

UNI-T®



**LM600/800/1000/
1200/1500**

Operating Manual



UNI-T®

UNI-TREND TECHNOLOGY (CHINA) CO., LTD.

No6, Gong Ye Bei 1st Road,
Songshan Lake National High-Tech Industrial
Development Zone, Dongguan City,
Guangdong Province, China
Tel: (86-769) 8572 3888
<http://www.uni-trend.com>

Laser Rangefinder

P/N: 110401106922X
MAY.2018 REV. 1

**Warning**

- Do not stare at the transmitting aperture when laser is transmitting.
- Staring at the sun through the device can cause permanent injury to eyes.
- Do not aim device directly into the sun in order to avoid causing a permanent damage to the inner components.
- Avoid the eye lens to the direct sunlight.
- Do not put the device beyond the extreme storage temperature (the storage temperature is -20 to 60°C)

Introduction

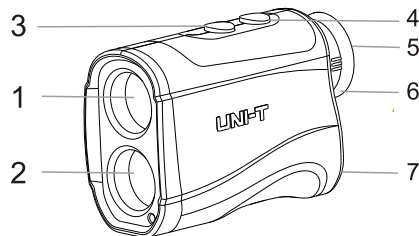
1. LM Laser Rangefinder is a portable photoelectric device, which combines telescope with laser to measure angle and distance. The two main aspects are:
 - a. While objects are in the observable range, the distance of fixed or slow moving objects can be measured. LM series have advantages such as high accuracy, short measurement time, intuitive display, and electricity saving through auto power off.
 - b. The multifunctional rangefinder adopts the latest technology to measure target distance and angle. It can display target distance, relative height, horizontal distance, and the angle between device-to-target line and ground plane (elevation or depression angle).
2. Laser emission power of the device is low and safe to the eyes. LM series are small, lightweight, and portable. These devices are powered with lithium battery, which are easy to recharge and with long working hours.
3. Laser Rangefinder can be applied to engineering

surveying and measurement, power line inspection, forestry prospect & design, constructions building, internet planning survey & design, communication repairing, navigation measuring, animal surveying and hunting etc.

Features

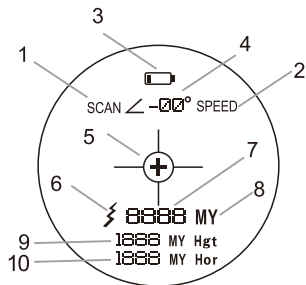
- Multifunctional LCD sighting telescope
- Silent operation and auto shut off
- Use pulse laser. Harmless to eyes
- Fast distance measurement (Note: Max distance will change with the reflectivity of different objects and the environment)

Appearance



1. Laser Transmitting Objective Lens
2. Laser Receiving Objective Lens
3. Mode Switching Key
4. Power/Transmitting Key
5. Observing Eye Lens/LCD
6. Rotary Focusing
7. Micro USB Charging Port and indication light

Eye Lens LCD Symbols



1. Word "SCAN" ----- Scanning Mode
2. Word "SPEED" ----- Speed Measurement Mode
3. Icon ----- Low Battery
4. Icon ----- Angle Data
5. Icon ----- Target Indication
6. Icon ----- Laser Transmission
7. Icon ----- Direct Distance Data
8. Icon ----- Direct Distance Data Unit
9. Icon ----- Vertical Height
10. Icon ----- Horizontal Distance

Operation Introductions

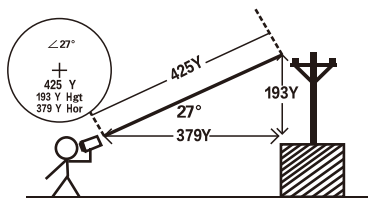
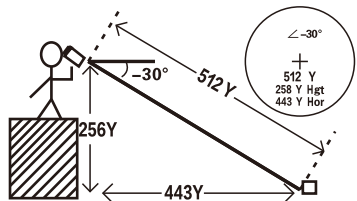
1. 2 keys on the device, power/transmitting key and mode-switching key. Press the power key for about 0.5s to turn on the device.

Short press "MODE" button to switch between 2 measurement modes.

- a. Standard measurement of distance
(height, angle, distance)
- b. Speed measurement mode "SPEED"

2. Press the key once, and the distance will be measured once. When the distance is measured, the laser transmission symbol at the left bottom will flicker. After the measurement is finished, the direct distance data between the target and the telescope will be displayed close to the center of the screen. Vertical height data and horizontal distance data will be displayed at the bottom of the screen. Pitch angle data at the top of the screen. If only the straight distance mode is selected, the screen will only display the straight distance data. If the target is unclear or beyond the specified range, the symbol "----" will be displayed.

The below is the measurement drawing



3. Keep pressing the $\odot$ key to start scanning. The top will display the symbol "SCAN". The straight distance data will constantly refresh on the display. The angle, the horizontal distance and vertical height will also refresh on the display at the same time. Release the $\odot$ key to stop measuring.

4. Speed Measurement

Conditions: a) The object is perpendicular to the object lens; b) The target is moving at a constant speed.

Operations: a) Short press MODE button to switch to speed mode, and "SPEED" is displayed on LED; b) Short press $\odot$ button, the bull's-eye will follow the measured object until result is obtained.

5. The device will auto shutoff after 20 seconds of inaction.

6. Battery Icon indicates the low battery. When Battery Icon is displayed, the battery should be changed.

7. Battery lifetime: The device can be operated for around 8000 times (at normal temperature). The target focus, measurement, auto power-off are all treated as one working cycle. The data may change according to other factors like the temperature, target shape, and color.

8. LM series use a 3.7V rechargeable lithium battery. Please disconnect the lithium battery charging cord

after it is fully charged to prolong battery lifetime.

9. Diopter Adjustment: Adjust the diopter in order to obtain clear photos on the lens. Firstly, start the power, then rotate anticlockwise the eye lens until the screen comes into focus.

Precautions

1. LM Laser Rangefinder transmits infrared pulse laser which is invisible and harmless to eyes. The infrared pulse laser is then reflected back to the optics receiver from the target. By measuring the round trip time of the pulse laser from the finder to the target, the system adopts an accurate method to calculate the distance. The max range depends on the reflectivity, color, surface, finish, dimension, and real shape of the target.

The following criterias can obtain the best measurements.

- Sunny day
- Target is bright
- Target surface is glossy
- No impurity in air
- Target surface is of high-reflection

The below factors might affect measurement range and accuracy.

- Target is black
- It is snowy, rainy or foggy day
- Target surface is of diffused reflection
- Target is tiny or micro
- Target need to be measured through the glass
- Target is dynamic

2. Li-ion battery: Operating Temperature(-10°C ~60°C); Rated capacity: 1500mAh; Dimension: 52.5*42.5*6.5mm; One Year Warranty

3. Do not touch the lens surface with fingers when you are operating in order to avoid destroying the lens coating.
4. As the laser rangefinder has been precisely calibrated, please do not dismantle it at random.
5. When the exposed lens is not clean, please wipe it lightly with glass cloth. Do not wipe it with other things in order to avoid destroying the optics glass coating.

6. Avoid crashing or pressing the device when it is carried or used. Do not let the finder be baked or corroded.
7. Avoid storing the device in damp environments. Please store in dry, cool and ventilated places. Prevent leaving it in direct sunlight. Avoid sudden change of temperature and dust.
8. If the device is damaged, please send it to the approved technical site instead of disassembling it by yourself for repair.
9. Do not point the device directly to the sunlight or hard light.

Specifications

Product Model	LM600	LM800	LM1000	LM1200	LM1500
Distance Range	5-600yd	5-800yd	5-1000yd	5-1200yd	5-1500yd
Velocity Range	0-300km/h				
Accuracy	$\pm 1\text{yd} \pm \text{Range} \times 0.2\%$				
Magnification	7X				
Lens Diameter	25mm				
Measurement Height	250yd	300yd	450yd	500yd	600yd
Measurement Angle	$\pm 45^\circ$				
Angle Error	$\pm 1^\circ$				
Weight	230g				

Note: $\pm 1\text{yd}$ accuracy is tested under optimal condition. Actual measurement might be different according to the target and environment. Measurement return time is between 1 to 4 seconds. Angle error is tested under optimal condition.