FNIRSI 菲尼瑞斯

FPM-02

彩屏照度计使用说明书

V1.3

COLOR SCREEN LUX METER USER MANUAL

※使用产品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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用户须知

①请详细读完本使用说明书以及操作指示,并且要确实遵守文中的规定。

②请妥善保存本使用手册。

③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。

④当仪器出现任何质量问题或者对使用仪器有疑问时,可联系“菲尼瑞斯-FNIRSI”在线客服或厂家,我们将在第一时间为您解决。

⑤感谢您购买此产品,为了您能更加方便的使用本产品在使用时请按说明书操作。

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确保通风口不被遮挡,避免设备过热。

⚠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。

④空调、通风设备:防止冷凝水导致短路。

♻ 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

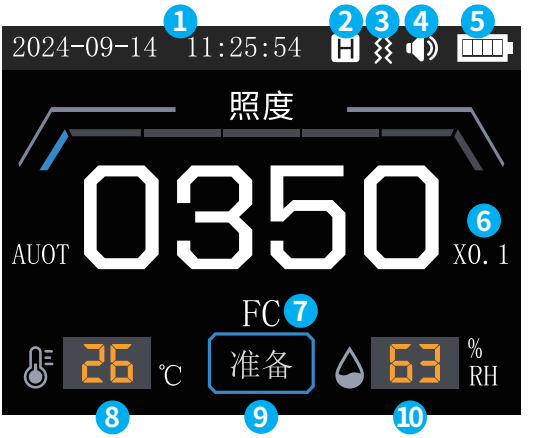
二、产品概览

2.1 产品简介

FPM-02是一款性能稳定、安全可靠的彩屏照度计，可以测量照度、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 测量界面示意图



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 **照度值：**此区域显示设备测量的照度值。

⑦ **照度单位。**

⑧ **温度值：**此区域实时显示设备测量的温度值。

⑨ **照度等级：**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。

⑩ **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
▲	长按	开启/关闭自动调整倍率
▼	短按	关闭自动调整倍率后，可手动调整倍率

2.4 通用设置页面示意图

报警设置：ON/OFF 左右键选择是否开启指示灯、振动器、蜂鸣器，这里的蜂鸣器仅对报警声开关。

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。

单位切换：上下键调节单位，无需再按OK键。

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

警报记录：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

<table>
<tr><th>参数</th><th colspan="3">规格</th></tr>
<tr><td>产品型号</td><td colspan="3">FPM-02</td></tr>
<tr><td>屏幕</td><td colspan="3">2.0寸彩屏</td></tr>
<tr><td rowspan="7">照度</td><td rowspan="2">量程</td><td colspan="2">1000、9999、99990LUX(勒克司)</td></tr>
<tr><td colspan="2">100、1000、10000 FC（尺烛光）</td></tr>
<tr><td rowspan="2">精度</td><td colspan="2">±（3%+5Lux）
（在2854°K时依照普通白炽灯校准）</td></tr>
<tr><td colspan="2">±(6%+5Lux)其它可见光光源</td></tr>
<tr><td rowspan="3">余弦角度
偏离特征</td><td>30°</td><td>±2%</td></tr>
<tr><td>60°</td><td>±6%</td></tr>
<tr><td>80°</td><td>±25%</td></tr>
<tr><td>分辨率</td><td colspan="3">LUX:<1000:0.1LUX;FC:10:0.1FC:1000</td></tr>
<tr><td>传感器</td><td colspan="3">硅光电池和滤光片</td></tr>
<tr><td rowspan="2">使用环境</td><td colspan="3">-10~50°C，最大80%的相对湿度，室内</td></tr>
<tr><td colspan="3">海拔<2000m</td></tr>
<tr><td>存储环境</td><td colspan="3">-10~50°C，最大70%的相对湿度（取出电池）</td></tr>
<tr><td>产品尺寸</td><td colspan="3">≈63x28x182mm</td></tr>
<tr><td>裸机重量</td><td colspan="3">≈205g</td></tr>
</table>

四、操作指南

4.1 开机

长按电源开关键 ⏻ 开机，等待系统加载，进入彩屏照度计主界面。

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 调整照度阈值与照度单位

照度阈值调节：

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。

照度单位调节：

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**选择单位切换，后单击**OK确认键**进入单位切换，**上下键**选择照度单位，无需单击**确认键**保存可直接单击**返回键**即可。

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

- 开启彩屏照度计，将设备点放置待测区域内，对准光源测量效果好。
- 查看屏幕主界面实时的照度，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：

- 定期清理常感器和按钮周围的灰尘，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：对于内置电池的设备，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：彩屏照度计

品牌/型号：FNIRSI/FPM-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

服务热线：0755-28020752

服务邮箱： support@fnirsi.com

商务邮箱： business@fnirsi.com

官方网站：www.fnirsi.cn

执行标准：GB/T 39388-2020

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1年。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、条件使用时，因原物料及产品加工之瑕疵而导致故障，可依据本保修条款的内容在购买此产品的商铺、网店或经销商处获得无偿维修服务，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；

User Notice

①Please read this manual and the operating instructions thoroughly, and ensure compliance with the provisions outlined in the document.

②Please keep this user manual in a safe place.

③Disposed instruments should not be treated as regular household waste. Please follow the relevant national or local laws and regulations for disposal.

④If the instrument experiences any quality issues or if you have any questions regarding its use, please contact "FNIRSI" online customer service or the manufacturer. We will resolve your issue promptly.

⑤Thank you for purchasing this product. To ensure convenient use, please follow the instructions in the manual during operation.

1.SECURITY REQUIREMENT

1.1 Environmental requirement

⃠ Precautions

①Avoid high temperatures, open flames, corrosive gases, and humid or dusty environments to prevent device failure.

②Ensure that the vents are not blocked to prevent the device from overheating.

⚠ Keep away from the following items

①Heaters: Avoid overheating or fire risks.

②Water sources, chemical solvents: Leakage may damage the device or cause a fire.

③Strong magnetic equipment: Prevent magnetic fields from interfering with the normal operation of the device.

④Air Conditioning and Ventilation Equipment: Prevent condensation from causing short circuits.

♻ Disposal of Waste

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

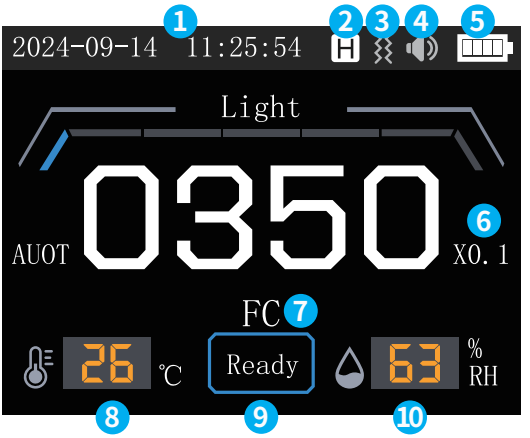
2.PRODUCT OVERVIEW

2.1 Product Introduction

FPM-02 is a color screen illuminance meter with stable performance, safety and reliability, which can measure illuminance, ambient 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**Illuminance value:** This area displays the illuminance value measured by the device.

⑦**Illuminance unit.**

⑧**Temperature value:** This area displays the temperature value measured by the device in real time.

⑨**Illuminance level:** When there is no value, it displays preparation. If it is lower than the threshold, it displays normal. If it is higher than the threshold, it displays high or low report.

⑩**Humidity value:** This area displays the humidity 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
▲	Long press	Turn on/off auto magnification adjustment
▼	Short press	After closing auto mode, adjust magnification by hand

2.4 General Settings diagram

Alarm settings: Press the left or right key to select whether to turn on the indicator light, vibrator, or buzzer. The buzzer here only turns on/off the alarm sound.

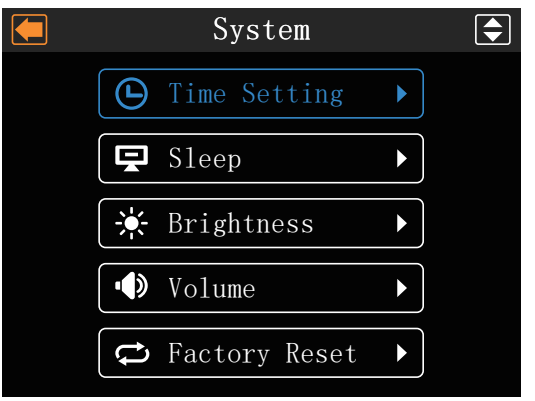
Threshold settings: Press the up or down key to select the high or low alarm option, then press OK to enter the four-level navigation, enter the detailed numerical adjustment of each digit, click or long press the up or down key to adjust the threshold, and the alarm will respond and record according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

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

Unit switch: Press the up or down key to adjust the unit, no need to press the OK key.

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

2.5 System settings diagram



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 setting: Click the progress bar or long press the left or right key to adjust the brightness.

Volume setting:

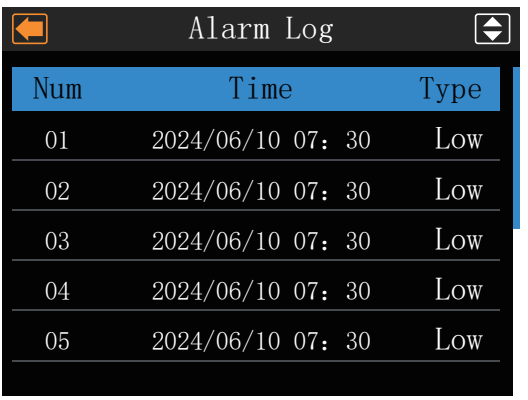
① Progress bar, left or right key to adjust the volume

② ON/OFF

The left or right key selects whether to turn on the volume. The volume here is for the global sound switch and is not valid for the alarm sound.

Factory reset: Use the left or right key to select whether to restore the factory settings, press OK to confirm.

2.6 Alarm record 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.

3.TECHNICAL SPECIFICATION

3.1 Device Parameters

Parameter	Specification		
Item No.	FPM-02		
Screen	2.0inch color screen		
Illuminance	Range	1000,9999,99990(LUX)	
		100, 1000, 10000 FC (Foot-candles)	
	Accuracy	±(3% + 5 Lux) (Calibrated according to a standard incandescent light bulb at 2854°K)	
		±(6% + 5 Lux) for other visible light sources	
	Cosine Angle Deviation Characteristics	30°	±2%
		60°	±6%
		80°	±25%
Resolution	LUX:<1000:0.1LUX;FC:10:0.1FC:1000		
Sensor	Silicon Photodetector and Optical Filter		
Usage environment	Operating Temperature: -10~50°C, maximum 80% relative humidity, indoor use		
	Altitude: <2000m		
Storage environment	-10~50°C, maximum 70% relative humidity (battery removed)		
Product size	≈63x28x182mm		
Bare weight	≈205gt		

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 color screen lux 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 Illum. threshold and unit

Illuminance 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.

Illuminance unit adjustment:

Press and hold the right button (settings) ▶/⚙ on the main interface to enter the system menu, click the selection button and move to general settings, click OK to enter general settings, click the selection button and move to unit switching, and then click OK to enter unit switching, use the up or down key to select illumination units, and you can directly click the return key without clicking the confirmation key to save.

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 Date and Time , 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 brightness settings , 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 illuminance meter, place the device point in the area to be measured, and aim at the light source for good measurement effect.
- View the real-time illuminance, temperature, humidity, etc. on the main screen interface.
- Short press the power switch to achieve the HOLDS 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

6.1 Unable to boot

Possible causes:

- Battery exhausted.
- Loose or damaged battery connection

Solution:

- Check battery charge and charge if low
- 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:

●Check and adjust the backlight brightness settings according to the manual.
●Try restarting the device to ensure the system returns to normal.
●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 usage 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 or alkalis, to avoid damaging the casing or screen.

Note:

●Clean the dust around the sensors and buttons regularly to keep the device in good condition
●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 device 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 when 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.

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Tel: 0755-28020752

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http://www.fnirsi.com/

9.Warranty Information

※**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	FPM-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	FPM-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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