FNIRSI GC-01

FNIRSI GC-01 Nuclear Radiation Detector User Manual

Model: GC-01

1. Introduction

The FNIRSI GC-01 is a portable nuclear radiation detector designed for monitoring Beta, Gamma, and X-ray radiation. This device features a built-in GM sensor for accurate detection and offers multiple dosage units, smart alarm functions, and a clear LCD display. This manual provides essential information for the safe and effective operation of your GC-01 detector.

2. Product Overview

The FNIRSI GC-01 is equipped with a high-sensitivity Geiger-Müller (GM) tube, capable of detecting various types of ionizing radiation. Its compact design and rechargeable battery make it suitable for a wide range of applications, from personal safety monitoring to environmental surveys.

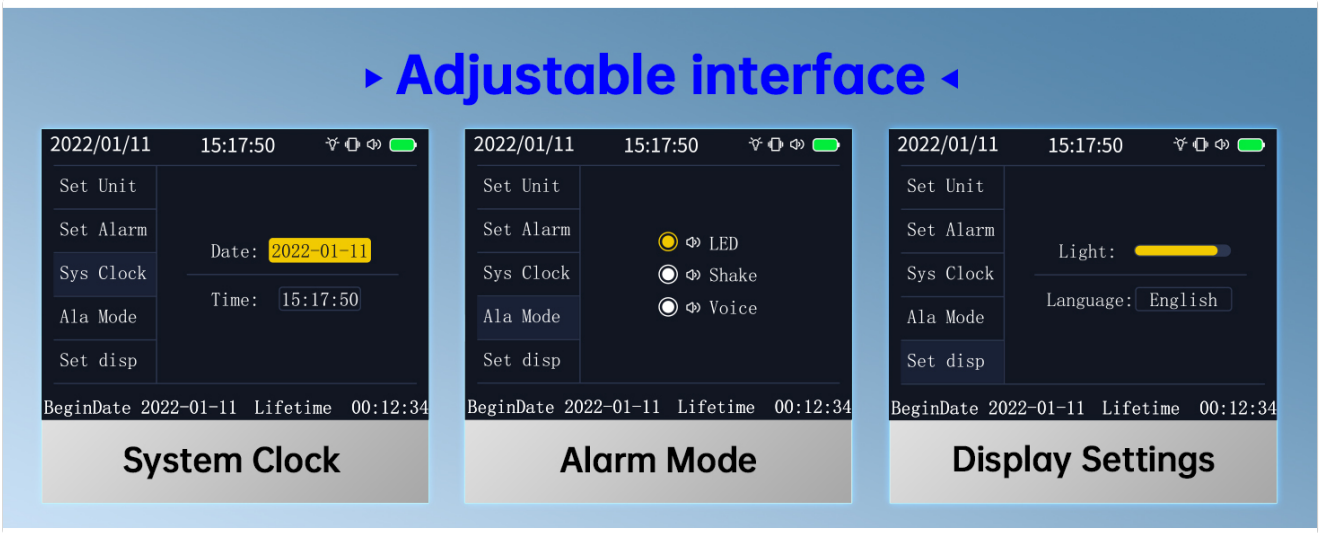

Image: The FNIRSI GC-01 Nuclear Radiation Detector, highlighting its key features.

Key Features:

- **Radiation Detection:** Detects Gamma, Beta, and X-rays.
- **Measurement Range:** Cumulative dose equivalent from 0.00 µSv to 500.0 mSv.
- **Energy Range:** 48 KeV - 1.5 MeV ≤ ±30% (for 137 Csγ).
- **Smart Alarm System:** Features light, vibration, and sound alerts. Customizable alarm thresholds for current and cumulative dose.
- **Display:** LCD screen for real-time monitoring and waveform display.
- **Multiple Units:** Supports µSv/h, µGy/h, mR/h, CPS, and CPM.
- **Rechargeable Battery:** Built-in 1100mAh Lithium Polymer battery with Type-C charging port.
- **Language Options:** English and Chinese.

3. Package Contents

Upon unpacking, please verify that all items listed below are present and in good condition:

Image: The FNIRSI GC-01 device, user manual, and charging cable.

- FNIRSI GC-01 Nuclear Radiation Detector
- User Manual
- USB Type-C Charging Cable
- Packaging Box

4. Setup and Initial Use

4.1 Charging the Device

Before first use, fully charge the FNIRSI GC-01 using the provided USB Type-C cable and a standard USB power adapter (not included). The charging port is located on the side of the device.

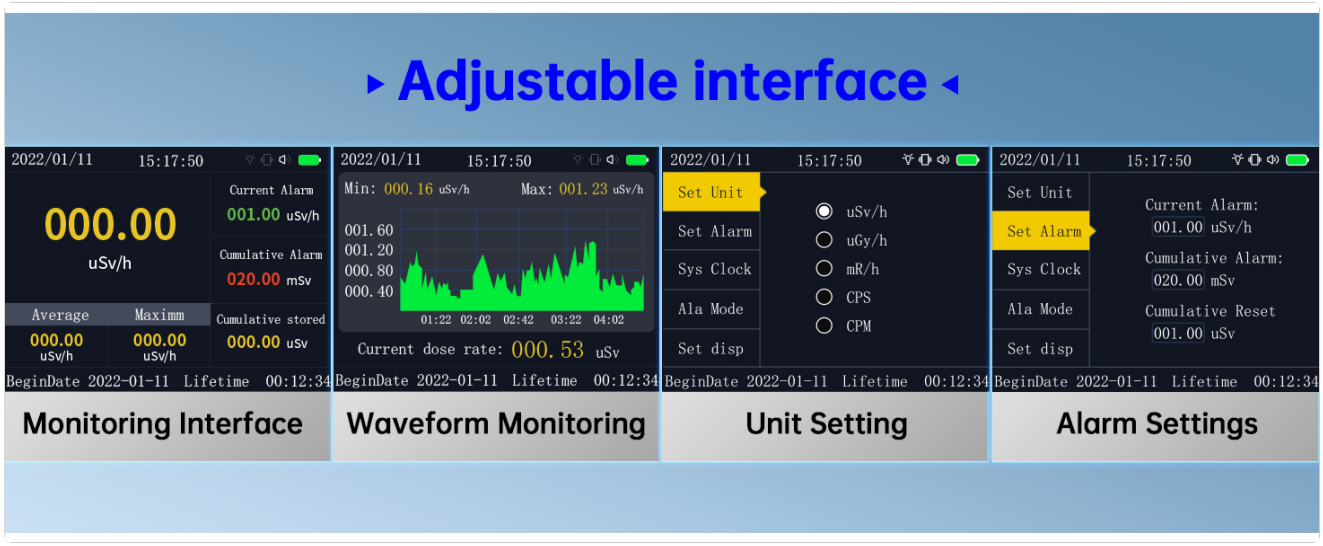

Image: Close-up of the FNIRSI GC-01 showing the Type-C charging port.

4.2 Powering On/Off

To power on the device, press and hold the power button (usually marked with a power symbol) until the screen illuminates. To power off, press and hold the power button again until the device shuts down.

5. Operating Instructions

The GC-01 features an intuitive interface for monitoring radiation levels. Use the navigation buttons (up, down, left, right, OK) to interact with the device.

Image: The main monitoring interface of the FNIRSI GC-01, displaying current, average, maximum, and cumulative radiation values.

5.1 Monitoring Interface

The main screen displays real-time radiation data, including:

- **Current Dose Rate:** Instantaneous radiation level (e.g., μSv/h).
- **Average Dose Rate:** Average radiation level over a period.
- **Maximum Dose Rate:** Highest radiation level detected.
- **Cumulative Dose:** Total accumulated radiation dose since the last reset.
- **Waveform Monitoring:** A graphical representation of radiation levels over time can be accessed from the main interface.

Image: Screenshots showing the Monitoring Interface, Waveform Monitoring, Unit Setting, and Alarm Settings menus.

5.2 Unit Settings

To change the measurement unit:

1. From the main screen, press the **Settings** button (gear icon).
2. Navigate to **Units** using the up/down buttons and press **OK**.
3. Select your desired unit (μSv/h, μGy/h, mR/h, CPS, CPM) and confirm with **OK**.

5.3 Alarm Settings

The device can be configured to alert you when radiation levels exceed predefined thresholds.

1. From the main screen, press the **Settings** button.
2. Navigate to **Alarms** and press **OK**.
3. You can set thresholds for **Current Alarm** and **Cumulative Alarm**. Adjust values using the navigation buttons.
4. In the **Ala Mode** menu, select your preferred alarm modes: **Light**, **Vibrate**, and/or **Sound**.

Image: The FNIRSI GC-01 displaying the three alarm modes: Sound, Glitter (Light), and Vibrate.

5.4 System Clock and Display Settings

You can adjust the system date and time, and customize display settings such as brightness or language.

1. Access the **Settings** menu.
2. Select **Sys Clock** to set the date and time.
3. Select **Set disp** to adjust display options, including language (English/Chinese).

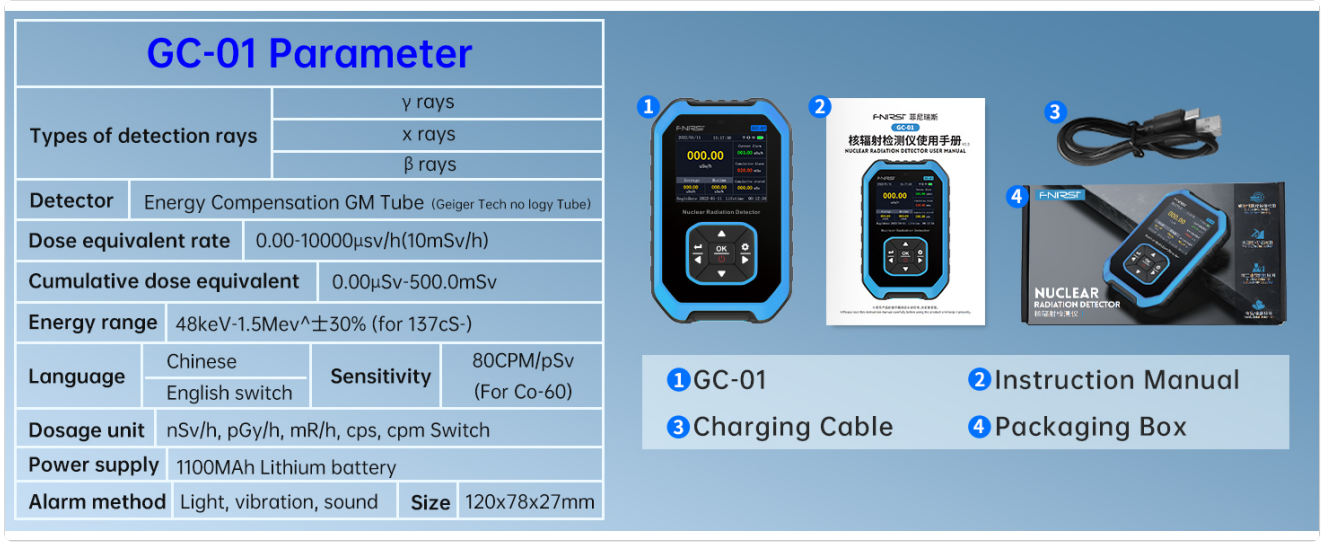

Image: Screenshots showing the System Clock, Alarm Mode, and Display Settings menus.

6. Maintenance

6.1 Cleaning

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents, as they may damage the casing or

screen.

6.2 Battery Care

To prolong battery life, avoid fully discharging the device frequently. Recharge the battery when the low battery indicator appears. If storing the device for an extended period, charge it to approximately 50% every few months.

6.3 Storage

Store the device in a cool, dry place away from direct sunlight and extreme temperatures. Keep it away from strong magnetic fields.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Low battery or device malfunction.	Charge the device for at least 30 minutes. If it still doesn't power on, contact support.
Inaccurate readings.	Interference from other electronic devices or incorrect unit settings.	Move away from potential sources of electromagnetic interference. Verify the correct measurement unit is selected in settings.
Alarm not sounding/vibrating.	Alarm thresholds not set or alarm mode disabled.	Check alarm settings and ensure desired alarm modes (sound, vibrate, light) are enabled.
Screen is blank or frozen.	Software glitch.	Press and hold the power button for 10-15 seconds to force a restart. If the issue persists, contact support.

8. Specifications

Image: Overview of the FNIRSI GC-01's display, alarm modes, charging, and portability.

Parameter	Value
Types of Detection Rays	γ rays, X rays, β rays
Detector	Energy Compensation GM Tube (Geiger Technology Tube)

Parameter	Value
Dose Equivalent Rate	0.00-10000μSv/h (10mSv/h)
Cumulative Dose Equivalent	0.00μSv-500.0mSv
Energy Range	48KeV-1.5MeV ±30% (for 137Cs-)
Language	Chinese, English switch
Sensitivity	80CPM/μSv (For Co-60)
Dosage Unit	nSv/h, pGy/h, mR/h, cps, cpm Switch
Power Supply	1100mAh Lithium battery
Alarm Method	Light, vibration, sound
Dimensions	120 x 78 x 27 mm
Item Weight	8.1 ounces (0.23 Kilograms)

9. Important Safety Information

Always operate the device according to the instructions provided in this manual. Do not attempt to modify or repair the device yourself. Keep the device away from water and extreme temperatures. This device is intended for general radiation monitoring and should not be used as a substitute for professional radiation safety equipment in critical environments without proper calibration and certification.

10. Product Video

Watch this official product video for a visual guide on the FNIRSI GC-01 Nuclear Radiation Detector.

Your browser does not support the video tag.

Video: An overview of the FNIRSI GC-01 Nuclear Radiation Detector, demonstrating its features and operation.

11. Warranty and Support

For warranty information and technical support, please refer to the contact details provided with your purchase or visit the official FNIRSI website. Keep your purchase receipt as proof of purchase.