# BOTE

# 使用说明书

欢迎使用本产品,请在使用本产品之前认真阅读该产品说明书的安全操作 注意事项,以避免潜在的人身伤害,请将本手册放置在容易拿取的位置,以便查 阅。(该使用说明书适用L系列所有机型)



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BOTE博特(中国)仪器仪表销售服务中心

# 一 产品规格

测距精度 测角范围

测角精度

5~600/1000/1200/1500/2000/2500/3000 (M)

20~300Km/h 905nm (1类激光)

激光类型 放大倍率

电池型号 产品重量

125mmx77mmx45mm

工作温度 -10°C~50°C

# 1.2 订购指南 X-XXXX-X

2) 最远测程(600/1000/1200/1500/2000/2500/3000(M)

# 功能代码说明

-S:该机型为其础测距机型 目条测距和测速功能

-A·该机型且备测距 测备 测高 测水平距 测速功能:

18) 方位角标识 19) 测量模式编码标识

20) 测量图符标识 -AG: 该机型具备测距、旗杆锁定(锁定后振动提示)、坡度距离修正功能。

最远测程为1000米

测距仪 (1台) / 锂电池CR2-3V(1节) / 说明书(1本) / 纸盒(1个) / 布袋(1个) / 镜布(1块)



7) 电池盖 8) 三脚架螺母

**1.4 产品部件说明** 1) 电源 **①** 按键

4) 物镜/激光发射孔

2) MODE按键

5) 激光接收镜

6) 目镜旋钮

1.5 **屏幕显示** 1) 蓝牙标识

2) 语音标识3) 电量标识

4) 角度单位标识

5) 摄氏温度单位标

6) 水平距离标识7) 垂直高度标识

3) 铭牌

9) 角度/水平距/垂直高/修正距离数值

1) 功能代码 ( S/A/G/AG )

15) 测距模式标识

-G: 该机型具备测距。 旗杆锁定(锁定后振动提示) 测速功能





2.1 安全使用注意事项 1) 在使用该产品的时候,请勿直视激光光束

8) 华氏温度单位标识

10) 雨雾模式标识

13) 速度单位标识 Km/h\_

L1000A: 该机型为L系列机型、具备测距、测角、测高、测水平距、测速功能。

.2 测量注意事项

二 使用说明

降到一定程度后, 量程会相应减小

图1 产品部件图

\_ & F R \* 10 00 /-

11) 测距单位为米

12) 测距单位为码

14) 测量数值

## 3) 产品系列代码(L系列)

负号表示测量目标低于测量者)

应速度越快, 反之测距能力和测距响应速度会降低; 在极端测量角度下使用不能确 21) 角度/高度/负号标识(当测角时显示负号,表示该角度值为俯角,当测高时显示

图2 LCD显示图

备注:LCD屏采用最先进技术生产,但这并不能确保完全清除灰尘,使用该产品时 ) 测速影响因素:测速时,测量目标运动的速度越快时,测速效果越好:测速的 LCD屏将以接目镜的高放大倍率进行放大,灰尘可能会以瑕疵的形式显示出来,但并 住确程度随着激光光束和测量目标反射面之间的夹角的增加而降低。(本系列产品) 仅能保证激光光束和测量目标之间的夹角在±10°范围内的测速精度

## 本系列测距望远镜的测程在如下条件定义

## 1) 测量目标具有中等反射率:如建筑物墙面

电池充足 🖭 / 电量耗尽,需要更换电池 🖵

建议您在测量远距目标时,使用三脚架固定机器,减少测量过程中的机器的抖动

# 2) 测量目标反射面与激光发射方向垂直

而获得更好的测量效果

3) 测量天气为晴朗但不处于阳光直射条件下

4) 反射面的面积不小于2m\*2m。 2) 请勿从激光发射孔端瞄准或者是查看光学系统的同时按下() 键,以避免对眼睛

图3 宜测量目标

) 目标反射率: 通常目标反射率越高、测距能力越好、测距响应速度越快、比

对于中等反射率的目标能测到1500米,高等反射率目标可以测到不少于1800米。

低反射率目标可能只能测到800米,其他以此类推。(对于很难形成漫反射的目标

2) 目标形状:当测量目标的反射面面积过小或凸凹不平时,测距能力和测距响应

3) 测量角度:激光角度垂直照射到测量目标反射面上时,测距能力越好,测距响

4) 测量环境: 影响测距能力测距响应速度的因素还包括日昭强度 空气中水蒸汽

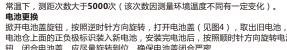
和悬浮颗粒物的浓度,偏离阳光照射的角度等。(如在雨天、雾天、下雪、雾霾天

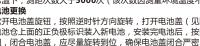
影响测距能力,测距响应速度,测速精度的因素包括

保能达到本手册所规定的测距能力和测距响应速度

该系列产品可测量高反射率的目标(例如高速公路路牌),中反射率目标(例如建 2.3 锂电池使用说明 筑物墙面) 低反射率目标(例如树木 高尔夫旗杆 电线 动物等), 当反射率











1) 在电量耗尽或长时间不用时,请取出电池;

的爆炸,漏液等,我公司不扣负任何责任;

) 请勿将电池置干极端温度环境中





图4 电池更换说明示意图

更换电池时,请使用相同规格的正规品牌电池,如果因为使用非正规的电池造成。

请勿将电池与钥匙或硬币等金属物件一同放在口袋或皮包中,这可能会造成印象

安装电池时 应按昭电池仓内正负极标识所示方向装入电池:

6) 废弃电池处理请遵循当地法律法规,以适当的方式回收或者废弃处理



开机: 短按()按键开机, 当按下()键并保持按下状态2秒能使所有的标识都显示

在LCD屏上,如果只是短暂的按下(1)键,LCD屏上只会显示前一次使用时屏上出

单位设置:开机状态下按下MODE键超过2秒,即可开始显示单位切换,当单位切

测量模式切换:在开机状态下按下MODE键不超过2秒,即可进行模式切换

**单次测量:**在开机状况下,短按下(1)键即可进行单次测量:(显示如图5所示

下(1)键 连续测量全停止:(显示如图6所示 以测距+测角模式为例)

连续测量:在开机状态下保持按下()键超过2秒后可以进行连续测量,屏上会交替

出现测量距离;激光发射标识 + 会在连续测量期间显示在靶位中心;如果停止按

测量失败:测量失败显示见图7,无操作情况下8秒后自动关机,如果在接通电源期

图6 连续测量

备注: 如果无法测取数值.LCD屏上测量数值将显示为:"-

现的标识或者是默认标识,而不会出现所有的标识

换后, 松开MODE按键即可保持切换后的单位:

**关机**:机器在无操作情况下超过8秒自动关机

三 通用操作

3.2 单位/测量模式切换

测距+测角模式为例)

3 3 单次测量/连续测量/测量失败

间按下 🛈 键 , 将会再次启动测量。

4.1 基础测距型(L-XXX-S)

3.1 开机/关机





模式图符



图12 测距+测高模式

图8:测距模式

备注:测程1500米以上机型没有测速功能。

4.2 测绘机型(L-XXX-A)

1) 讲入到M1模式,瞄准目标短按下(1)键,LCD屏下方显示斜距:(显示如图8

该机型为测绘机型,具备测距、测角、测高、测水平距、测速功能

2) 讲入到M2模式,瞄准目标短按下()键,LCD屏下方显示速度;(显示见图9)

该机型为基础测距型,具备测距和测速两种功能,可实现连续测量。

图7 测量失败

## 1) 进入到M1模式,瞄准目标后按下(I)键,LCD屏上方显示俯仰角,下方显示斜距;

Km/h

图15 测速模式

# 该机型为高尔夫加强机型,具备旗杆锁定(锁定后振动提示)。 坡度修正等测量功能





1) 讲入到M1模式,瞄准旗杆后,短按下 🖰 键后松开,将靶位中心在旗杆两侧扫描, 当屏上♪停止闪动(大概1秒后停止闪动), 机身发出振动, 此时在LCD屏下方显示到 旗杆的距离(显示见图16)

2) 进入到M2模式, 瞄准旗杆或其它测量目标, 短按下 🛈 键, 将靶位中心在旗杆两 侧扫描,当LCD屏上上标识停止闪动(大约1秒时间),机身发出振动,此时在LCD 屏上方将显示修正距离,下方显示到旗杆的距离(显示见图17)



# 五 应用场景图例

## 5.1 通用使用场景说明

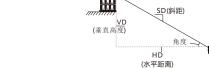
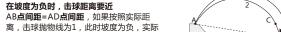


图18 使用场景图例

# 2) 进入到M2模式,瞄准目标后按下 🛈 键,LCD屏上方显示水平距,下方显示斜距



图17 坡度距离修正模式



离(修正距离)(见图20)



## 6.1 运输/存储/保养/废弃处理

地上,发出异常响声后,请即刻取出电池,停止使用。

避免跌落损坏产品;请勿将整机放置在高温环境下,可能会对产品造成不良影响 **保养:**当产品在温度急剧变化的情况下,镜片表面会有凝雾,请勿在水汽蒸发前使

用产品:如果外露镜片脏污,请用镜头擦拭布擦拭干净即可,切勿用其它物品擦拭 **废弃处理**:产品包装物以及废弃的产品请遵循当地的法律,以适当的方式回收或者

高尔夫加强型内置高精度倾角传感器,在测量过程中,会将测距值AB与坡度数值代 入高尔夫弹道方程中, 计算出最佳击球距离(修正距离)

# 在坡度为正时,击球距离要远 AB点间距=AD点间距,若按照实际距离,

球抛物线为1。此时坡度为正,实际只能飞 行到E点,要达到B点,需按照抛物线2表 球,此时球飞行的距离应为AC点间的距离 (修正距离)(见图19)

5.2 高尔夫坡度修正使用场景说明

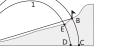


图19 坡度为正时击球示意图



# **运输:**运输中请在包装箱中加入足够缓冲材料以避免对整机造成损坏,整机跌落在

存储:产品请放置在小孩无法接触到的地方,请勿将产品放置到不平稳的高处

- 图, 击球抛物线为1, 此时坡度为负, 实际 会飞行到E点,要达到B点,需按照抛物线 2击球,此时球飞行的距离应为AC点间的距

# 六 其它注意事项

使用的时候,请勿用手指触摸镜头表面,以避免对镜片表面膜层造成损坏

4.4 高尔夫加强型(L-XXX-AG)

模式图符

4.3 高尔夫基础型(L-XXX-G)

3) 进入到M3模式,瞄准目标后按下()键,LCD屏上方显示垂直高,下方显示斜距

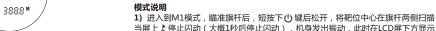
4) 进入到M4模式,瞄准目标后按下(I) 键,屏下方显示速度值(显示见图13)

该机型为高尔夫基础机型,具备测距 ,旗杆锁定(锁定后振动提示),测速功能。

2) 进入到M2模式,瞄准目标后按下 () 键,屏下方显示速度值(显示见图15)

备注:测程在1500米以上的机型没有测速功能。

# 图14 旗杆锁定模式



到旗杆的距离(显示见图14)

**备注**:该机型不支持连续测量功能。









Km/h

图9:测速模式



# Operation Manual

Please read this products manual carefully before using it to avoid potential personal injury. Keep this manual in the place easy to take and

1.4 Parts of Device

emission aperture

1) Power ( button

2) Mode button

3) Nameplate

7) Battery lid

1) Bluetooth icon

3) Electricity icon

4) Angle unit icon

Celsius temperature unit icon

8) Fahrenheit temperature unit icon

6) Horizontal distance icon

Vertical height icon

Vertical hight value

10) Rain and fog mode icon

2) Voice icon

8) Tripod nut

1. Product Specifications

1.1 General index :

Range 5~ 600/1000/1200/1500/2000/2500/3000(M) Object lens/Laser

Range Measuring Accuracy Angle Measuring Range -60°~60°

Angle Measuring Accuracy 20~300Km/h Measuring Range of Speed

905nm(Class I laser) Magnification Exit Pupil Diamete

Object Lens Size

125mmx77mmx45mi

Operating Temperature -10°C~50°C

Function Code(S/A/G/AG)

— Maximum Range(600/1000/1200/1500/2000/2500/3000(M) Product Series Code (L series)

## **Function Code Introduction**

- -S:This is a basic model, just with Ranging and Speed measuring functions
- distance / Horizontal distance /Speed measuring functions.
- -G: This is a basic model for golf, with Ranging / Flag locking / Speed measuring
  - 18) E-compass icon
  - 19) Measurement mode code icon

## 20) Measurement symbol icon

L1000A: The model haves Ranging / Angle / Vertical distance / Horizontal distance / 22) Telecontrol (433MHZ) icon Speed measuring functions.

## 3 List of Accessory

distance correction functions.

Laser Rangefinder(1pcs) Carry Bag(1pcs) Lens Cloth(1pcs) Lithium Battery (CR2-3V) Box(1pcs) Operation Manual(1pcs)

- Laser receiving aperture
- 6) Eyepiece knob

## Figure 1 Part of device reflectance is reduced to a certain extent, the range will be reduced accordingly

# 1.5 LCD Display Description

2 . Instructions for use

Don't stare at laser beam during using the product.

or viewing the optical system to avoid damaging your eyes.

2) Don't press the power button when eves are aiming at laser emission aperture

^<del>€8</del>.0-1888:€#

Figure 2 LCD display

9) Angle / Horizontal distance / Km/h\_

- 13) Speed unit icon 14) Range data
- -A: This is a function-enhanced model for surveying, with Ranging / Angle / Vertical 15) Ranging mode icon
  - - 17) Flag pole icon
- -AG: This is a function-enhanced model for golf, with Ranging / Flag locking / Slope

21) Angle / height / negative sign icon(If it shows a minus angle, it means the angle is depression; If it shows a minus height value, it means the target is lower than

LCD screen use the most advanced technology, but this does not ensure completely removal of dust. When using this product, the LCD screen will be in high magnification and dust may appear in the form of defects, but does not affect ranging function.

2.2 Measurement Considerations

## Measurement targets The laser range finder is suitable for measuring high reflectivity objects (such a

## highway's signpad), moderate reflectivity objects(such as building's wall) and low reflectivity objects (such as tree, golf flag, utility pole, animal etc.) When the

Factors that influence ranging capability

range corresponding speed will decrease.

fog. snow, fog. haze, etc.)

accuracy within +10°.





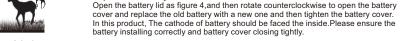


Figure 3 measurement target

- Target reflectivity: Generally speaking, the higher the reflectivity of the object the better the ranging ability, for example, for moderate reflectivity object, the measuring range is 1500M, and it can upto 1800M for high reflectivity object, but may be only 800M for low reflectivity one. The ranging ability of other objects can be got the same conclusion. (It may be fail to measure the target that can hardly
- create diffuse reflection, such as water surface.) ) Target shape: When a target is too small or uneven, ranging capability and
- Please take out the battery at once if it runs out or doesn't use for a long time. Measuring angle: the ranging ability would be better if the measured object is ) The battery should be installed with the "+, -"poles in right direction according to vertical with laser emission's direction. It's possible that the measuring range cannot
- pattery housing label indication. meet the ranging ability specified in the manual under some extreme conditions Please use the same specification SEC brand battery. Explosion or leakage of 4) Environment factor: the environment factors including sunshine intensity, the Note: If the measure fails, the measured value on the screen will display as: "--guid due to the use of sub-SEC brand batteries, we will not assume any concentration of water vapor in the air and suspended particles (such as rain.

Figure 4 battery replacement illustrating

The range ability of the product defined under the following conditions

The measured object is vertical with laser emission direction.

3) The weather condition is sunny but not direct sunlight.

Battery runs out and needs to be replaced:

somewhat due to the different conditions.

2.3 Battery Instructions

Power indication

Full power:

Battery Service Life

Replace the battery

1) The measurement target is with moderate reflectivity, such as building walls

If you choose to measure distant targets, it is recommended to mount the product

on a tripod to reduce the jitter of the measuring in order to obtain a better measure

Continuous operation times: about 5000 times (25°C). The times will change

 Please don't put the battery together with metal items such as keys, coins in or 5) Factors affecting Speed mode: When in speed mode, the faster the object bocket or it may cause overheating by short circuit of the battery. moves, the higher measuring accuracy will be, and the object is vertical with laser 5) Don't keep the battery in extreme temperature environments emission direction will be best. This laser range finder can only guarantee the 6) Waste battery disposal please comply with local laws and regulations.

## Unit setting: In the boot state, press the mode button for more than 2 seconds, then unit switch can be activated. The unit can be switched and retained after the mode

## button released. Mode switching: In the boot state, press the mode button and keep less than 2 seconds, then measurement mode switch can be activated

3.2 Unit/Mode switching

3. General operation

3.1 Power on/Power off

3.3 Single measurement / Continuous measurement / Failure measuremen

4. Model Operating Instructions

displays last used or default mode signs, but not all signs

Power on: Press the power button for more than 2 seconds and all the signs will

show on the LCD screen. If only short press the power button, the LCD screen just

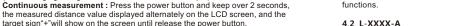
Power off: The product will shutdown automatically in 8 seconds if no any operations.

:0888M

Continuous Measurement

The model is the basic type, with Ranging and Speed measuring functions

the Speed data will be displayed on the LCD. Single measurement: Short press the power button to start single measurement. (taken Ranging + Angle measurement mode for example) Note: The models that measuring range over 1500M have no speed measuring



(taken Ranging + Angle measurement mode for example) The model is a function-enhanced models for surveying, with Ranging/ Failure measurement: Failure Measurement shows like figure 7. The product

Mode icon

will shutdown automatically in 8 seconds if no any operations. Press the power button Speed measuring functions again and it will start on.(taken Ranging + angle measurement mode for example)





Figure 13 Speed mode

Angle measuring/Vertical distance measuring/Horizontal distance measuring/

2) Into M2 mode (as figure 9), short press the power button after targeting.





Figure 10 SD+Angle mode



# 1) Into the M1 mode, short press the power button after targeting, the angle will

be displayed on the top of the screen and the slant distance displayed on the Slope distance correction functions. bottom.(as figure 10) Mode icon 2) Into the M2 mode, short press the power button after targeting, the horizontal

Figure 15 Speed mode

- distance will be displayed on the top of the screen and the slant distance displayed on the bottom.(as figure 11) 3) Into the M3 mode, short press the power button after targeting, the vertical
- height will be displayed on the top of the screen and the slant distance displayed on the bottom (as figure 12) Figure 9 Speed mode 4) Into the M4 mode, short press the power button after targeting the moving
- object, the speed will displayed on the screen.(as figure 13)

1) Into M1 mode (as figure 8), short press the power button after targeting. Note: The models that measuring range over 1.500M have no speed function. the distance will be displayed on the LCD.

## 4.3 L-XXXX-G The model is for the golf, with Ranging/Flag locking/Speed measuring functions.



button, move the cross sign on the screen slowly from one side to the other side



## Mode Description 1) Into M1 mode, aim at the flagpole or other targets, and short press power

of the target, when the flag sign 1 stop flashing and the machine vibrate (about 1second), range data to the flag will show on the screen (as figure 14). 2) Into the M2 mode, short press the power button after targeting the moving object, the speed will displayed on the screen.(as figure 15)

Note: The model does not support continuous ranging function

## This model is function-enhanced model for golf, with Ranging/Flag locking/

4.4 L-XXXX-AG

Mode Description

Flag locking mode

Golf model built in high-precision angle sensor, while during the measuring process, it will calculate the driving distance (compensation distance) by Golf trajectory equation with distance AB and the angle.

## In the positive slope, driving distance is further than real distance. See figure 19, AB=AD, according to the actual

5.2 Golf slope correction using Scene Description

distance, hitting like parabola 1. But in the positive slope, the real drop point is E, you should hit like parabola 2 and it can drop in B point. And the compensation distance is AC.

In the negative slope, the driving distance is shorter than real distance



Figure 19 The driving diagram of positive slop

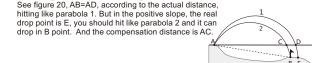


Figure 20 The driving diagram of negative slope

# 6. Safety Precautions

## 6.1 Transport/Storage/Maintenance/Disposal Transport: Please add enough cushioning material in the box to avoid damaging

the machine while in transport. When the machine falls on the ground, and makes a strange noise, please remove the battery immediately and stop using. Storage: Please keep the product out of reach of children. Don't put it on a high

and unsteady place to prevent falling on the ground. Do not place the product in a high temperature environment or it may cause damage of the products.

Maintenance: If the product is used in rapidly changing temperature, The lens surface will covered by fog. So please don't use it before the fog evaporates. Please clean with lens cloth but not your hands when it is dirty, or it may cause damage

Disposal: The product package and discarded products should be recycled or

disposed properly in accordance with local laws.

# 5. Using Scene Description

1) Into M1 mode, aim at the flaggole or other targets, and short press power

vibrate, the range data to the flag will show on the screen, (as figure 16)

2) into M2 mode, aim at the flagpole or other targets, and short press power

the target, when the flag sign 1 stop flashing (about 1 second), the machine

vibrate, range data to the flag will show on the bottom of the screen, and the

compensation distance shows on the top of the screen, (as figure 17)

Note: The model does not support continuous ranging function.

button, move the cross sign on the screen slowly from one side to the other side

button, move the cross sign on the screen slowly from one side to the other side of

of the target, when the flag sign 1 stop flashing (about 1 second), the machine

Slope distance correction mode

# 5.1 General using scene

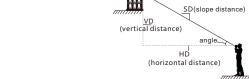


Figure 18 SD/Angle/HD/VD