

FNIRSI™

FPM-02

V1.3



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

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User Notice

- ① Please read this manual and the operating instructions thoroughly, and ensure compliance with the provisions outlined in the document.
- ② Please keep this user manual in a safe place.
- ③ Disposed instruments should not be treated as regular household waste. Please follow the relevant national or local laws and regulations for disposal.
- ④ If 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.
- ⑤ Thank 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

- 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.
- ④ Air 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

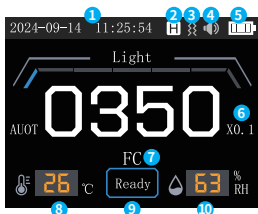
2.1 Product Introduction

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

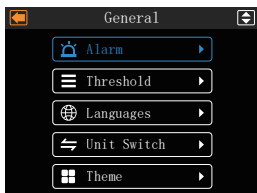
Alarm settings: Press the left or right key to select whether to turn on the indicator light, vibrator, or buzzer. The buzzer here only turns on/off the alarm sound.

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.

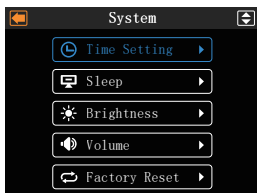


2.5 System settings diagram

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 Log		
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

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	$\pm (3\% + 5 \text{ Lux})$ (Calibrated according to a standard incandescent light bulb at 2854°K)	
		$\pm (6\% + 5 \text{ Lux})$ for other visible light sources	
	Cosine Angle Deviation Characteristics	30°	$\pm 2\%$
		60°	$\pm 6\%$
		80°	$\pm 25\%$
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	$\approx 63 \times 28 \times 182 \text{ mm}$		
Bare weight	$\approx 205 \text{ g}$		

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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<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.