup>

### Benchmark/Reference point

Short press button  to select the measurement benchmark/reference point.



The default is the post-reference after powering on. The system provides three benchmarks/references: Front benchmark, Middle benchmark, Post benchmark.




## MEASUREMENT

### Single measurement



Press the MEAS key  to turn on the laser, the laser dot mark  appears on the LCD display, and then press MEAS key again to perform a single measurement, after the measurement is completed, the laser dot is turned off and the measurement result will be displayed on the last line display.

### Continuous measurement (maximum/minimum)



Long press MEAS key  to enable the continuous measurement mode. Then, the main display line will show the real-time measurement result data, and the auxiliary display area displays the minimum and maximum value during the measurement.



While in the continuous measurement mode, short press MEAS key to stop the continuous measurement mode. The continuous measurement function will automatically stop after measuring 100 times.

## AREA / VOLUME / INDIRECT MEASUREMENT

### Area measurement






After powering on, press the button  one time, and the display will show , indicating that it has entered the area measurement mode. Follow the prompts to complete the following step:

When the long side of the rectangle symbol flashes, press the MEAS key  to measure the long side of the rectangle. When the short side of the rectangle symbol flashes, press the MEAS key  to measure the width. The results of the measured length and width are displayed in the auxiliary display areas. The device will automatically calculate the area and the calculation result will be displayed in the main display area.

### Volume measurement



Press  key two times, the display will show , indicating that you have entered the volume measurement mode. Follow the prompts to complete the following step:

When the long side of the cube symbol flashes, press the MEAS key  to measure the long side of the cube.



When the width side of the cube symbol flashes, press the MEAS key again to measure the width side of the cube.

When the height side of the cube symbol flashes, press the MEAS key again to measure the height side of the cube.

The results of the measured length, width and height are displayed in the auxiliary display areas. The device will automatically calculate the volume and the calculation result will be displayed in the main display area.



### Indirect measurement (Pythagorean theorem measure)





Press  key 3 times, the icon  will be displayed on the screen. Make the first measurement with reference to the flashing edge, and the measured distance will be displayed on the first line of the display. Keep the device level. The device defaults to horizontal measurement, and the second measurement is made with reference to the flashing edge. The measured distance is displayed on the second line of the screen, the distance calculated on the third side will be on the main display line of the screen.


### Indirect measurement (Pythagorean theorem measure)



Press  key 4 times, the icon  will be displayed on the screen. Make the first measurement with reference to the flashing edge, and the measured distance will be displayed on the first line of the display. Keep the device level. The device defaults to horizontal measurement, and the second measurement is made with reference to the flashing edge. The measured distance is displayed on the second line of the screen. The distance calculated on the third side will be on the main display line of the screen.

The device is equipped at third Pythagorean measurement , which is a rare measurement method by pressing  key 5 times. Please refer to the previous operations.

## ELECTRONIC REAL TIME ANGLE DISPLAY

With the Electronic Angle Sensor Function, the angle of the inclination will display on the LCD screen , which provides more precise measurement in different scenarios.

## WORKING WITH THE TRIPOD (ACCESSORY)

The use of a tripod is particularly necessary for larger distances. The back of this device provides 1/4"-20 thread, position the measuring tool with tripod or onto the quick-change plate of the tripod or a commercially available camera tripod.

Tighten the measuring tool with the locking screw of the tripod. This provides a stable starting point for measurements.

## TECHNICAL DATA

Model	TB40/60/80/100/120
Measurement range	0.05-40m / 0.05-60m / 0.05-80m / 0.05-100m / 0.05-120m
Measurement accuracy	±2mm
Measure unit	m/ ft /in/ft+in
Area unit	m <sup>2</sup> /ft <sup>2</sup> /in <sup>2</sup>
Laser class	Class II
Laser Type	650nm, <1mW
Water-proof and dust-proof grade	IP 54
Area, volume, distance	√
Indirect Pythagorean theorem	√
Add/subtraction	√
Min/max measure	√
Continuous measure	√
Back light screen display	√
Datum/ Benchmark	√ (Front, Middle, Post)
Measures angle	√
Real-time angle display	√
Real-time angle hold	√
LCD	36.7mmx47mm
Mounting Thread	1/4"-20
Memory data hold	30 sets
Operating temperature	0°C to 40°C
Storage temperature	-10°C to 50°C
Battery type	3 x 1.5V AAA Alkaline battery or Lithium battery (Optional)
Automatically turn off the laser	15s
Automatically power off	45s
Size	135*60*30mm
Prompter	Acoustic

## TECHNICAL SPECIFICATIONS

### Troubleshooting

During use, the following prompts may appear on the display:

Error code/issue	Cause	Solution
Er101	Battery low	Battery replacement
Er104	Miscalculation	Re-measurement
Er155	Measurement out of range	Please measure the distance within the measuring range
Er157	Weak signal or the measurement time is too long	Use a reflector with high reflectivity

Er159	The ambient light is too strong	Use a reflector with low reflectivity
Er194	Out of the numeric display range	Measured within the numerical display range

Note: Under poor measurement conditions (such as too strong light, too large or too small light reflection from measured point), the measurement accuracy will have a large error.

When the measured object is a colorless liquid (such as water), clean glass, etc., or objects with transparent properties may produce incorrect measurements. When the object is reflected at high intensity, the laser light can be reflected, which can also lead to incorrect measurements. When measuring non-reflective or very dark surfaces, the measurement time is increased and may be increased measurement error.

## GOOD MAINTENANCE PRACTICES

Do not store the device in a high-temperature and high-humidity environment for a long time. When the device is not used for a long time, please take out the battery and place the device in the accompanying carrying case in a cool and dry place. Please keep the device clean. Use a damp soft cloth to wipe the surface dust. Do not use corrosive solutions to clean the device.

Do not immerse the device in water. Wipe the surface of the optical components (including the laser emitting window and the signal receiving lens) similarly to how you would clean a camera lens or a pair of glasses.

## WARRANTY

We are confident of the quality of our products and offer outstanding guarantee for professional users of the products. This statement is in addition to and in no way prejudices your contractual rights as a professional user or your statutory rights as a private non-professional user. We warrant our laser distance meter against faults in materials and workmanship for one year from date of purchase provided that:

- Proof of purchase is produced.
- Service/repairs have not been attempted by unauthorized persons;
- The product has been subject to fair wear and tear;
- The product has not been misused;

Defective products will be repaired or replaced, free of charge or at our discretion, if sent together with proof of purchase to our authorized distributor(s).

This Warranty does not cover faults caused by accidental damage, unfair wear and tear, and use other than in accordance with the manufacturers' instructions or repair or alteration of this product not authorized by us.

Repair or replacement under this Warranty does not affect the expiry. To the extent permitted by law, we shall not be liable under this Warranty for indirect or consequential loss resulting from faults in this product. This Warranty may not be varied without our authorization. Calibration and care are not covered by warranty.