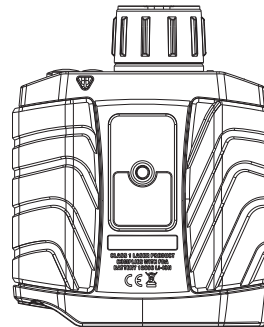


UNI-T



P/N:110401110210X



LM2000

Laser Rangefinder

User Manual

PREFACE

Thank you for purchasing the new LM2000 laser rangefinder. In order to use this product safely and correctly, please read this manual thoroughly, especially the Safety Instructions part.

After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

LIMITED WARRANTY AND LIABILITY

Uni-Trend guarantees that the product is free from any defect in material and workmanship within one year from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination and improper handling. The dealer shall not be entitled to give any other warranty on behalf of Uni-Trend. If you need warranty service within the warranty period, please contact your seller directly.

This warranty is the only compensation you can obtain. Uni-Trend will not be responsible for any special, indirect, incidental or subsequent damage or loss caused by any reason or speculation. As some areas or countries do not allow limitations on implied warranties and incidental or subsequent damage, the above limitation of liability and stipulation may not apply to you.

Table of Contents

I. Product Overview -----	4
II. Safety Instructions -----	5
III. Product Appearance -----	6
IV. LCD Display Indicators/Icons -----	7
V. Battery Installation -----	8
VI. Initial Operation and Settings -----	10
VII. Operating Instructions -----	11
VIII. Flagpole Lock Mode (Close Range Priority) -----	11
IX. Rain and Fog Mode (Long Range Priority) -----	12
X. Two-Point Vertical Height Measurement Mode --	13
XI. Two-Point Distance Measurement Mode (Point to Point) -----	14
XII. Vertical Height Measurement Mode -----	15
XIII. Horizontal Distance Measurement Mode -----	16
XIV. Technical Specifications -----	17

I. Product Overview

LM2000 is a laser rangefinder used for outdoor engineering surveying and long range positioning. It is a professional device with the vertical design and thick texture. The main body is covered with anti-slip durable soft rubber that covers 80% of the entire device. The product is equipped with high transmittance, high resolution, multi-coated optical lenses and a large entrance pupil, which makes the observed target object clearer.

LM2000 adopts TOF (time of flight), spatial surveying and mapping, GIS data collection and other technologies to take distance measurement, vertical height measurement and two-point distance measurement. LM2000 is a professional laser rangefinder for outdoor remote location measurement. It has a range of up to 2000 meters and is equipped with an 8X optical telescopic system. It has multiple functions such as rain and fog mode (long range priority), flagpole lock mode (close range priority), two-point vertical height measurement, two-point distance measurement, vertical height measurement and horizontal distance measurement, and has features such as high accuracy, fast measurement speed and intuitive distance display. The product has a large-capacity 18650 lithium battery, a TYPE-C charging interface and a professional version APP. It can be used for real scene marking, track recording and geographic coordinate data collection, and is applied in outdoor engineering, outdoor activities and other fields.

II. Safety Instructions

1. Warning

Please do not stare into the laser aperture when emitting laser. Using this product to look at the sun may cause permanent damage to eyes. Do not aim the product directly at the sun to avoid internal components damage. Do not expose the eyepiece to direct sunlight.



Do not place the device under extreme temperature conditions that exceed the storage temperature (storage temperature: -10~60°C, humidity: 25%~60%).



The maximum output power is 3.71mW, and the pulse width is 22 μ s. The product conforms to the laser standard (IEC60825-1: 2014).

Pay attention to whether the battery surface is damaged when using this product. Replace the battery immediately if any damage is found. Do not reverse battery polarities when installing batteries; otherwise it may cause a short circuit.

2. Disposal

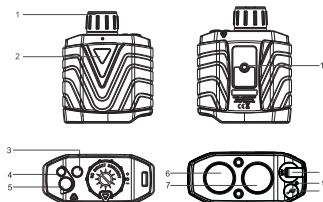
Please do not dispose of used batteries together with household garbage, dispose of them at designated garbage collection stations instead. This product cannot be recycled

together with household garbage. Please dispose of the product according to the laws and regulations of the country/region.

3. Scope of Responsibility

If the laser rangefinder is not used in accordance with this manual, the loss caused by the use of third-party accessories or the modification of the rangefinder will not be covered by the warranty.

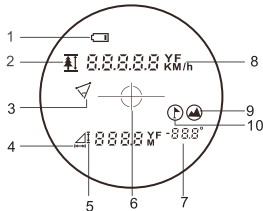
III. Product Appearance



1. Eyepiece/eyepiece knob
2. Power on/measure: short press to power on/measure, long press to start continuous measurement, release to stop continuous measurement
3. Unit /font color conversion: short press to switch black or red font. The red one is used in a darker environment, and has a brightness of 3 levels. Short press the button to switch between different brightness. Long press to switch units: meter (M), yard (Y), and foot (F).


4. Mode return: short press to return to the previous measurement mode
5. Mode switch
6. Objective lens/laser emitting lens
7. Laser receiving lens
8. Battery compartment
9. Charging indicator
10. TYPE-C charging interface
11. Tripod screw hole

IV. LCD Display Indicators/Icons



1. Battery status
2. Two-point vertical height measurement
3. Two-point distance measurement
4. Horizontal distance
5. Vertical distance
6. Aiming Circle/dot
7. Angle
8. Units: Y (yard), F (foot), M (meter), KM/h (km/h)
9. Rain and fog mode (long range priority)
10. Flagpole lock mode (close range priority)

V. Battery Installation

The product has a detachable and rechargeable 18650 lithium battery. When “” (low battery indicator) is displayed, the battery should be charged or replaced in time, otherwise the measurement error will increase. If the product is not used for a long time, the battery should be removed.

1. Pull up the rotating handle on the battery cover and rotate it 90° counterclockwise to open the cover, as shown in Figure 1 and Figure 2.

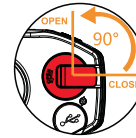


Figure 1



Figure 2

2. Put a battery into the battery compartment according to the polarity instructions, as shown in Figure 3. Please be sure to install the battery according to the anode and cathode, otherwise the product may be damaged due to a short circuit.

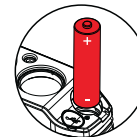


Figure 3

3. After the battery is installed, press down on the battery cover and rotate it 90° clockwise, as shown in Figure 4. Then press down on the rotating handle, as shown in Figure 5.

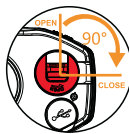


Figure 4

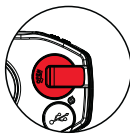


Figure 5

4. Please use the original USB cable to plug into a socket to charge, or connect the cable to a computer for charging, but it will take longer. After charging is complete, please close the USB protection cover to prevent dust from entering.



5. During the charging process, if the indicator light flashes, it indicates that the lithium battery is not inserted or the battery cover is not tightened. When the indicator light is on, it is charging. When the indicator light is off, the charging is complete.



Flash



On



Off


VI. Initial Operation and Settings

Eyepiece


The eyepiece knob can be rotated to adjust the diopter, making the observed target clearer (see the figure below).



Power on/off

Press the power button  to turn the product on. If there is no operation within 16 seconds, the rangefinder will automatically shut down.

Angle Calibration

The rangefinder has been calibrated before leaving the factory. If the measurement data is inaccurate in the two-point distance measurement mode, long press the power button  in the shutdown state to enter the calibration interface. The interface will display "ANGLE CAL". Keep the product in a stationary state, and the calibration will be completed after a few seconds. If the calibration cannot be completed for a long time, the rangefinder will automatically shut down in about 1 minute, that is, the calibration has failed.



If the calibration fails, the factory calibration will continue to be used when restarting.




VII. Operating Instructions

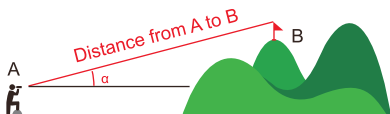
Short press  to switch measurement modes.

- Before measuring, please adjust the eyepiece knob to make the target clear. If the target reflection is weak or out of the measuring range during measurement, "----" will be displayed.
- The range of the rangefinder is related to the nature of the measured target, the tilt angle of the target surface, and the weather visibility. Generally speaking, if the target surface is smooth, bright, large and perpendicular to the beam, and the weather is cloudy and fogless, the longer the range, and vice versa.

VIII. Flagpole Lock Mode (Close Range Priority)

Distance + Tilt Angle




This mode is mainly used to measure the distance of small objects, and adopts the principle of close range priority. Short press  to switch to  the flagpole lock mode. Aim the aiming dot at the measured object B, and then short press  to measure the distance from point A to point B.

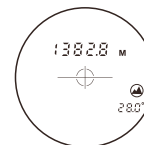
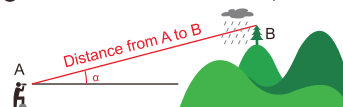


IX. Rain and Fog Mode (Long Range Priority)

Distance + Tilt Angle

This mode is used for distance measurement in rain and fog environments.

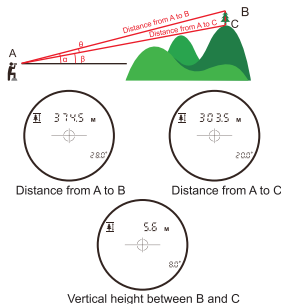
Short press  to switch to  the rain and fog mode. Aim the aiming dot at the measured object B, and then short press  to measure the distance from point A to point B.



X. Two-Point Vertical Height Measurement Mode

Distance + Vertical Height + Tilt Angle

Short press \odot to switch to II two-point vertical height measurement mode. Aim the aiming dot at point B, and then short press \odot to measure the distance from point A to point B and angle α (the angle between the distance and the horizontal plane). Then aim the aiming dot at point C, and short press \odot to measure the distance from point A to point C and angle β (the angle between the distance and the horizontal plane). The vertical height between point B and point C is displayed on the top of the screen, and the absolute value of the difference between the measured angles is displayed at the bottom right of the screen (Note: the height between two points is the vertical height on the same plane).

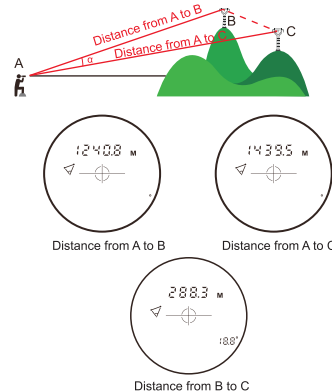


XI. Two-Point Distance Measurement Mode (Point to Point)

Short press \odot to switch to I the two-point distance measurement mode.

Aim the aiming dot at point B, and then short press \odot to measure the distance from point A to point B. Then aim the aiming dot at point C, and short press \odot to measure the distance from point A to point C. The distance from point B to point C and angle α are displayed on the screen.

Note: When measuring, please keep the standing position unchanged.

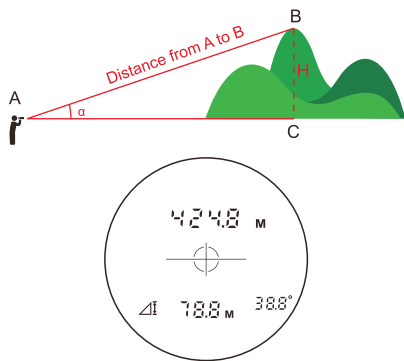


XII. Vertical Height Measurement Mode

Distance + Vertical Height + Tilt Angle

Short press \odot to switch to \triangle vertical height measurement mode. Aim the aiming dot at point B, and then short press \odot .

The distance from point A to point B is displayed at the top of the screen, the vertical height from point B to point C is displayed at the bottom of the screen, and the tilt angle is displayed at the bottom right of the screen.

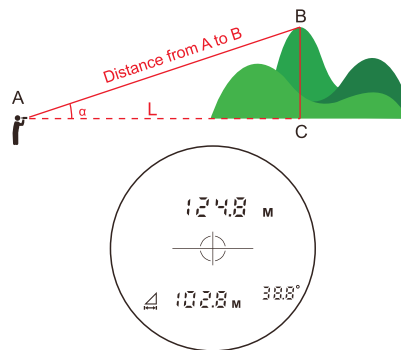


XIII. Horizontal Distance Measurement Mode

Distance + Horizontal Distance + Tilt Angle

Short press \odot to switch to \triangle horizontal distance measurement mode. Aim the aiming dot at point B, and then short press \odot .

The distance from point A to point B is displayed at the top of the screen, the horizontal distance from point A to point C is displayed at the bottom of the screen, and the tilt angle is displayed at the bottom right of the screen.



XIV. Technical Specifications

Model	LM2000
Range	2000m
Units	m, Yd, Ft, km/h
Accuracy	$\pm(0.3m+0.001\times Dm)$
Angle range	-90°~90°
Tilt angle accuracy	$\pm 0.5^\circ$
Gyroscope angle accuracy	$\pm 0.1^\circ$
Wavelength	905nm
Vision safety	FDA(CFR21)
Field of view	6°
Magnification	8X
Objective lens aperture	23mm
Eyepiece aperture	31mm
Exit pupil diameter	3.8mm
Diopter	$\pm 7D$
Diopter adjustment	Manual
Operating temperature	-10°C~40°C
Storage temperature	-10°C~60°C
Tripod threaded hole	√
Flagpole lock mode	√
Rain and fog mode	√

Two-point vertical height measurement mode	√
Two-point distance measurement mode	√
Vertical height measurement mode	√
Horizontal distance measurement mode	√
Continuous measurement	√
Angle measurement	√
LCD backlight	√
LCD display	Black (red) bicolor
Battery	18650 lithium battery
Charging interface	Type-C
Auto power off	16s
Product size	149mm x 125mm x 55mm
Product weight (with battery)	593g

Cautions

1. Do not touch the lens surface with fingers to avoid damaging the film on the surface.
2. The rangefinder is precisely adjusted by the instrument, so please do not disassemble it randomly. If the product is damaged, send it to a professional maintenance department for repair.
3. Avoid direct laser exposure for a long time to prevent burns to the skin.
4. When the lens is contaminated, please gently wipe it with a soft cloth. Do not wipe it with other objects; otherwise the film on the lens surface may be damaged.
5. Do not bump, press, bake or corrode the product.
6. The product should be stored in a dry, cool, and ventilated place to avoid direct sunlight, dust and sudden temperature changes.
7. Measurement in rainy and foggy weather will affect the round-trip time of the laser, which may increase the measurement error, and even cause the measurement value to be wrong in severe cases.

UNI-T[®]**UNI-TREND TECHNOLOGY (CHINA) CO., LTD.**

No. 6, Gong Ye Bei 1st Road,
Songshan Lake National High-Tech Industrial
Development Zone, Dongguan City,
Guangdong Province, China