FNIRSi 菲尼瑞斯

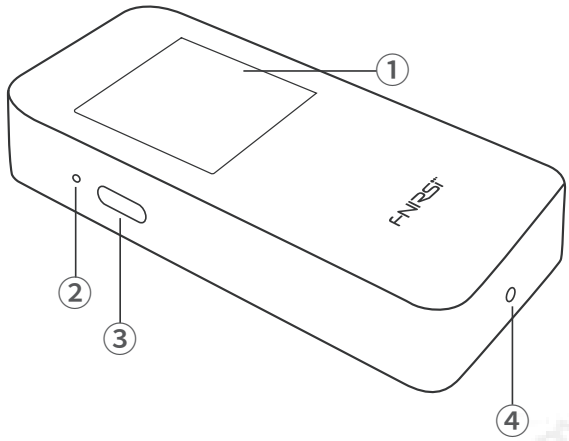
IR40智能测距仪

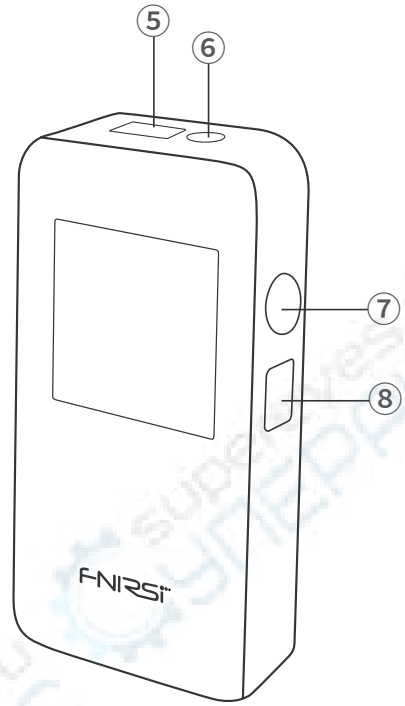
IR40 SMART RANGEFINDER

目录 CATALOG

【1】Keys and Functions

① LCD display
② Charging indicator
③ Type-C port
④ Reset hole
⑤ Laser receiver lens
⑥ Laser emission lens
⑦ On/Measure key
⑧ Off/Clear key





【2】Parameters

▲ Parameter Analysis

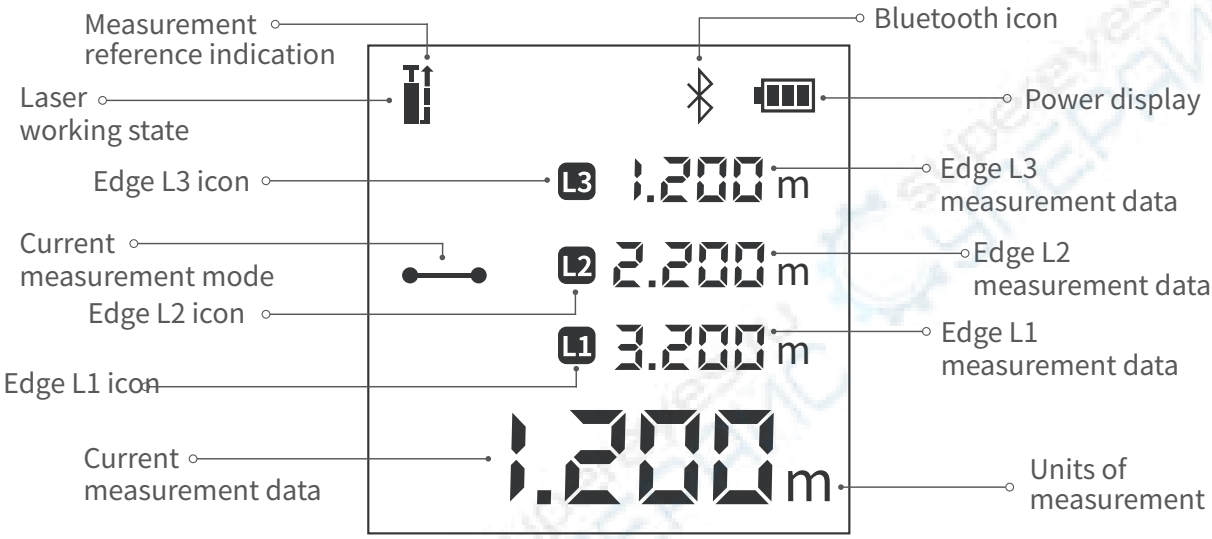
Resolution: 1mm	Laser Class: Class II
Unit: m/ft/in	Laser type: 620-670nm
Measurement time: 0.1~3s	Measurement range: 0.05~40m
Measurement accuracy：±(2mm+5x10^{-5}Dmm)	
Operating temperature range: 0~40 degrees	
Storage temperature range: -20 degrees to 60 degrees	
Executive standard：GB7247.1-2012	

▲ Test Conditions

1. **General Conditions**: General conditions:It refers to the strong reflection ability of the laser irradiation area.(such as painting white walls).The background lighting is dim and the operating temperature is 15°C-35°C.At this time, an error effect of plus or minus 0.05 mm/m should be considered

2. **Disadvantages**: Refers to the weak reflectivity of the laser-irradiated area.(Like black cardboard polished tiles.)The background lighting is strong and the working temperature is <0°C or >45°C.At this time, an error effect of plus or minus 0.15 mm/m should be considered

【3】Show Description



【4】Instructions

▲ Operation Precautions

1. The rangefinder cannot be moved during measurement, it needs to be placed on a fixed support surface

2. Do not block the laser emission hole and the receiving lens during measurement

3. Based on physical principles, errors will occur when measuring on certain surfaces, such as transparent, highly reflective, low reflective or porous surfaces. Aiming targets can be placed on the above objects if necessary to improve measurement accuracy

▲ Power On: Press and hold the "⑦ On/Measure key" for 3 seconds. When the "FNIRSI" LOGO appears on the LCD display, the device is turned on

▲ Power Off: Press and hold "⑧ Off/Clear key" for 3 seconds.When the LCD display turns off, the device is turned off.(When there is no operation after power on: the laser will automatically turn off after 15 seconds, and it will automatically turn off after 5 minutes)

▲ **Reset**: Poke the "④ Reset hole" with a toothpick and the machine will be forced to shut down.Used to handle exceptions.

▲ **Single Measurement**: Single measurement:Single short press "⑦ On/measure key" to start measurement.Short press the "⑦ On/Measure key" again to get the measurement data.The page displays up to 4 sets of measurement data. During measurement, the straight line at the "measurement mode" turns into a dotted line, indicating that the measurement is being performed

▲ **360° Screen Flip**: Built-in gravity sensor chip, the screen can be flipped automatically.Instructions:Long press the power button in the off state, don't let go after power on, and enter the display interface after 3 seconds to switch the adaptive rotation function on/off.

▲ **Unit Switching**: Quickly double-click with "⑦ On/Measure key" to switch the unit. The order of unit switching is meter → feet → inch

▲ **Automatic Calibration**

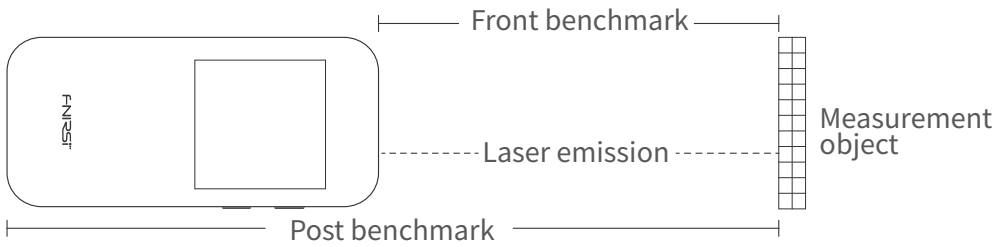
1. In the off state, press and hold the "⑧ Off/Clear key", then press and hold the "⑦ On/Measure key" for 3 seconds, when the screen displays "CAL", it means that the calibration mode is entered
2. Short press "⑦ On/Measure key" to increase the calibration value.Short press "⑧ Off/Clear key" to decrease the calibration value.The calibration range is "-10mm to 10mm". Press and hold the "⑦ On/Measure key" for 2 seconds to indicate that the calibration is complete.Automatically enter the measurement interface

▲ **Clear Function**: Clear function:Short press "⑧ Off/Clear key" to cancel the last command.A single measurement (area or volume, etc.) within the same function.You can use "⑧ Off/Clear key" to clear the last measurement operation and re-measure

▲ **Measurement Reference Switching**

Measurement reference switching: Quickly double-click the "⑧ Off/Clear key" to switch the front and rear benchmarks

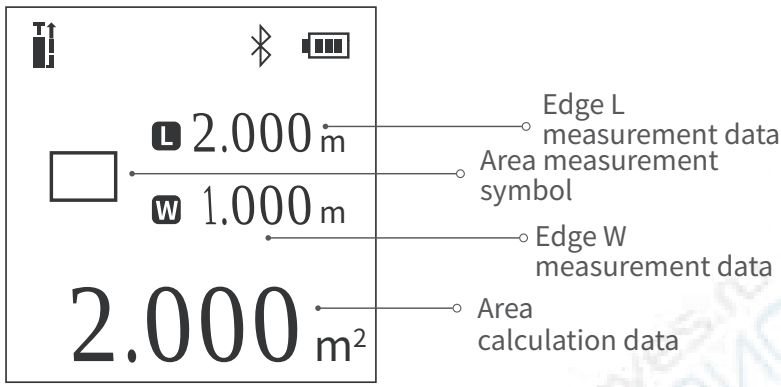
1. "**Front benchmark:** Front datum refers to the measurement starting position from the top of the device
2. "**Post benchmark**: Rear datum refers to taking the bottom of the device as the starting position for measurement, and the device defaults to the rear datum

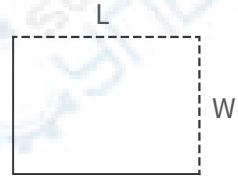


【5】Advanced Measurement

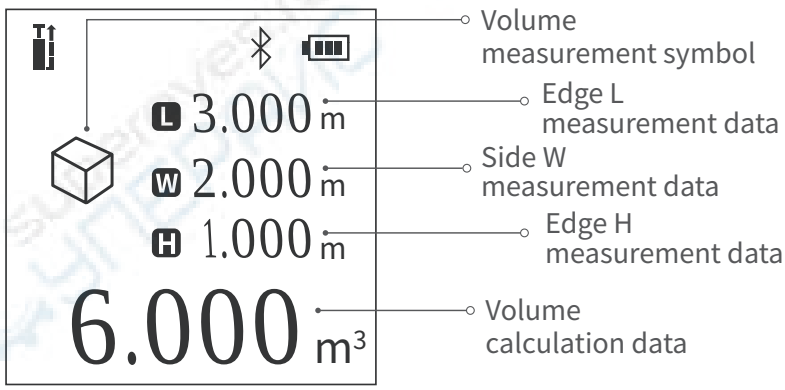
▲ **Measurement Mode Switching**: Long press the "⑦ On/Measure key" to switch the measurement mode cyclically.The order is "Linear Measurement" → "Area Measurement" → "Volume Measurement" → "Pythagorean One" → "Secondary Pythagorean (Data Addition)" → "Secondary Pythagorean (Data Subtraction)"

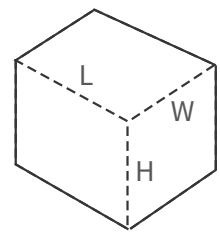
▲ **Area Measurement**: Click "⑦ On/Measure key", and measure the length and width in turn.The dotted line during measurement indicates the edge to be measured.When all sides are measured, the system automatically calculates the area



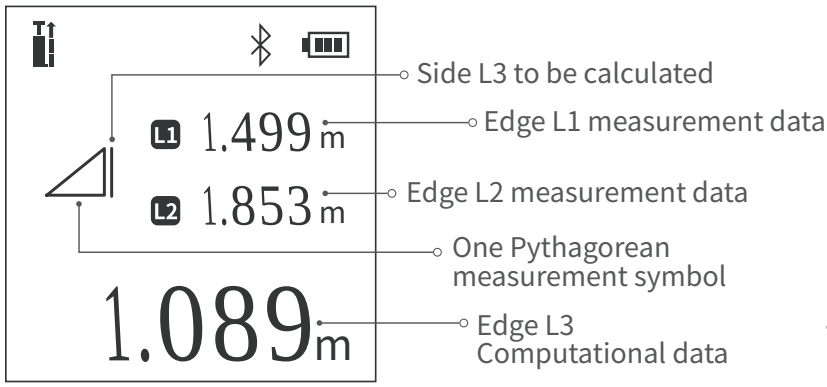


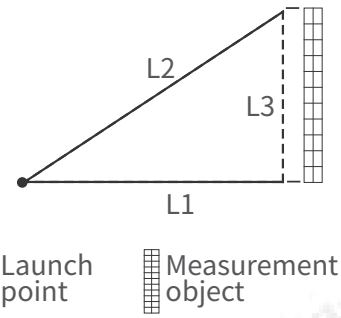
▲ **Volume Measurement**: Click the "⑦ On/Measure key", and measure the length and width in turn.The dotted line during measurement indicates the edge to be measured.When all sides are measured, the system automatically calculates the area





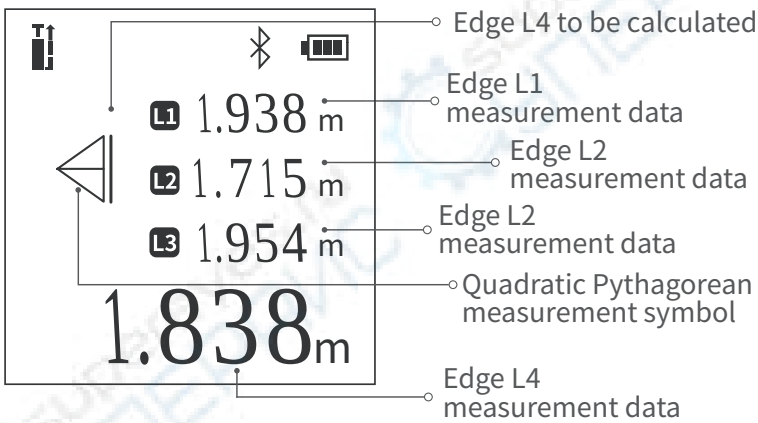
▲ **A Pythagorean**: When the selection interface is not measured, the solid yellow line indicates the edge of the final calculation result.Short press "⑦ On/Measure key" to start measurement.The dotted line during measurement indicates the edge to be measured.Short press again to get measurement data.Measure the data of the right-angled base "L1" and the right-angled hypotenuse "L2" in sequence.At the end of the measurement, the bottom edge L3 data will be automatically calculated

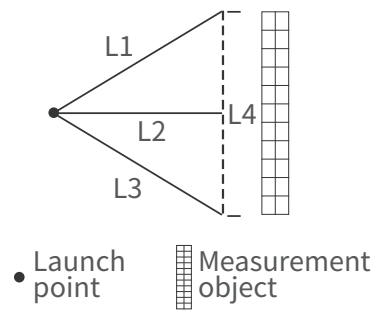




▲ **Quadratic Pythagorean(data addition)**: When entering the interface and not starting the measurement, the yellow solid line indicates the edge of the final calculation result.Short press "⑦ On/Measure key" to start measurement

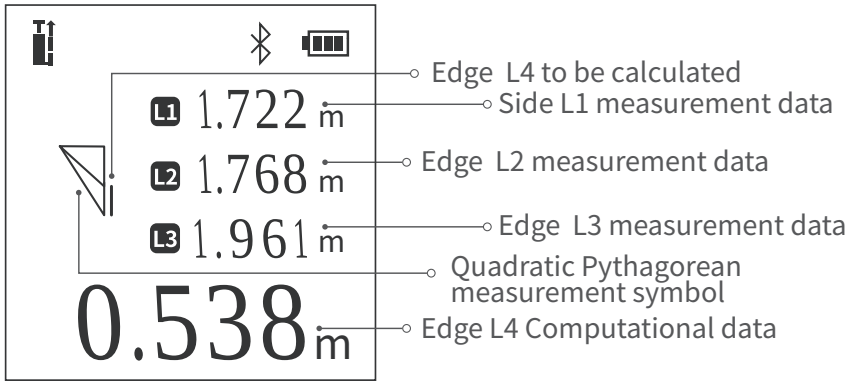
When measuring, the dotted line indicates the edge to be measured. Short press again to get the measurement data.Measure the triangle hypotenuse L1 data, height L2 data, and hypotenuse L3 data in sequence.At the end of the measurement, the bottom edge L4 data will be automatically calculated

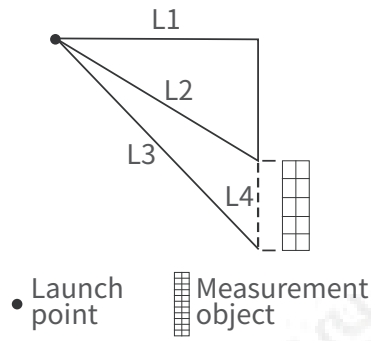




▲ **Quadratic Pythagorean (data subtraction)**: When entering the interface and not starting the measurement, the yellow solid line indicates the edge of the final calculation result.Short press "measurement end will" to start the measurement, the dotted line indicates the edge to be measured during measurement.

Short press again to get measurement data.Measure the right-angle base L1 data, L2 data and right-angle hypotenuse L3 data in sequence.At the end of the measurement, the bottom edge L4 data will be automatically calculated





【6】Bluetooth Status Indication

▲ After power on, the Bluetooth icon at the top of the screen flashes.After the bluetooth connection is successful, the bluetooth icon will no longer flash

【7】Battery Level Indication

▲ **Battery Level Indicator**: When all segments of the battery icon on the LCD display are displayed, it means the battery is fully charged.The number of displayed segments decreases, indicating that the power is relatively reduced.

When only the battery box is displayed, it should be ready to charge in time.When charging, the segment code will flow and the red charging indicator on the left side of the device will light up.When the red light goes out, the battery is fully charged

▲ **Automatic Shutdown When Low Battery**: When the battery is too low, the LCD display will prompt the low battery.And countdown to shutdown

【8】Error Code

ERR01：Hardware malfunction	ERR02：Unstable signal
ERR03：Abnormal temperature	ERR04：Target out of range
ERR05：Invalid measurement result	ERR06：Background light is too strong
ERR07：The signal is too strong or too weak	
ERR30：Does not satisfy the Pythagorean theorem	
ERR60：No light return or hardware failure	

【9】Safety Warning

Warning! Before using the product for the first time.Please read the safety regulations and operating instructions carefully first

▲ Please read all operating instructions and safety regulations in this manual carefully before using the product.Using the product not in accordance with the operating methods in this manual may cause damage to the product, affect the measurement accuracy, and cause personal injury to the user or others

▲ Do not open or repair the product by yourself in any way.It is strictly prohibited to illegally modify or change the performance of the product's laser transmitter.Please keep the product properly, do not place it where children can reach

▲ It is strictly forbidden to use the product laser to irradiate your own or others' eyes and other parts of the body.It is strictly forbidden to irradiate the laser on the surface of highly reflective objects

▲ The electromagnetic radiation of the product may cause interference to other equipment and devices.Please do not use this product near aircraft or medical equipment.Do not use the product in a flammable and explosive environment.

▲ Used batteries and scrapped products replaced by products cannot be disposed of with household waste.Please dispose of used batteries and scrapped products in accordance with relevant national or local laws

【10】 Production Information

Product name: FNIRSI 40m Smart Rangefinder

Brand / Model: FNIRSI / FNIRSI-IR40

Manufacturer: Shenzhen FNIRSI Technology Co., Ltd.

Website: www.fnirsi.cn

Address: Building C, Weihuada Industrial Park, Dalang Street, Longhua District, Shenzhen, Guangdong, China

【11】Connect APP

▲Please search for "RangeFinder" in Google Play (Android) or App Store (IOS) to download the rangefinder APP and install it for authorized use.

▲On the APP device page "+" to enter the searching page, it will automatically search for nearby devices.

▲When the rangefinder icon appears, select the corresponding device to add and connect successfully, and the Bluetooth icon on the terminal device page is always on.

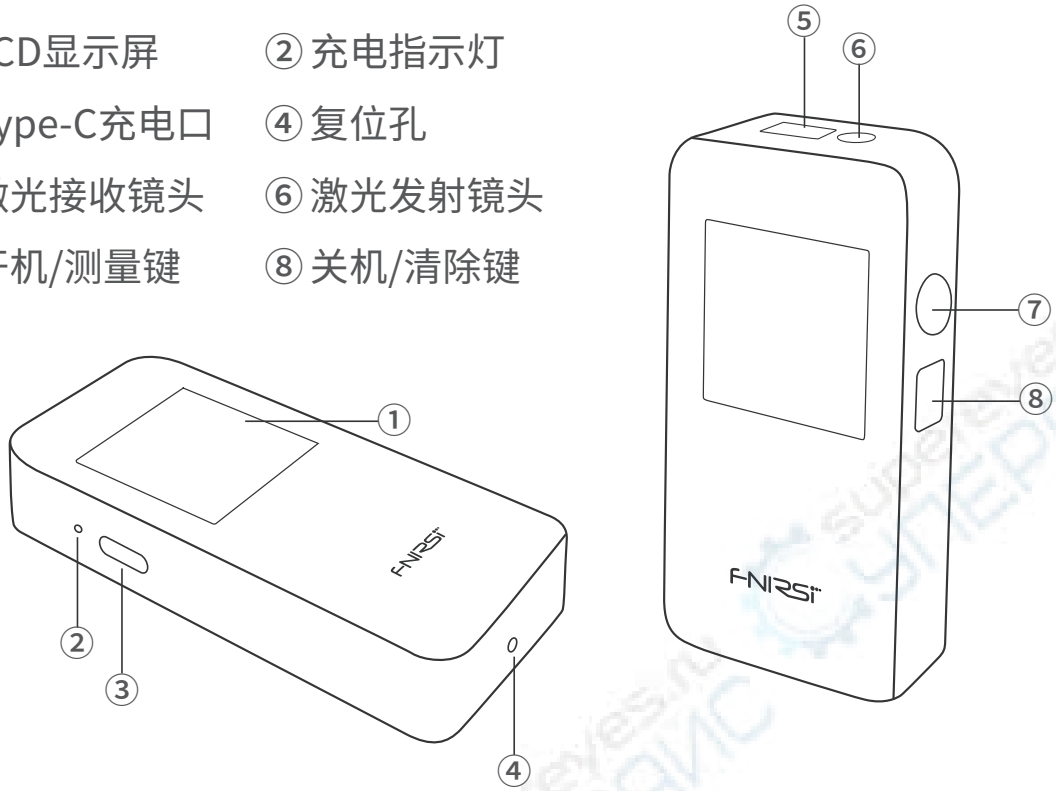
【1】按键及功能

① LCD显示屏　② 充电指示灯

③ Type-C充电口　④ 复位孔

⑤ 激光接收镜头　⑥ 激光发射镜头

⑦ 开机/测量键　⑧ 关机/清除键



【2】参数解析

▲ 基本参数

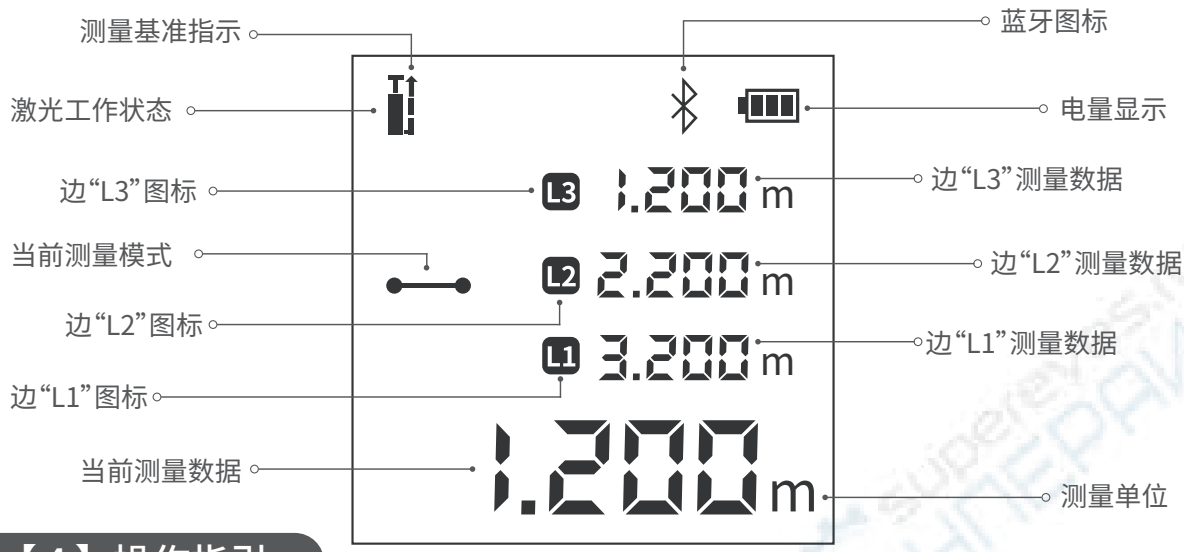
测量范围: 0.05~40m	激光等级: II级
测量精度: ±(2mm+5x10^{-5}Dmm)	激光类型: 620-670nm
分辨率: 1mm	工作温度范围 :0°C~40°C
单位: m/ft/in	储存温度范围: -20°C~60°C
测量时间: 0.1~3s	执行标准: GB7247.1-2012

▲ 测试条件

1. **一般条件**:指激光照射区域反射能力强(如涂刷白色的墙壁),背景照明暗且工作温度为15°C-35°C。此时要考虑一个正负0.05毫米/米的误差影响

2. **不利条件**:指激光照射区域反射能力弱(如黑色纸板抛光砖),背景照明强且工作温度为＜0°C或＞45°C,此时要考虑一个正负0.15毫米/米的误差影响

【3】显示说明



【4】操作指引

▲ 注意事项

1. 测量时不能够移动测距仪，需要将其放置在固定的支撑面上

2. 测量时不可以遮挡住激光发射孔和接收透镜

3. 基于物理原理，在某些特定的物体表面进行测量时会产生误差，例如透明的，高反射的，低反射的或多孔的物体表面。必要时，可在上述的物体上放置瞄准靶，以提高测量精度

▲ **开机**：按住“⑦开机/测量键”3秒不放，当屏幕出现“FNIRSI”LOGO后松手，表明设备开机

▲ **关机**：按住“⑧关机/清除键”3秒不放，黑屏后松手，表明设备已关机（开机无任何操作时，15秒后会自动关闭激光，5分钟后会自动关机）

▲ **复位**：用牙签短戳“④复位孔”，机器会强制关机，用于处理异常情况

▲ **单次测量**：单次短按“⑦开机/测量键”开始测量，再次短按“⑦开机/测量键”得到测量数据。页面最多显示4组测量数据，测量时“测量模式”处直线变为虚线代表发射激光正在测量

▲ **360°屏幕翻转**：内置重力感应芯片，屏幕可自动翻转；
操作说明：关机状态下长按开机键，开机后也不松手3秒后进入屏幕翻转页面设置（只能设置当前翻转状态的的对立状态，如：当前自适应翻转功能开，操作后变为关）

▲ **单位切换**：用“⑦开机/测量键”快速双击，可以切换单位，单位切换的顺序为m（米）→ft（英尺）→ inch（英寸）

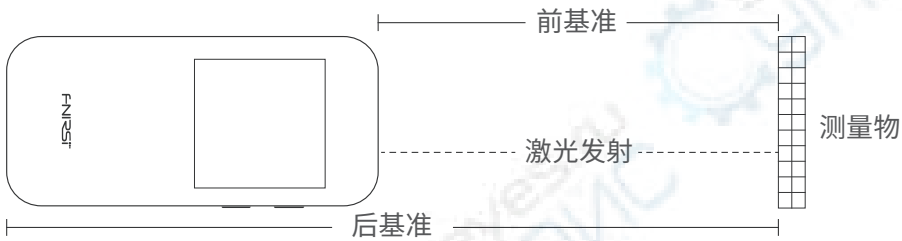
▲ **自动校准**:在关机状态下,按住“⑧关机/清除键”不放,然后按住“⑦开机/测量键”3秒,当屏幕显示“CAL”,即表示进入校准模式。短按“⑦开机/测量键”增大校准值,短按“⑧关机/清除键”减小校准值,校准范围为“-10mm到10mm”,长按“⑦开机/测量键”2秒不放表示校准完成,自动进入测量界面

▲ **清除功能**: 短按“⑧关机/清除键”则取消最后一个指令,在同一个功能内单次测量(面积或体积等),可以用“⑧关机/清除键”清除上一个测量操作,重新测量

▲ **测量基准切换**: 快速双击“⑧关机/清除键”可以切换前后基准

1. “ ”**前基准**: 前基准是指以设备的顶部为测量起始位置

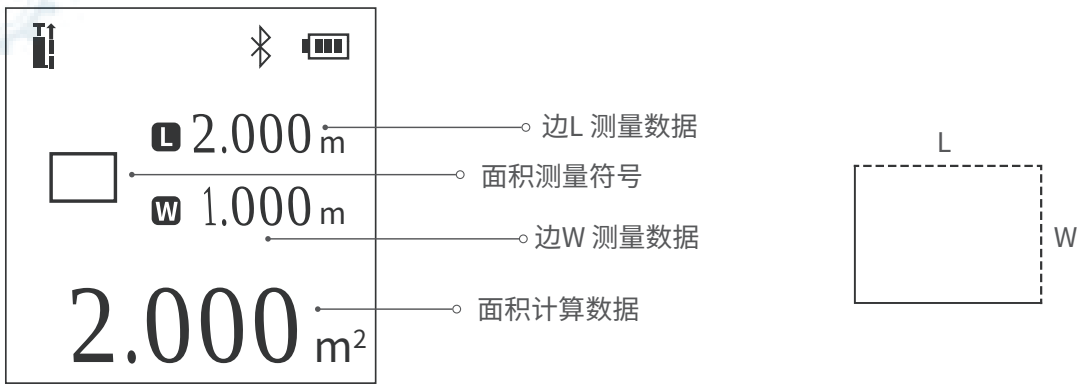
2. “ ”**后基准**: 后基准是指以设备的底部为测量起始位置,设备默认为后基准



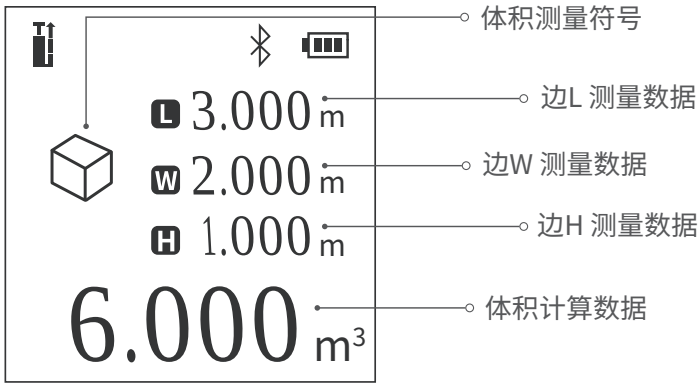
【5】高级测量说明

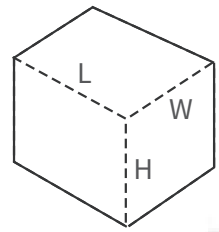
▲ **测量模式切换**:长按“⑦开机/测量键”可循环切换测量模式,依次为“直线测量”→“面积测量”→“体积测量”→“一次勾股”→“二次勾股(数据相加)”→“二次勾股(数据相减)”

▲ **面积测量**:单击“⑦开机/测量键”,依次测量长宽,测量时虚线表示即将测量的边,全部边测量结束系统自动计算出面积

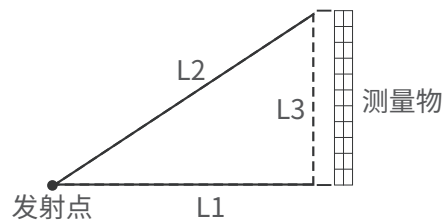


▲ **体积测量**：单击“⑦开机/测量键”，依次测量长宽高，测量时虚线表示即将测量的边，全部边测量结束系统自动计算出体积

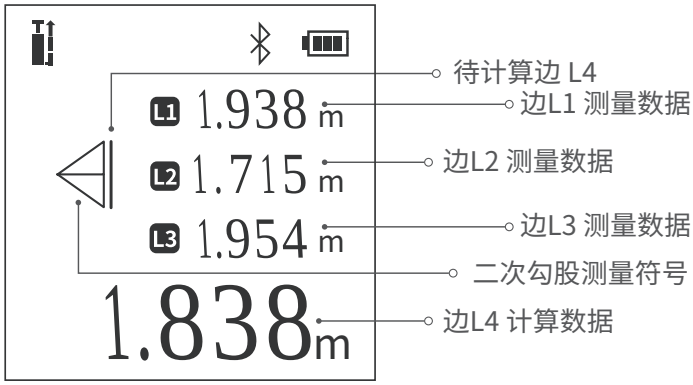


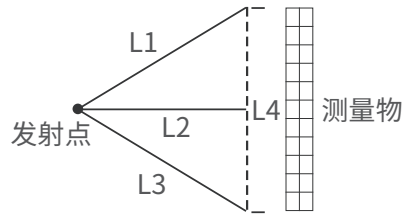


▲ **一次勾股**：选到界面未测量时黄色实线指示最终计算结果的边；短按“⑦开机/测量键”开始测量，测量时虚线表示即将测量的边，再次短按得到测量数据。依次测量直角底边“L1”数据和直角斜边“L2”数据，测量结束将自动计算出底边L3数据

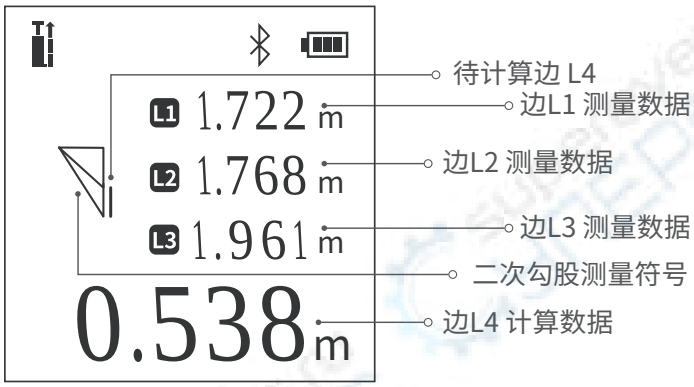


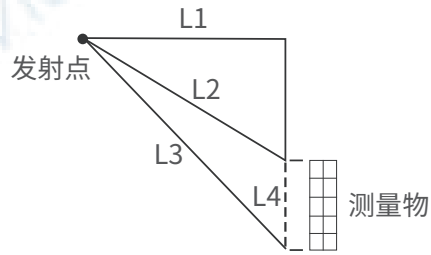
▲ **二次勾股(数据相加)**：选到界面未测量时，黄色实线指示最终计算结果的边；短按“⑦开机/测量键”开始测量，测量时虚线表示即将测量的边，再次短按得到测量数据。依次测量三角形斜边L1数据、高L2数据、斜边L3数据测量结束将自动计算出底边L4数据





▲ **二次勾股(数据相减)** ：选到界面未测量时,黄色实线指示最终计算结果的边;短按“测量结束将”开始测量,测量时虚线表示即将测量的边,再次短按得到测量数据。依次测量直角底边L1数据、L2数据和直角斜边L3数据。测量结束将自动计算出底边L4数据





【6】蓝牙状态指示

▲ 开机后,屏幕顶部的蓝牙图标呈闪烁效果。蓝牙连接成功后,蓝牙图标将不再闪烁

【7】电池电量指示

▲ **电池电量指示**: 当LCD显示屏上电池图标的段码全显示时,表示电池满电;显示的段数减少,表示电量相对减少;当只有电池框显示时,应及时准备充电;充电时,段码会流动显示,并且设备左侧的红色充电指示灯亮起。当红色指示灯熄灭后,表明电池充满

▲ **自动关机**: 在电量过低时,LCD显示屏会提示低电量,并倒计时关机

【8】错误代码

ERR01:硬件故障	ERR02:信号不稳定
ERR03:温度不正常	ERR04:目标超出范围
ERR05:无效的测量结果	ERR06:背景光太强
ERR07:信号过强或过弱	ERR30:不满足勾股定理
ERR60:没有光返回或者硬件故障	

【9】安全警告

警告! 初次使用产品前,请先仔细阅读安全条例和操作指南

▲ 在使用产品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产品有可能会造成产品的损害、影响测量精度、对使用者或他人造成人身伤害

▲ 不要用任何方式自行打开或修理产品,严禁非法改装或改变产品激光发射器的性能。请妥善保管产品,不要放置在儿童可以接触到的地方,避免无关人员的使用

▲ 严禁用产品激光器照射自己或他人的眼睛及身体其他部位,严禁将激光器照射在高反光的物体表面上

▲ 产品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产品,不要在易燃易爆的环境中使用产品

▲ 产品更换的废旧电池和报废的产品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产品

【10】生产信息

产品名称: FNIRSI 40m智能测距仪
品牌/ 型号: 菲尼瑞斯/ FNIRSI-IR40
服务热线: 0755-83242477
生产商: 深圳市菲尼瑞斯科技有限公司
地址: 广东省深圳市龙华区大浪街道伟华达工业园C栋西边8楼

【11】连接APP

▲请在Google Play（安卓系统）或 App Store（IOS系统）搜索“RangeFinder”下载测距仪APP并安装授权使用。

▲在APP设备页面“+”进入搜索设备页面，会自动搜索附近设备。

▲当出现测距仪图标后选择对应的设备即可成功添加并连接，终端设备页面蓝牙图标常亮。

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