

FNIRSI 菲尼瑞斯

WHD-02

彩屏针式木材水分仪说明书 V1.1

COLOR SCREEN PIN-TYPE WOOD MOISTURE METER USER MANUAL



※使用前请仔细阅读本说明书,并妥善保管。

※Please read this instruction manual carefully before using the product and keep it properly.

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一、安全要求

1.1 环境要求

⊗ 注意事项

- ① 避免高温、明火、腐蚀性气体、潮湿或多尘环境，以防设备故障。
- ② 确保设备检测插针洁净，保障使用前的数值无干扰。

△ 远离以下物品

- ① 加热器：避免过热或火灾风险。
- ② 水源、化学品：溶剂：泄漏可能损坏设备或引发火灾。
- ③ 强磁性设备：防止磁场干扰设备正常运行。

♻️ 废旧处理

- ① 请勿随生活垃圾丢弃废旧电池或设备，应按国家或当地法规处理

二、产品概览

2.1 产品简介

WHD-02是一款性能稳定、安全可靠的针式木材水分仪，可以测量木材水分、环境的温度、湿度。本使用说明书包括有关的安全信息和警告提示，请仔细阅读内容并严格遵守所有的警告和注意事项。






2.2 产品操作示意图



2.3 彩屏针式木材水分仪页面示意图



- ① **日期时钟**:年月日,时间。
- ② **数据保持**:短按  开关键,实现HOLDS数据保持功能。
- ③ **震动功能**
- ④ **蜂鸣器报警**:指示是否开启报警功能。
- ⑤ **电量指示**:指示系统电量。
- ⑥ **含水量**:此区域显示设备测量的含水量。
- ⑦ **水分模式**:此区域显示检测范围。
- ⑧ **湿度单位**
- ⑨ **温度值**:此区域实时显示设备测量的温度值。
- ⑩ **含水量等级**:无数值时候显示准备,低于阈值显示正常,高于阈值则显示高报、低报。
- ⑪ **湿度值**:此区域实时显示设备测量的湿度。

按键	操作	功能描述
	长按	切换开机/关机
	短按	HOLD数据保持功能
	长按	进入设置界面
	短按	进入切换曲线页面,曲线页面0.5S更新一次
	短按	切换水分模式,更改范围。

2.4 通用设置页面示意图

报警设置:1.ON/OFF 左右键选择是否开启指示灯、振动器、蜂鸣器。

阈值设置:上下键选择高低报选项,再按ok键进入四级导航,进入详细各位的数值调节,单击或者长按上下键调节阈值,报警会根据阈值进行响应和记录。

语言切换:ON/OFF 左右键选择中英文。



风格切换:左右键选择深色/浅色模式。

2.5 系统设置页面示意图

日期时间:任意方向选中,ok键进入后单击或者长按上下调节数值。

休眠设置:①ON/OFF 左右键选择是否开启休眠。
②进度条

左右键调节休眠亮度。

③进入休眠、自动关机

左右键调节数值,休眠会降低屏幕亮度和功耗,检测到动作会退出休眠。



亮度设置:进度条单击或者长按左右键调节亮度。

音量设置:①进度条 左右键调节音量

②ON/OFF 左右键选择是否开启音量,这里的音量是对全局声音开关,并不对报警声有效。

恢复出厂设置:左右键选择是否恢复出厂,OK键确定。

2.6 报警记录页面示意图



序号	时间	类型
01	2024/06/10 07:30	低报
02	2024/06/10 07:30	低报
03	2024/06/10 07:30	低报
04	2024/06/10 07:30	低报
05	2024/06/10 07:30	低报

报警记录:记录超过高低阈值的时间、类型,最多三十条,超过后会全部清除重新记录,仅在报警等级提升时候记录,单击上下键进行浏览。

三、技术规格

3.1 机型参数


参数	规格
产品型号	WHD-02
屏幕	2.0寸彩屏
采样时间	≈0.5s
产品尺寸	≈63×28×148mm
产品重量	≈185g

3.2 水分模式参数




水分模式	范围	分辨率
A	12.4%~55%	0.1%
B	10.9%~48%	
C	1.6%~22.1%	
D	0.1%~11%	
E	1.1%~8.7%	
F	0.6%~9.9%	
G	0.3%~16.6%	

四、操作指南

4.1 开机


长按电源开关键  开机, 等待系统加载, 进入数字风速仪主界面。

4.2 语言设置

在主界面**长按右键(设置)**  , 进入系统菜单, 短按**选择键**选择通用设置, 短按**OK确认键**进入通用设置, 短按**选择键**选择语言设置  , 后短按**OK确认键**进入语言设置  , ON/OFF左右键选择中英文。

4.3 调整风速阈值

风速阈值调节：




在主界面**长按右键(设置)** ，进入系统菜单，单击**选择键**选择通用设置，单击**OK确认键**进入通用设置，单击**选择键**选择阈值设置，后单击**OK确认键**进入阈值设置，上下键选择高低报选项，再按**ok键**进入四级导航，进入详细各位的数值调节，单击或者长按上下键调节阈值。

通用设置其他功能调节：




对应功能选择与开启同以上两点操作导航大致相同，省略步骤描述。

4.4 日期时间与亮度调节

日期时间设置：

在主界面**长按右键(设置)** ，进入系统菜单，单击**选择键**选择系统设置，单击**确认键**进入系统设置，单击**选择键**选择日期时间 ，后单击**OK确认键**进入日期时间 ，**选择键**选择需要调整的日期时间，再按**ok键**进入数字调整，点击**上下选择键**数值调节，单击**返回键**进行保存。

亮度调节：

在主界面**长按右键(设置)** ，进入系统菜单，单击**选择键**选择系统设置，单击**确认键**进入系统设置，单击**选择键**选择亮度设置 ，后单击**OK确认键**进入亮度设置 ，左右**选择键**实时调整亮度，单击**返回键**进行保存。

系统设置其他功能调节：

对应功能选择与开启同以上两点操作导航大致相同，省略步骤描述。

五、快速入门

5.1 快速测量

- 开启彩屏针式木材水分仪，等待系统加载，进入主界面，短按下键按需设置对应水分模式，将设备插针插入测试木材。
- 查看屏幕主界面实时的含水量，温度，湿度等。
- 短按电源开关键，实现HOLDS数据保持功能。
- 点击左右键，切换曲线页面，数据可视化，分析数据与记录数据。

5.2 固件升级

- 设备关机，同时按住右键和电源键，此时设备会弹出Bootloader界面，插入USB Type-c数据线连接电脑，进入Bootloader界面进行固件升级。
- 进入Bootloader后，电脑识别出U盘，把固件文件直接拷贝到U盘即可。
- 在Bootloader界面无操作一分钟后会自动运行已有的固件。

六、故障排查

6.1 无法开机

可能原因：

- 电池电量耗尽。
- 电池连接松动或损坏。

解决方法：

- 检查电池电量，若电量不足请充电。
- 如果电池无法充电或设备依然无法开机，尝试重新安装电池，或更换电池。

6.2 屏幕无法显示

可能原因：

- 屏幕背光关闭。
- 显示屏硬件故障。
- 系统软件异常。

解决方法：

- 按照手册检查并调节背光亮度设置。
- 尝试重启设备，确保系统恢复正常。
- 如果屏幕仍无法正常显示，可能需要维修或更换显示屏。

七、维护保养

清洁设备外部：

频率：每月清洁一次，具体取决于使用环境。

方法：使用柔软的布轻轻擦拭设备表面。避免使用化学清洁剂，特别是含有酒精或强酸、强碱的清洁剂，以免损坏外壳或屏幕。

注意事项：

- 定期清理插针和按钮周围的灰尘，以保持设备良好状态。
- 确保设备无任何液体、灰尘或杂物进入设备接口。

检查电池与电源：

电池保养：对于内置电池的示波器，定期检查电池的健康状态。避免电池完全放电，建议定期充电并避免长时间不使用设备。

充电规范：使用官方提供的充电器进行充电，避免过充或过放，确保电池处于适宜的工作电压范围。

电池更换：若电池表现出过度衰减（如无法正常充电或极快放电），应及时更换。

存放与携带:

存放环境:设备应存放在干燥、通风的环境中,避免高温、高湿或剧烈的温度变化。避免将其放置在阳光直射的地方。

携带:使用时应小心避免摔落,尤其是在携带过程中。推荐使用保护套或专用包进行携带。

软件更新:

- 定期检查设备是否有新的固件更新。最新的固件可以修复已知的BUG并提升设备性能。
- 更新时确保操作步骤正确,使用官方发布的固件文件,并避免断电或其他干扰。

恢复出厂设置:

- 若设备出现异常或无法正常工作,可尝试恢复出厂设置。恢复设置后,设备将清除所有自定义配置,恢复到初始状态。
- 恢复出厂设置的方法可以参考用户手册或联系厂商客服。

八、生产信息

产品名称:彩屏针式木材水分仪

品牌/型号:FNIRSI/WHD-02

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栋西侧8楼

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商务邮箱: business@fnirsi.com

官方网站: www.fnirsi.cn

执行标准: GB/T 1927.4-2021

九、保修说明

※此页为保修卡基本凭证,请妥善保管

感谢您选择本公司产品,本产品自销售之日起计保修期。在产品保修期内,凡按照产品使用,说明书安装使用。于正常环境、条件使用之下,因原物料及加工过程中之瑕疵而导致故障,可依据本保修条款的内容享受无偿维修服务,本保修卡请用户妥善保存,以作保修凭证,丢失恕不补发。

以下情况将实施有偿维修服务

- 1.不能出示有效保修卡原件;
- 2.产品安装不符合产品要求、标准和相关规范造成的损坏;
- 3.产品安装环境中相关配件不符合产品要求、标准和相关规范造成的损坏;
- 4.用户对产品使用不当、保管不妥或擅自拆机、私自维修等原因造成的损坏;
- 5.超过保修期。

1. SECURITY REQUIREMENT

1.1 Environmental requirement

⊘ Precautions

- ① Avoid high temperatures, open flames, corrosive gases, and humid or dusty environments to prevent device failure.
- ② Ensure that the vents are not blocked to prevent the device from overheating.

⚠ Keep away from the following items

- ① Heaters: Avoid overheating or fire risks.
- ② Water sources, chemical solvents: Leakage may damage the device or cause a fire.
- ③ Strong magnetic equipment: Prevent magnetic fields from interfering with the normal operation of the device.

♻ Disposal of Waste

- ① Please do not dispose of used batteries or equipment with regular household waste. They should be handled according to national or local regulations.

2. PRODUCT OVERVIEW

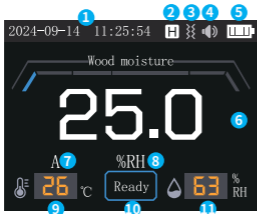
2.1 Product Introduction

WHD-02 is a pin-type wood moisture meter with stable performance, safety and reliability, which can measure wood moisture, environmental temperature and humidity. This instruction manual includes relevant safety information and warning tips. Please read the content carefully and strictly abide by all warnings and precautions.

2.2 Operation diagram



2.3 Measurement UI diagram







① **Date/Time:** Year, Month, - Day; Time

② **Data retention:** Short press On/Off button achieving data retention

③ **Vibration function**

- ④ **Buzzer alarm:** Indicates whether to turn on the alarm function
- ⑤ **Power indicator:** Indicates the power of the system
- ⑥ **Moisture content:** This area displays the moisture content measured by the device
- ⑦ **Moisture mode:** This area displays the detection range
- ⑧ **Humidity unit**
- ⑨ **Temperature value:** This area displays the temperature value measured by the device in real time
- ⑩ **Moisture content level:** When there is no value, it displays preparation, below the threshold, it displays normal, and above the threshold, it displays high or low report
- ⑪ **Temperature value:** This area displays the temperature value measured by the device in real time

Key	Operation	Function description
	Long press	Switch on/off
	Short press	Data retention
	Long press	Enter setting page
	Short press	Enter page of switching curve, which will update every 0.5s
	Short press	Switch moisture mode, change the range

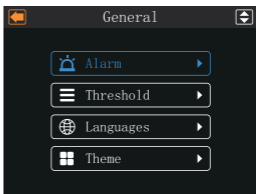
2.4 General Settings

Alarm settings: Press the left or right key to select whether to turn on the indicator light, vibrator, or buzzer.

Threshold settings: Press the up or down key to select the high or low alarm option option, then press OK to enter the four-level navigation, enter the detailed numerical adjustment of each digit, click or long press the up or down key to adjust the threshold, and the alarm will respond and record according to the threshold.

Language switch: Press the left or right key to select Chinese and English.

Style switch: Press the left or right key to select dark/light mode.



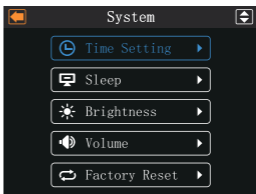
2.5 System settings

Date and time: Select in any direction, press OK to enter and then click or long press Up or Down to adjust the value.

Sleep Mode: ① Left or right key to select ON/OFF to turn on the sleep.

② Left or right key to adjust percentage bar for the sleep brightness.

③ Use the left/right buttons to adjust the values for entering sleep mode or automatic shutdown. Sleep mode will reduce screen brightness and power consumption. The device will exit sleep mode when motion is detected.



Brightness: Use the progress bar and press or hold the left/right buttons to adjust the brightness.

Volume:

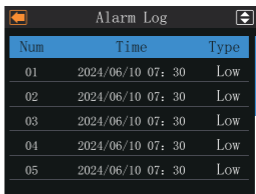
① Use the left/right buttons on the progress bar to adjust the volume.

② Use the left/right buttons to select whether to enable volume (ON/OFF). The volume here controls the global sound switch but does not affect the alarm sound.

Restore Factory Settings: Use the left/right buttons to choose whether to restore factory settings, then press the OK button to confirm.

2.6 Alarm Records Page

Alarm Record: Records the time and type of events that exceed the high or low thresholds, up to a maximum of thirty entries. Once exceeded, the previous records will be cleared, and new ones will be recorded. Only records when the alarm level increases. Use the up and down buttons to browse.



Num	Time	Type
01	2024/06/10 07: 30	Low
02	2024/06/10 07: 30	Low
03	2024/06/10 07: 30	Low
04	2024/06/10 07: 30	Low
05	2024/06/10 07: 30	Low

3. TECHNICAL SPECIFICATION

3.1 Device Parameters


Parameter	Specification
Item No.	WHD-02
Screen	2.0 inch color screen
Sampling time	≈0.5s
Product size	≈63×28×148mm
Product weight	≈185g

3.2 Moisture Mode Parameters




Moisture mode	Parameters	Resolution
A	12.4%~55%	0.1%
B	10.9%~48%	
C	1.6%~22.1%	
D	0.1%~11%	
E	1.1%~8.7%	
F	0.6%~9.9%	
G	0.3%~16.6%	

4. OPERATION GUIDE

4.1 Boot


Long press the power button  to turn on the device, wait for the system to load, and enter the main interface of the Wood Moisture Meter.

4.2 Language Setting

Long press the right button (settings)  on the main interface to enter the system menu, press the selection button and move to General settings, press **OK** to enter, press the selection button and move to language settings , then press **OK** to enter language settings , ON/OFF left or right button to select Chinese and English.

4.3 Adjust humidity threshold

Humidity threshold adjustment:


Press and hold the right button (settings)  on the main interface to enter the system menu, click the selection button to select general settings, click **OK** to enter general settings, click the selection button and move to threshold settings, and then click **OK** to enter threshold settings, use the up or down key to select high or low report option, and then press **OK** to enter the four-level navigation, enter the detailed value adjustment of each digit, click or long press the up or down key to adjust the threshold.

Other function adjustment of General settings:


The corresponding function selection and opening are roughly the same as the above two parts of operation navigation, and the step description is omitted.

4.4 Adjust date/time/brightness

Date and time settings:

Press and hold the right button (settings)  on the main interface to enter the system menu, click the selection button and move to system settings, click **OK** to enter, click the selection button and move to date and time, then click **OK** to enter, select the date and time to be adjusted, then press **OK** to enter digital adjustment, click the up or down key to adjust the value, and click the return key to save.

Brightness adjustment:

Press and hold the right button (settings)  on the main interface to enter the system menu, click the selection button and move to system settings, click **OK** to enter, click the selection button and move to brightness settings, then click **OK** to enter, use the left or right key to adjust the brightness in real time, and click the return key to save.

Other function adjustments of system settings:

The corresponding function selection and opening are roughly the same as the above two parts of operation navigation, and the step description is omitted.

5. QUICK START GUIDE

5.1 Rapid measurement

- Turn on the color screen pin-type wood moisture meter, wait for the system to load, enter the main interface, short press the Down key to set the corresponding moisture mode as needed, and insert the device pin into the tested wood.
- View the real-time moisture content, temperature, humidity, etc. on the main screen interface.
- Short press the power switch to achieve data retention.
- Click the left or right key to switch the curve page, visualize the data, analyze and record the data.

5.2 Upgrade firmware

- Turn off the device, press the right button and the power button at the same time, and the device will pop up the Bootloader interface. Insert the USB Type-c data cable to connect the computer and enter the Bootloader interface for firmware upgrade.
- After entering the Bootloader and the computer recognizes the U disk, copy the firmware file directly to the U disk.
- After one minute of no operation in the Bootloader interface, the existing firmware will be automatically run.

6. TROUBLESHOOTING

When the device does not work properly, refer to the following methods for simple troubleshooting. If the problem still cannot be solved, please contact technical support.

6.1 Unable to boot

Possible causes:

- Battery exhausted
- Loose or damaged battery connection

Solution:

- ① Check battery charge and charge if low
- ② If battery fails to charge or device still does not power on, try reinstalling or replacing the battery.

6.2 Screen does not display

Possible causes:

- The screen backlight is off
- Display hardware malfunction
- System software abnormality

Solution:

- ① Check and adjust the backlight brightness settings according to the manual.
- ② Try restarting the device to ensure the system returns to normal.
- ③ If the screen still does not display properly, the display may need to be repaired or replaced.

7.MAINTENANCE

Clean the outside of the device

- Frequency: Clean once a month, depending on the use environment.
- Method: Use a soft cloth to gently wipe the surface of the device. Avoid using chemical cleaners, especially those containing alcohol or strong acids and alkalis to avoid damaging the casing or screen.
- Precautions:
 - Clean the dust around the vents and buttons regularly to keep the device well ventilated and heat-dissipated.
 - Ensure that no liquid, dust or debris enters the device interface.

Check the battery and power supply

- Battery maintenance: For device built-in battery, check the health of the battery regularly. Avoid complete battery discharge. It is recommended to charge regularly and avoid not using the device for a long time.
- Charging specifications: Use the official charger to charge, avoid overcharging or over-discharging, and ensure that the battery is in the appropriate operating voltage range.
- Battery replacement: If the battery shows excessive attenuation (such as failure to charge normally or extremely fast discharge), it should be replaced in time.

Storage and carrying

- **Storage Environment:**The instrument should be stored in a dry and ventilated environment, avoiding high temperature, high humidity or drastic temperature changes. Avoid placing it in direct sunlight.
- **Carrying:**Be careful to avoid falling when using, especially during carrying. It is recommended to use a protective case or a special bag for carrying.

Software update

- Regularly check whether the device has new firmware to update. The latest firmware can fix known bugs and improve device performance.
- When updating, make sure the operation steps are correct, use the officially released firmware files, and avoid power outages or other interference.

Restore factory settings

- If the device is abnormal or does not work properly, try to restore the factory settings. After restoring the settings, the device will clear all custom configurations and return to the initial state.
- For methods to restore factory settings, please refer to the user manual or contact the manufacturer's customer service.

8.CONTACT US

Any FNIRSI users who contact us with questions will receive our promise of a satisfactory solution, plus an extra 6-month warranty as a token of our appreciation for your support! By the way, we have created an exciting community, and we welcome you to contact FNIRSI staff to join.

SHENZHEN FNIRSI TECHNOLOGY CO.,LTD

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9. Warranty Instructions

※**This page is the basic warranty card. Please keep it.**

Thank you for choosing our company's products. The warranty period of this product starts from the date of sale. During the product warranty period, if the product is installed and used in accordance with the product manual and used in normal environment and conditions, and the fault is caused by defects in the original materials and processing, you can enjoy free repair services according to the content of this warranty clause. Please keep this warranty card properly as a warranty certificate. No reissue will be issued if it is lost.

The following situations will incur paid repair services

1. Unable to present the original valid warranty card.
2. Damage caused by improper installation not meeting product requirements, standards, or relevant specifications.
3. Damage caused by accessories in the installation environment not meeting product requirements, standards, or relevant specifications.
4. Damage caused by improper use, improper storage, unauthorized disassembly, or unauthorized repairs by the user.
5. Expiration of the warranty period.




保修卡



产品型号	WHD-02	数量	
渠道商名称 (购买商店)			
联系方式			
渠道商地址			
发票号 (订单号)			
购买时间	年	月	日
客户姓名:	地址:		
联系方式:	故障说明:		

Warranty Card



Product Model	WHD-02	Qty.	
Distributor Name (where to buy)			
Contact			
Address			
Invoice Number (Order Number)			
Purchase Date (as per invoice)	Year	Month	Day
User Name:	Address: 		
Contact: 	Fault Description: 		



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