

深达威® 测距测速望远镜

Laser Distance/Speed Meter Telescope

用户手册

User Manual










产品执行标准: GB/T 14267-2009

安全条例

初次使用仪器前，请先仔细阅读安全条款和操作指南

-  在使用仪器之前请仔细阅读本手册中的所有操作指南和安全条例，没有按照本手册所指引的操作方法使用仪器有可能会造成仪器的损害、影响测量精度、对使用者或第三者的人身伤害。
-  不要用任何方式自行打开或修理仪器，严禁非法改装或改变仪器激光发射器的性能。请妥善保管仪器，不要放置在儿童可以接触到的地方，避免无关人员的使用。
-  仪器电磁辐射可能对其他设备和装置造成干扰，请不要在飞机或医疗设备附近使用本仪器，不要在易燃、易爆的环境中使用仪器。
-  仪器更换的废旧电池和报废的仪器不可与生活垃圾一同处理，请按国家或者当地的相关法律规定处理废旧电池和报废仪器。
-  仪器出现任何的质量问题，或对使用仪器有任何疑问时请及时联系当地经销商或深达威仪器厂家，我们将第一时间为您解决。

感谢您购买  **SNOWWAY** 望远镜测距仪系列产品！
深达威® 仪器

专业铸造品质 品质成就品牌

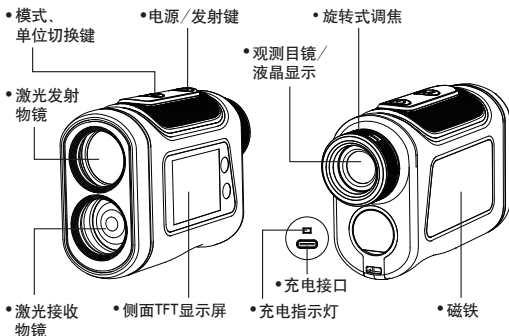
简介：

深达威望远镜测距仪，是一种基于脉冲式激光测距原理的仪器。其测量范围很宽，适用于户外长距离测量，可应用于多种场景，如：高尔夫、工程测量、定位起重机、位置控制、测量不宜接近的物体等。此外，它还具有以下功能：测角、测高度、获取水平距离、瞬时速度捕捉、面积测量、体积测量功能。

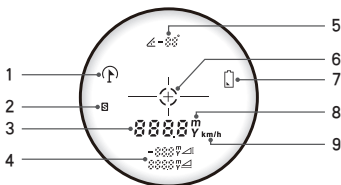
特点：





- 多功能液晶显示瞄准镜；
- 侧面带有彩屏，查看更方便；
- 触摸功能，操作更直接；
- 无声操作、自动断电系统；
- 采用脉冲激光，对眼睛无害；
- 快速测距；
- 速度测量功能；
- 面积、体积测量功能；
- 机内使用750mAh可循环充电锂电池；
- 数据自动存储功能；
- 存储数据查询功能；
- 旗杆锁定功能，方便用户测量类似旗杆的细长目标，如电线杆，信号塔之类。






仪器外形



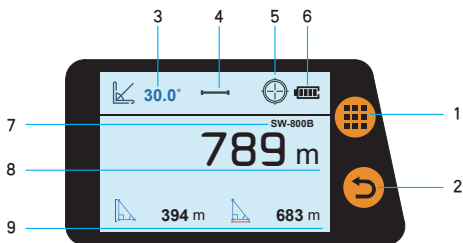
内显示屏





- 1>  旗杆锁定模式标志；
- 2>  测距模式标志；
- 3>  直线距离数据显示；
- 4>  高度、水平距离显示

- 5>  角度标志；
- 8>  单位显示；
- 6>  靶心指示标志；
- 9>  速度单位显示；
- 7>  电池电量标志；

触摸屏




- | | | |
|---|---|-----------|
| 1.  : 模式选择键 | 2.  : 返回键 | 3. 角度数据显示 |
| 4. 当前测量模式 | 5. 扫描状态 | 6. 电量显示 |
| 7. 仪器型号显示 | 8. 主显示 | 9. 副显示 |

注：若在触摸  键时，接触到  键触摸区域边界附近，有可能造成2s左右的触摸短暂失效，2s之后触摸可正常使用。


基本操作


1. 仪器开机和关机

仪器开机：短按键，仪器开机。

仪器关机：2分钟内所有按键和触摸键无操作，自动关机。

2. 模式切换

短按MODE键可以切换"距离/速度/旗杆锁定"模式；触摸键可以切换"距离/速度/旗杆锁定/面积/体积"模式。



触摸键，有数据时，清除当前测量数据，无数据时返回距离模式。

一般情况下，切换模式后，侧屏和内屏的模式保持一致，但当侧屏为面积/体积时，内屏为距离模式，此时短按MODE键，内屏从距离模式切换到速度模式，外屏从面积/体积模式切换到速度模式。



3. 单位转换

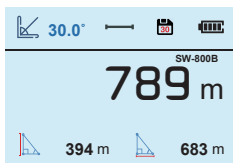
长按MODE键可以在米(m)和码(Y)之间转换，转换单位后，仪器将会以转换后的长，宽，高数据计算面积，体积结果。

4. 测量

短按键，测量一次距离，按住键进行扫描测距。测量过程中，"十"不断闪烁，表示当前正在测量目标。获得距离后或者测量不到数据，图标停止闪烁。

5. 自动存储功能

测量得到最后计算结果后，仪器会自动存储侧屏数据，存储满30笔后，仪器跳转到第一笔记录重新存储。面积体积模式下，只存储面积，体积模式下的数据。单位转换后，不会存储数据，只有在重新测量时，才会自动存储。按住  键超过3s钟，仪器会弹出历史记录，通过MODE键和  键翻看记录，长按MODE键删除全部记录，如图：



6. 仪器复位



当仪器出现无法预期的错误时，同时按住  键和MODE键6秒以上，可让仪器复位，正常工作。

7. 调节目镜清晰度（屈光度调节）

为了获得目镜清晰的影像，时常需要调节屈光度来对焦。

操作如下：启动仪器，待内屏有显示后，顺时针或者逆时针旋转目镜环来获得清晰的影像。

8. 电量显示及充电指示



内屏显示"  "图标或者侧屏显示"  "图标时，表示仪器当前电量不足，需要充电，充电时仪器显示红灯，充满显示绿灯，充电时间约3小时。

注：若仪器电量过低，将会导致无法开机，此时应充满电再使用。

9. 节电功能

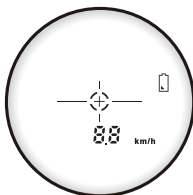
仪器在无按键和触摸操作情况下，40s自动关闭侧屏背光，2分钟自动关机。背光关闭后，触摸  键或  键，开启背光，但不进行任何操作。


仪器操作说明


- 多功能激光测角、测距仪共设有2个按键，分别是发射键  和模式键“MODE”，按下发射键约1秒钟打开电源。
- 当仪器出现无法预期的错误时，可同时按  键和“MODE”键大于6秒，可让仪器复位，正常工作。

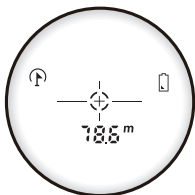
短按模式键可切换为3种测量模式：

- ①、直线距离、角度、水平距离和垂直高度同时测量模式；
- ②、测速测量模式，如下图所示：



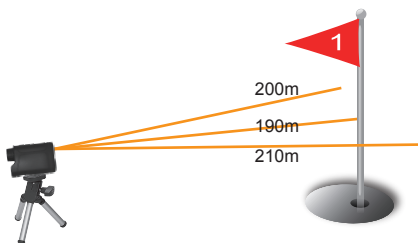
按住  键不放，测量移动目标，仪器会每隔1秒左右显示目标速度。

③、旗杆锁定模式，屏幕显示旗杆图标“”，显示如下图：




旗杆锁定功能，用于帮助测量信号塔，电线杆等细长目标。


功能演示：



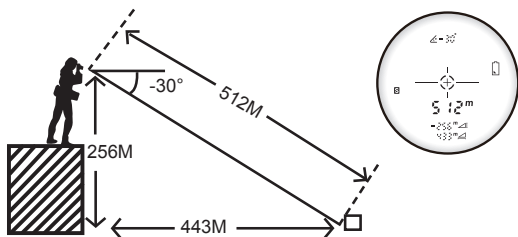
旗杆功能说明：

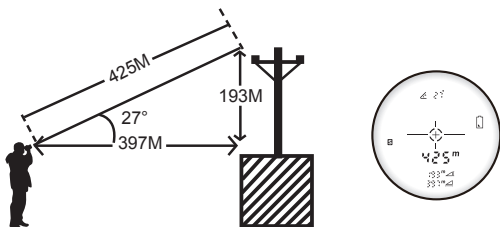
将望远镜对准旗杆附近，按  键，并在旗杆附近来回慢速扫描，仪器会自动锁定旗杆距离。锁定后，屏幕保持数据不变。





注：旗杆锁定原理是锁定测得的最小距离，使用过程中，若扫描到比旗杆还小的距离时，会锁定到旗杆以外的数据。所以，选取扫描区域时，尽量选择旗杆附近无遮挡物，或者不存在比旗杆距离更小的目标区域。在旗杆附近来回扫描时，应以较慢的手速左右扫描，以便获取准确的旗杆距离。

- 长按“MODE”键可切换数据单位 m/Y（米/码）。
- 再按一次  键，实现一次测距。测距结束后，被测目标点至望远镜间的直线数据显示在屏幕靠近中间部位，如果目标放射弱或者超出测程范围，则显示“-----”。

下图是测量结果示意图：





- 如果按住  键不松开，则开始扫描测距，屏幕左上方显示扫描字符“**S**”，随着目标的改变，直线距离数据不断地刷新显示，同时角度，水平距离和垂直高度也会不断地刷新显示，松开  键，则停止测距。
- “”为电池欠压指示标志。
本机内置750mAh可循环充电锂电池，当屏幕显示  时，表示需要给仪器充电。充电时仪器指示红灯，充满时指示绿灯。充电时间约为3小时。
- 电池工作时间：连续操作约30000次(常温下)，目标对焦、测量和自动电源关闭被包含在单次工作循环中。此数字可能根据温度以及目标形状、颜色等其他因素的不同而有所变化。
- 屈光度调节：调节屈光度用于在目镜显示屏上获得清晰的影像，首先，启动电源，接着逆时针转动目镜环直至显示屏获得清晰的对焦。

内置磁铁 轻松携带



可吸附于电网铁塔，无需频繁收纳



可吸附于球车及金属表面，方便取用

技术参数

项 目	规格
最大测量范围	600m-1500m
磁吸功能	有
望远镜倍率	6X $\pm 5\%$
视场	7.0° $\pm 5\%$
扫描测距功能	有
示值误差	$\pm(1.0m+D \times 0.3\%)$
测速精度	± 5 km/h
速度测量范围	0~300 km/h
测高功能	有
旗杆锁定	有
测角范围	$\pm 90^\circ$
视度调节范围	$\pm 6^\circ$ 屈光度
测量单位	m(米)、Y(码)
望远镜物镜孔径	23.5mm
望远镜目镜孔径	15.0mm
出瞳直径	3.7mm ± 0.5
电池	750mAh锂电池
电池寿命	可充/放电800次
电池工作时间	30000次（满电）
防护等级	IP54
工作温度	-10°C~ 50°C
外形尺寸	104x74.5x40.5mm
激光等级	Class 1
激光波长	905nm

注：* 最大量程以浅色建筑物测量为标准。天气，目标大小，表面形状等情况可能对最大量程产生影响。

** 精度受天气、目标反射条件是否良好，是否有强光干扰等影响，详情参考<注意事项>。


注意事项

- 多功能测距仪发射出不可见、无损视力的红外脉冲激光，然后将其从选定目标反射回光学接收器中。通过测量每个脉冲激光从测距仪到目标并返回所花的时间，系统采用先进的精确充电电路来即时计算出被测距离。该设备的最大测量范围取决于目标的反射率、颜色、表面光洁度尺寸和实际形状。

下列因素能确保获得最佳测量范围和精度：

- 晴朗天气
- 亮色目标
- 具有光亮外表的目标
- 空气中无任何杂质
- 具有高反射面的目标

下列因素不能确保获得最佳测量范围和精度：

- 黑色目标
 - 雪天、雨天或雾天
 - 有漫反射表面的目标
 - 细小或微型目标
 - 需穿透玻璃测量的目标
 - 动态目标
 - 强光干扰/猛烈太阳光
- 当电池显示  电量不足时，应及时给电池充电，否则测距误差会增大。
 - 使用时不能用手指触摸镜头表面，以免损坏镜头表面的膜层。
 - 本机是经过精密仪器精确调校的，请勿随意拆卸。
 - 当外露镜头存在杂质时，请用擦镜布轻轻擦拭干净即可，切勿用其他物体擦拭，以免损伤光学玻璃表面膜层。

- 携带或使用时，应避免碰撞或重压，更不要使其受到烘烤或腐蚀。
- 存放时应注意防潮，宜存放在干燥、阴凉、通风的地方，防止太阳直射，避免灰尘和温度突变。
- 多功能激光测角、测距仪如有损坏，应送专门部门进行维修，切勿自行拆卸。
- 切忌将多功能激光测角、测距仪直接对准太阳或强光发射，以免损坏机内光敏器件。

装箱清单

购买仪器时请按下列清单认真检查仪器所有附件是否完整？

项目	名称	单 位	数 量	备 注
1	仪器主机	台	1	
2	布包盒	个	1	
3	挂绳	条	1	
4	Type—C线	条	1	
5	说明书	本	1	
6	保修合格证	张	1	
7	彩盒	个	1	



Safety Regulations

Please read the safety regulations and operation guide carefully before operating.

- ⚠ Please read all of the operational guide and safety regulations in this manual before operation . Improper operations without complying with this manual may cause damage to the device, influence on measurement result or cause personal injury to the user or a third party.
- ⚠ The instrument is not allowed to disassemble or repair in any ways. It is forbidden to do any illegal modification or performance change for laser emitter. Please keep it out of reach of children and avoid being used by any irrelevant person.
- ⚠ It is strictly prohibited to shoot eyes or other parts of body with the laser. It is not allowed to take the laser to shoot the surface of any highly reflective objects.
- ⚠ Due to electromagnetic radiation interference to other equipment and devices, please don't use the meter in the plane or around medical equipment, don't use it in inflammable, explosive environment.
- ⚠ Discarded meter device should not be processed just like household garbage, please handle it in line with related law and regulations.
- ⚠ Any quality issues or any questions on the meter, please contact local distributors or manufacturer in time, we are ready to offer solutions for you.

Applied Range

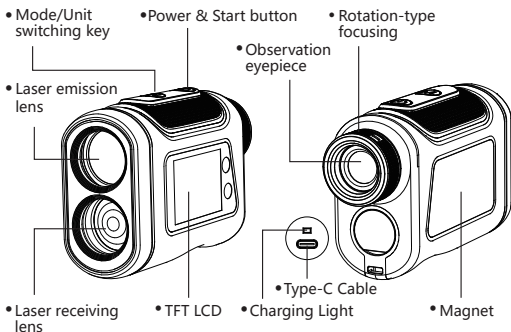
Brief Introduction:

SNDWAY telescope rangefinder is an instrument based on the principle of pulsed laser ranging. It is suitable for outdoor long-distance measurement, and can be applied to a variety of scenarios, such as: golf, engineering survey, positioning crane, position control, measuring the inaccessible objects, etc. In addition, it also has the following functions: Angle measurement, height measurement, horizontal distance acquisition, instantaneous speed capture, area measurement and volume measurement.

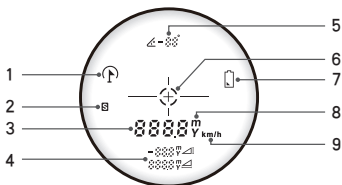
Features:

- Multifunctional LCD sight
- Side with color screen, more convenient to view;
- Touch function, more direct operation;
- Silent operation, automatic power off system;
- Using pulse laser, harmless to eyes;
- Rapid ranging;
- Speed measurement function;
- Area and volume measurement function;
- Using 750mAh rechargeable lithium battery;
- Automatic data storage function;
- Viewing stored data function;
- Flagpole locking function, convenient to measure slender targets like flagpoles, telegraph poles, signal towers, etc.

Instrument Structure





Inner Display



1>  Flagpole locking mode

2>  Ranging mode

3>  8888 Straight-line distance data display

4>  -888m / 888m Vertical height / Horizontal distance display

5>  Angle

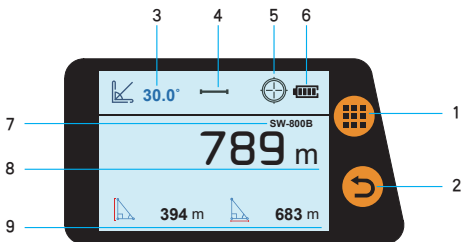
8>  Unit

6>  Target

9>  Speed unit

7>  Battery

Touch Screen



1. Mode

2. Back

3. Angle

4. Measuring Mode



5. Scanning

6. Battery level

7. Instrument model

8. Main Display Area

9. Sub Display Area

Note: When touching  , if touching near area of  , it may cause the touch about 2s to fail briefly. After 2s, the touch can be used normally.


Basic Operation


1. Power on/off

Power on: Short press  to start the instrument.

Power off: If there is no operation in 2 minutes, the instrument will automatically shut down.

2. Mode Switching

Short press MODE to switch the "distance/speed/flagpole locking" mode; Touch  to switch the "distance/speed/flagpole locking/area/volume" mode.

Touch , if there is data, clear the current measurement data; If there is no data, return the distance mode.



Generally, after the modes are changed, the modes of the side screen and inner screen are the same. But when the side screen is in area/volume mode and the inner screen is in distance mode, press MODE to switch the inner screen from distance mode to speed mode and the side screen from area/volume mode to speed mode.

3. Unit Switching



Long press MODE to convert meters (m) and yards (Y).

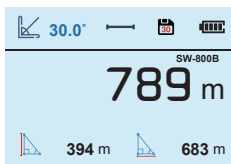
After converting the unit, the instrument will calculate the area and volume by the current length, width and height.

4. Measurement


Short press  to measure the distance once. Press  for scanning ranging. During the measurement, " + " constantly flashes, indicating that the target is currently being measured. When the distance is obtained or no data can be measured, the icon stops blinking.

5. Auto Storage Function

After the calculation result of the final measurement is obtained, the instrument will automatically store the data of the side screen. After 30 records are stored, the instrument will re-store the data from the first record. In area and volume mode, only data in area and volume modes are stored. After the unit is converted, data is not stored. Data is automatically stored only when the measurement is retaken. Press  for more than 3s, and the screen will pop up the history record. Viewing the record through MODE and , and long press MODE to delete all the records, as shown in the figure:





6. Reset the Instrument

When the instrument has unexpected errors, long press  and MODE for more than 6s at the same time to reset the instrument to make it work normally.

7. Diopter Adjustment



In order to obtain a clear image of the eyepiece, the diopter needs to be adjusted to focus. The operation is as follows: Start the instrument. When the inner screen is displayed, then rotate the eyepiece ring clockwise or counterclockwise to get a clear image.

8. Battery Level & Charging Indication



When the inner screen displays  or the side screen displays  , it means that the battery is low and it needs to be charged. The instrument shows red light when charging and green light when fully charged. The charging time is about 3 hours.

Note: If the power of the instrument is too low, it will not be able to start up. At this time, it should be fully charged before use.

9. Power-saving Function

Without pressing keys or touching screen, the instrument will automatically turn off the side screen backlight after 40s, and shut down after 2 minutes. After the backlight is off, touch  or  to turn the backlight on, but no operation is performed.

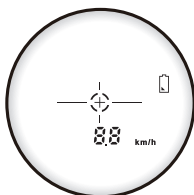
Operation Instruction


- The rangefinder is equipped with two keys, namely, launch key  and mode key MODE . Press the launch key for about 1s to turn on the instrument.
- When the instrument has unexpected errors, long press  and MODE for more than 6s at the same time to reset the instrument to make it work normally.


Press the mode key to switch among the three measurement modes:

1、straight-line distance, angle, horizontal distance and vertical height simultaneous measurement mode;

2、 Speed measurement mode. As shown in the following picture:



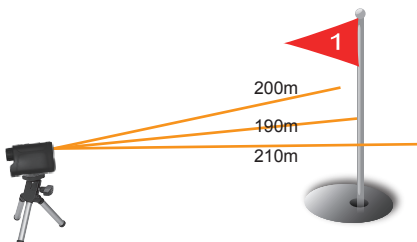
Hold  and do not release to measure the moving target. The instrument will display the target speed every 1 second or so.

3、 Flagpole locking mode, whose icon is  . As shown in the following picture:




Flagpole locking function is used to measure signal towers, telegraph poles and other slender targets.

Function demonstration:




Flagpole locking:

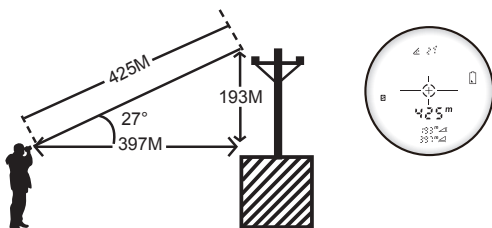
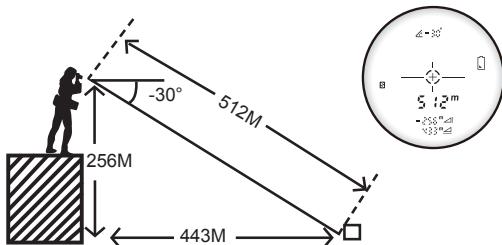
Point the telescope near the flagpole, press , and slowly scan around the flagpole, the instrument will automatically lock the distance of the flagpole. After locking, the screen data will keep unchanged.






Note: The flagpole locking principle is to lock the minimum measured distance. During use, if the instrument scans a position closer than the flagpole, it will lock the data beyond the flagpole. Therefore, when selecting the scanning area, try to choose no shelter near the flagpole, or there is no target area smaller than the distance from the flagpole. When scanning back and forth near the flagpole, scan left and right at a slower speed to get an accurate flagpole distance.

- Hold down the MODE key to switch the data unit m/Y (meter/ yard).

- Press  again for a distance measurement. After ranging, the data between the measured target point and the telescope is displayed near the center of the screen. If the target has weak reflection or is out of range, "----" is displayed.

Measurement result:



- Press and hold  and do not release to start scanning ranging. The scanning icon "  " is displayed at the top left of the screen. With the change of the target, the linear distance data constantly refresh. At the same time, angle, horizontal distance and vertical height will also constantly refresh. Release  to stop ranging.
- "  " indicates battery undervoltage.
The instrument has a built-in 750mAh rechargeable lithium battery. When the screen shows  , it means that the instrument needs to be charged. The instrument shows red light when charging and green light when fully charged. Charge time is about 3 hours.
- Battery operating time: continuous operation of about 30,000 times (at room temperature). Target focus measurement and automatic power off are included in a single working cycle. The times may vary depending on temperature and other factors such as the shape and color of the target.
- Diopter adjustment: Adjustment of diopter is used to obtain clear images on the eyepiece display. First, power on, then turn the eyepiece ring counterclockwise until the display is in clear focus.

Built-in magnet, easy to carry



Adsorb on the power grid tower without frequent storage



Adsorb on the surface of cart and metal for easy access

Specifications

ITEMS	SPECIFICATIONS
Measuring Range	600m-1500m
Magnetic Attraction	Yes
Magnification	6X \pm 5%
Field of View	7.0° \pm 5%
Scan Distance Measure	Yes
Distance Measure Accuracy	\pm (1.0m+Dx0.3%)
Speed Measure Accuracy	\pm 5 Km/h
Speed Measure Range	0~300 Km/h
Height Measurement	Yes
Flagpole Locking	Yes
Angle Range	\pm 90°
Diopter Adjustable Range	\pm 6°
Units of Distance	m / Y
Objective Caliber	23.5mm
Eyepiece Caliber	15.0mm
Exit pupil Caliber	3.7mm \pm 0.5
Battery	750mAh Li-ion
Battery Life	Charge-discharge 800 times
Battery Working Life	Single Measuring 30000 times after one time full charging
Water Resistant	IP54
Operating Temperature	-10°C~ 50°C
Dimensions	104x74.5x40.5 mm
Laser Class	Class 1
Laser Wave Length	905nm

Note:The maximum range is based on the light-colored building measurement. Weather, target size, surface shape, etc., can have an effect on the maximum range.


Notes

- The multifunctional range finder does not emitted a visible beam.It uses a non-destructive vision infrared pulse laser, and then from the selected target reflection, back to the optical receiver. By measuring each pulse from the target and back, the laser rangefinder then uses its advanced diagnostic circuit to instantly calculate the measured distance. The maximum measuring range of the device depends on the target reflectivity, colour, surface finish, size and actual shape.

Following factors ensure optimal measurement range and accuracy:

- Bright Target
- No impurities in the air
- High Reflecting Surface
- Sunny Day
- Target with a polished appearance

Following factors cannot ensure optimal measurement range and accuracy:

- Black Target
 - Snowy Rainy or Foggy
 - Diffuse Surface
 - Tiny Target
 - Glass
 - Dynamic Target
 - Very Strong Light or Sunshine
- When the battery shows  , it means that the battery is low. Please charge the battery in time, otherwise the error will increase.

- Do not touch the lens surface with your fingers to avoid damaging the film layer on the lens surface.
- This instrument is adjusted by precision instrument, please do not disassemble it.
- When there are impurities in the exposed lens, please gently wipe it with a wiping cloth. Do not wipe it with other objects to avoid damaging the optical glass surface film.
- When carrying or using, it should avoid collision ,heavy weight, baking or corrosion.
- It is advisable to store in a dry, cool and well-ventilated place, away from direct sunlight, dust and temperature changes.
- If the rangefinder is damaged, it should be sent to a special department for maintenance. Do not disassemble it by yourself.
- Do not direct the instrument at the sun or strong light, so as not to damage the photosensitive devices in the instrument.

Packing List

Please carefully check if the meter and attachments are in company with the below list.

NO	Item	Unit	QTY	Note
1	Telescope	pc	1	
2	Pouch	pc	1	
3	Hand Strap	pc	1	
4	Type-C	pc	1	
5	User Manual	pc	1	
6	Gift box	pc	1	

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