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FNIRSI FNIRSI-GC-02

FNIRSI Geiger Counter Nuclear Radiation Detector User Manual

Model: FNIRSI-GC-02

Brand: FNIRSI

INTRODUCTION

The FNIRSI-GC-02 Geiger Counter is a portable nuclear radiation detector designed for precise measurement of Gamma (γ), X-ray, and Beta (β) radiation. Featuring an IPS display, rechargeable battery, and multiple dosage units, this device provides real-time monitoring and cumulative dose tracking for various environments. Its compact design and user-friendly interface make it an essential tool for personal safety, industrial applications, and environmental monitoring.



Image: Front view of the FNIRSI-GC-02 Geiger Counter, showing its IPS display and control buttons.

SETUP GUIDE

1. Unboxing and Initial Inspection

Carefully remove the Geiger Counter from its packaging. Inspect the device for any visible damage. Ensure all accessories, including the charging cable and hanging rope, are present.



Image: Contents of the FNIRSI-GC-02 package, including the device, hanging rope, charging cable, and instruction manual.

2. Charging the Device

The FNIRSI-GC-02 is equipped with a built-in 850mAh rechargeable lithium battery. For optimal performance, fully charge the device before first use.

- Connect the provided USB charging cable to the device's charging port.
- Connect the other end of the USB cable to a standard USB power adapter (not included) or a computer's USB port.
- The battery indicator on the IPS display will show charging status. A full charge typically takes up to 6 hours.
- Disconnect the charger once the battery is full to prolong battery life.

LITHIUM DIRECT CHARGING

Built in 850mah rechargeable lithium battery, last for up to 6 hours, cycle charging, environmentally friendly and durable.

850mah



Image: Close-up of the FNIRSI-GC-02 showing the USB-C charging port and the charging process.

OPERATING INSTRUCTIONS

1. Power On/Off

- To power on, press and hold the **OK/Power button** (center button with power symbol) until the display illuminates.
- To power off, press and hold the **OK/Power button** until the display turns off.

2. Understanding the Display

The IPS display provides real-time radiation readings and various operational parameters.

GC-02

NUCLEAR RADIATION DETECTOR



X-ray



γ-ray



Sleep function



850mah Battery



Timed monitoring



Audible and visual alarm



GEIGER
COUNTER METER



Image: The FNIRSI-GC-02 display showing real-time cumulative value, current alarm value, and cumulative alarm value, along with icons for X-ray and Y-ray detection.

- **Real-time Cumulative Value:** Displays the current radiation dose rate (e.g., uSv/h).
- **Current Alarm Value:** Shows the set threshold for immediate radiation alerts.
- **Cumulative Alarm Value:** Shows the set threshold for total accumulated radiation alerts.
- **Battery Indicator:** Displays the current battery level.
- **Time:** Shows the elapsed monitoring time.

3. Navigating Menus and Settings

Use the navigation buttons (**Up**, **Down**, **Left**, **Right**, **OK**, **Settings**) to adjust device parameters.

- Press the **Settings button** (gear icon) to enter the settings menu.
- Use the **Up** and **Down** buttons to navigate through menu options.
- Press **OK** to select an option or confirm a setting.
- Press the **Left button** (back arrow) to return to the previous menu or the main screen.

4. Setting Alarm Thresholds

The device supports audible and visual alarms when radiation levels exceed preset limits.



Image: The FNIRSI-GC-02 displaying an alarm state with a flashing red light and audible alert icon, indicating radiation levels have exceeded the set limit.

1. Enter the **Settings** menu.
2. Navigate to **Alarm Settings**.
3. Adjust the **Current Alarm Value** (dose rate) and **Cumulative Alarm Value** (total dose) using the **Up** and **Down** buttons.
4. Confirm settings with the **OK** button.

5. Monitoring Modes

The device offers multiple monitoring interfaces for detailed analysis.

FREE SWITCHING OF MULTIPLE MONITORING INTERFACES



Image: The FNIRSI-GC-02 displaying various monitoring interfaces, including a real-time graph of radiation levels over time, and different data views.

- From the main screen, use the **Left/Right buttons** to switch between different display modes, such as real-time numerical display, historical graph, and cumulative data views.

6. Auto Sleep Function

To conserve battery, the device features an auto-sleep function.

AUTO SLEEP FOR POWER SAVE

Sleep time can be set according to needs
Entering sleep without operation within
the set time, battery lasted longer.



AUTO SLEEP



Image: The FNIRSI-GC-02 settings menu showing the auto-sleep option, with adjustable sleep times from 5 to 60 minutes.

- In the **Settings** menu, navigate to **Sleep Settings**.
- Enable or disable the sleep function and set the desired inactivity time before the device enters sleep mode.

MAINTENANCE

1. Cleaning

To maintain the device's performance and appearance:

- Wipe the exterior with a soft, dry cloth.
- Do not use abrasive cleaners, solvents, or strong chemicals, as these may damage the casing or display.
- Ensure no liquids enter the device's ports or openings.

2. Battery Care

The built-in lithium polymer battery requires proper care for longevity:

- Recharge the device when the battery indicator shows low power.
- Avoid completely draining the battery frequently.
- If storing the device for an extended period, charge it to approximately 50% and recharge every few months to prevent deep discharge.
- Use only the provided charging cable or a compatible high-quality USB cable.

3. Storage

Store the Geiger Counter in a cool, dry place, away from direct sunlight, extreme temperatures, and high humidity. Keep it away from strong magnetic fields and corrosive substances.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Battery is depleted.	Charge the device for at least 30 minutes.
Device does not power on.	Power button not held long enough.	Press and hold the OK/Power button for 3-5 seconds.
Inaccurate readings.	Interference from other electronic devices.	Move away from strong electromagnetic fields.
Inaccurate readings.	Device not calibrated (unlikely for user).	Contact customer support if issues persist after basic troubleshooting.
Alarm not sounding.	Alarm volume is off or too low.	Check alarm settings in the menu and adjust volume.
Alarm not sounding.	Radiation level below alarm threshold.	Verify the alarm threshold settings.
Screen frozen or unresponsive.	Temporary software glitch.	Perform a soft reset by holding the power button until the device restarts, or let the battery drain and recharge.

SPECIFICATIONS

Size	106.5x44.5x25mm
Detection Radiation Type	Ionizing radiation (γ -rays, X-rays, etc.)
Detector	Energy compensation GM tube (Geiger counter tube)
Dose Current Rate	0.00-10000 μ Sv/h(10mSv/h)
Cumulative Dose Equivalent	0.00 μ Sv-500.0mSv
Energy Range	48keV-15Mev $\leq \pm 30\%$ (for137Cs-)
Language	Chinese, English, Russian, German, Japanese, Portuguese, Spanish, Korean
Sensitivity	80CPM/ μ Sv(for Co-60)
Dosage Unit	μ Sv/h, μ Gy/h, mR/h, CPS, CPM
Battery Capacity	850mAh
Alarm Method	Light, Sound

GC-02 Hanging rope Charging cable Instructions Packaging box

Image: Detailed diagram showing the dimensions of the FNIRSI-GC-02 and a table of its technical specifications.

Feature	Detail
Model Number	FNIRSI-GC-02
Product Dimensions	106.5 x 44.5 x 25 mm (4.1 x 1.8 x 1 inches)
Weight	4.66 ounces
Detection Radiation Type	Ionizing radiation (γ -rays, X-rays, β -rays)
Detector	Energy compensation GM tube (Geiger counter tube)
Dose Current Rate	0.00-100000 μ Sv/h (10 mSv/h)
Cumulative Dose Equivalent	0.00 μ Sv-500.0 mSv
Energy Range	48 KeV-1.5 Me V $\leq \pm 30\%$ (for 137Cs)
Sensitivity	80 CPM/ μ Sv (for Co-60)
Dosage Units	μ Sv/h, μ Gy/h, mR/h, CPS, CPM
Battery Type	1 Lithium Polymer battery (included)
Battery Capacity	850 mAh
Alarm Method	Light, Sound
Supported Languages	Chinese, English, Russian, German, Japanese, Portuguese, Spanish, Korean

Usage Scenarios

DAILY HOUSEHOLD AVAILABILITY WIDE RANGE OF USAGE SCENARIOS

1. DAILY LIVING ENVIRONMENT:

In the daily environment, suspected sources of radiation, imported products, jewelry worn, decoration materials, etc





Seafood imported snacks marble

3. INDUSTRIAL ENVIRONMENT:

nuclear waste sites, radiation source transportation protection, mining plants, steel recycling, metal processing, etc.





Nuclear power plants metallurgy Industrial radiation

2. MEDICAL ENVIRONMENT:

radiology, CT, CR, DR, blood irradiation equipment, radioactive nuclides, drug iodine, etc.





CT Radiology Iodine Drugs

4. PERSONAL PROTECTION:

Occupational health, supervision, customs, medical staff, pregnant women, and other personnel's health.





Personal exploration occupational health regulatory personnel

Image: Visual representation of various environments where the FNIRSI-GC-02 can be used, including daily living, industrial, medical, and personal

protection scenarios.

- **Daily Living Environment:** Detection of radiation from suspected sources like imported products, jewelry, and building materials.
- **Industrial Environment:** Monitoring in nuclear waste sites, radiation source transportation, mining plants, steel recycling, and metallurgy.
- **Medical Environment:** Use in radiology, CT, CR, DR, blood irradiation equipment, and with radioactive nuclides or iodine drugs.
- **Personal Protection:** Occupational health, customs, medical staff, pregnant women, and general personal safety.

WARRANTY AND SUPPORT

FNIRSI products are manufactured to high quality standards. For specific warranty information, please refer to the warranty card included with your product or visit the official FNIRSI website. If you encounter any issues or require technical assistance, please contact FNIRSI customer support through their official channels.

For the latest support information and FAQs, please visit the [FNIRSI Store on Amazon](#).