AOPUTTRIVER AP-886A

AOPUTTRIVER AP-886A Nuclear Radiation Detector User Manual

Model: AP-886A

1. Introduction

The AOPUTTRIVER AP-886A Nuclear Radiation Detector is a sophisticated device designed for detecting Gamma, Beta, and X-rays. Equipped with an upgraded GM sensor and a clear 2.5-inch high-definition LCD display, it provides real-time irradiance readings, maximum and average readings, and current temperature and humidity levels. This manual provides detailed instructions for the proper setup, operation, and maintenance of your radiation detector.

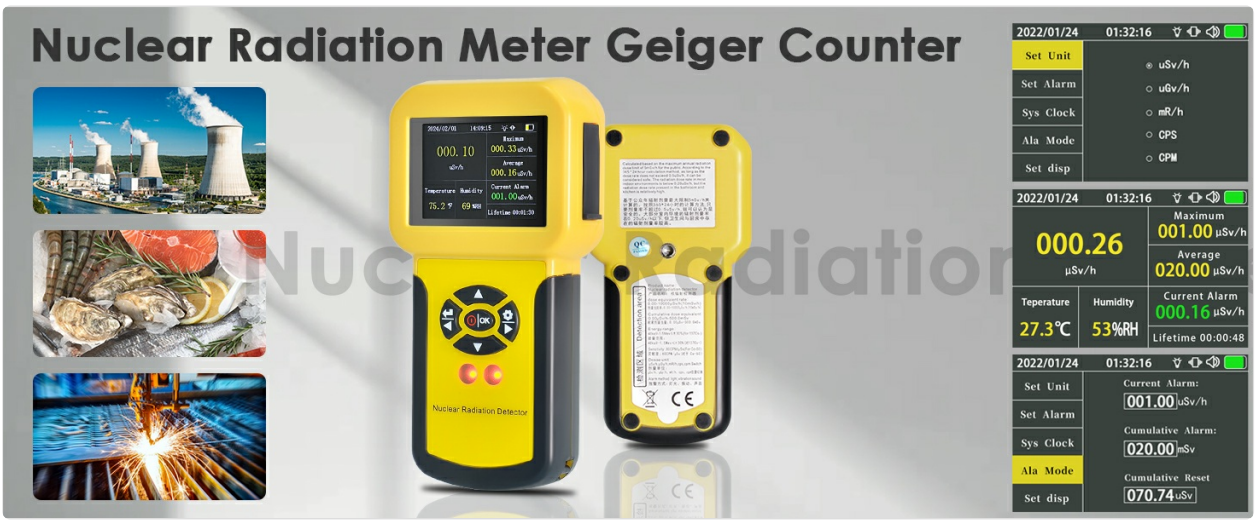

Figure 1.1: Overview of the AOPUTTRIVER AP-886A Nuclear Radiation Detector and its applications.

2. Package Contents

Upon unboxing your AOPUTTRIVER AP-886A Nuclear Radiation Detector, please verify that all the following items are included:

- 1 x AP-886A Nuclear Radiation Detector

- 1 x USB Type-C Charging Cable
- 1 x User Manual (this document)

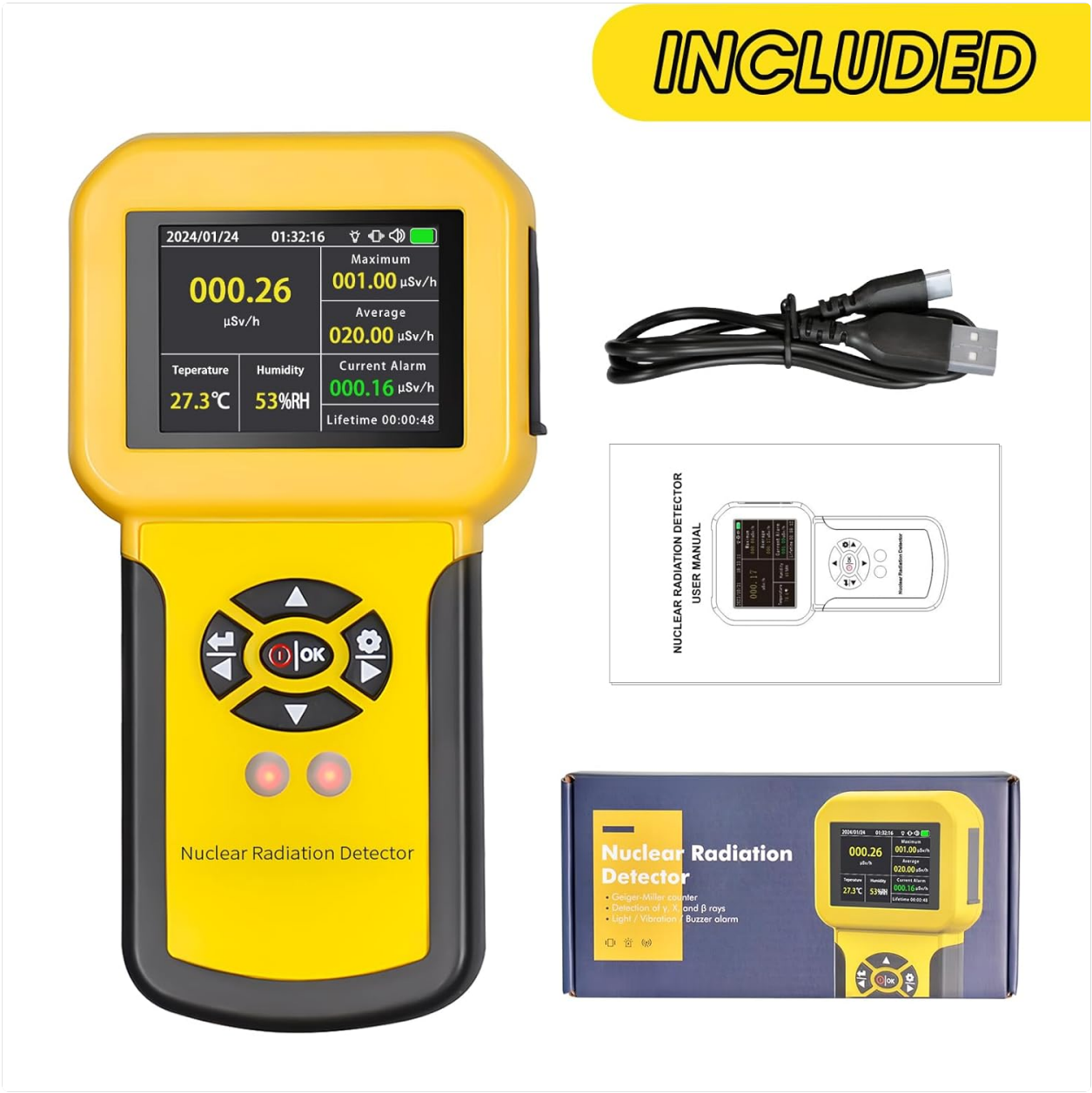

Figure 2.1: The AP-886A detector, USB-C charging cable, and user manual as included in the product packaging.

3. Key Features

The AP-886A detector offers a range of features for comprehensive radiation monitoring:

- **Radiation Detection:** Upgraded GM sensor for detecting Gamma, Beta, and X-rays.
- **Cumulative Dose Equivalent:** Measures from 0.00uSv to 500.0mSv.
- **Energy Range:** 48KeV-1.5MeV ≤ ±30% (for 137Csγ).
- **Large LCD Display:** Backlit 2.5-inch high-definition display showing real-time irradiance, maximum, average readings, temperature, and humidity.
- **Intelligent Alarm System:** Customizable current and cumulative dose alarm values with sound, vibration, and blinking light alerts. Cumulative dose equivalent value can be cleared.
- **Multiple Dosage Units:** Choose from µSv/h, µGy/h, mR/h, cps, and cpm.
- **Trend Graph Option:** Visual representation of radiation levels over time for easier monitoring.
- **Rechargeable Battery:** Powered by an 1100mAh rechargeable lithium battery with USB Type-C

charging.

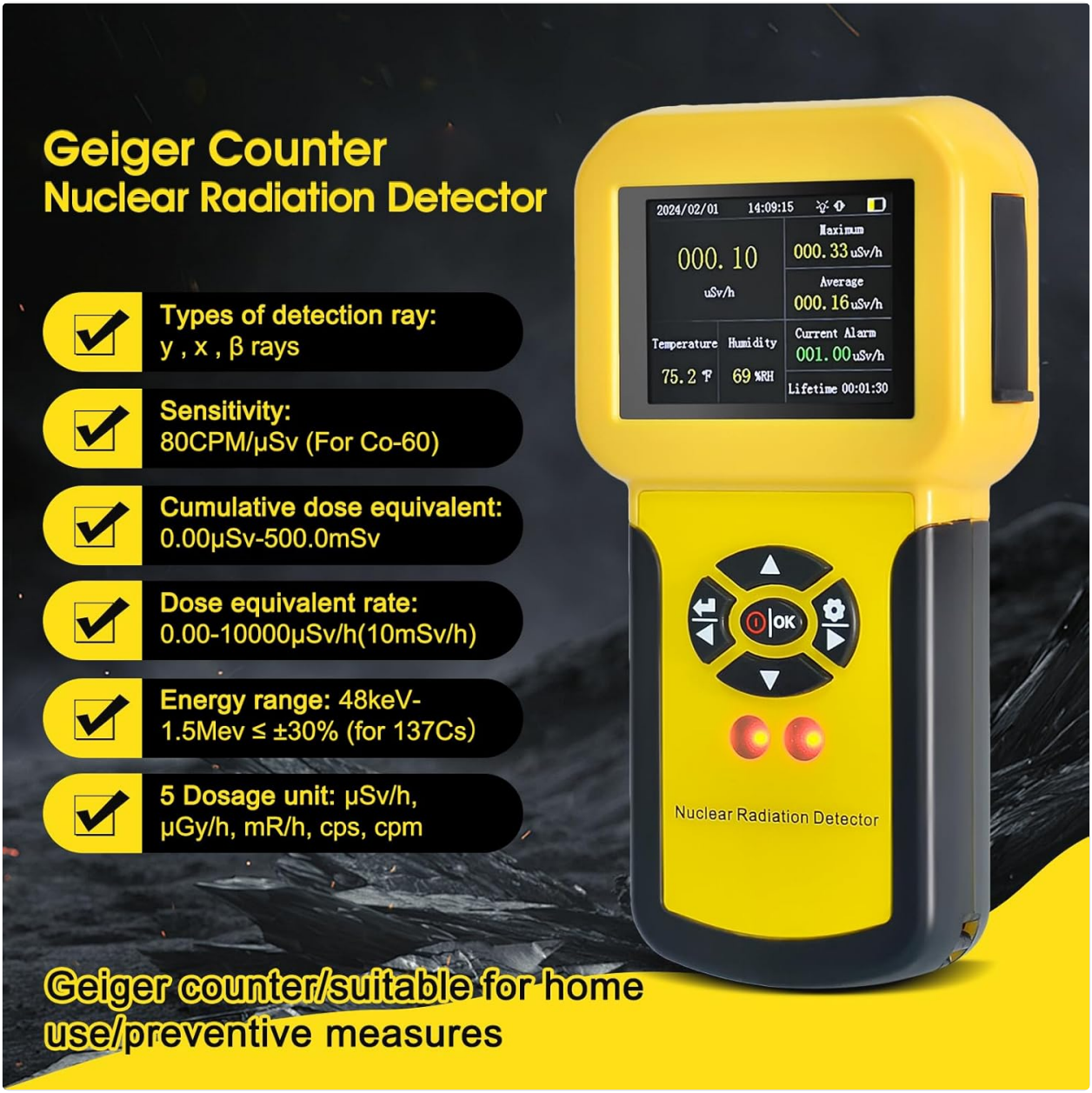

Figure 3.1: Visual representation of the detector's key specifications and capabilities.

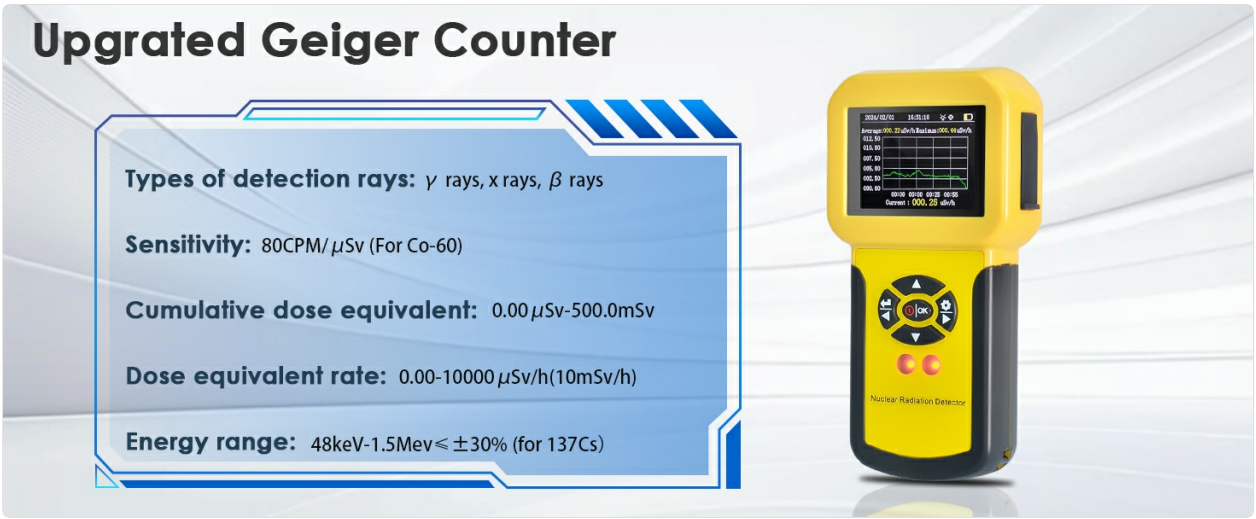

Figure 3.2: Detailed view of the upgraded Geiger Counter's detection types, sensitivity, and energy range.

4. Setup

Before first use, ensure the device is fully charged. The AP-886A features an internal rechargeable battery.

4.1 Charging the Device

1. Locate the USB Type-C port on the right side of the detector.
2. Connect the provided USB Type-C charging cable to the detector.
3. Plug the other end of the USB cable into a compatible USB power adapter (not included) or a computer's USB port.
4. An LED light will indicate that the device is charging.

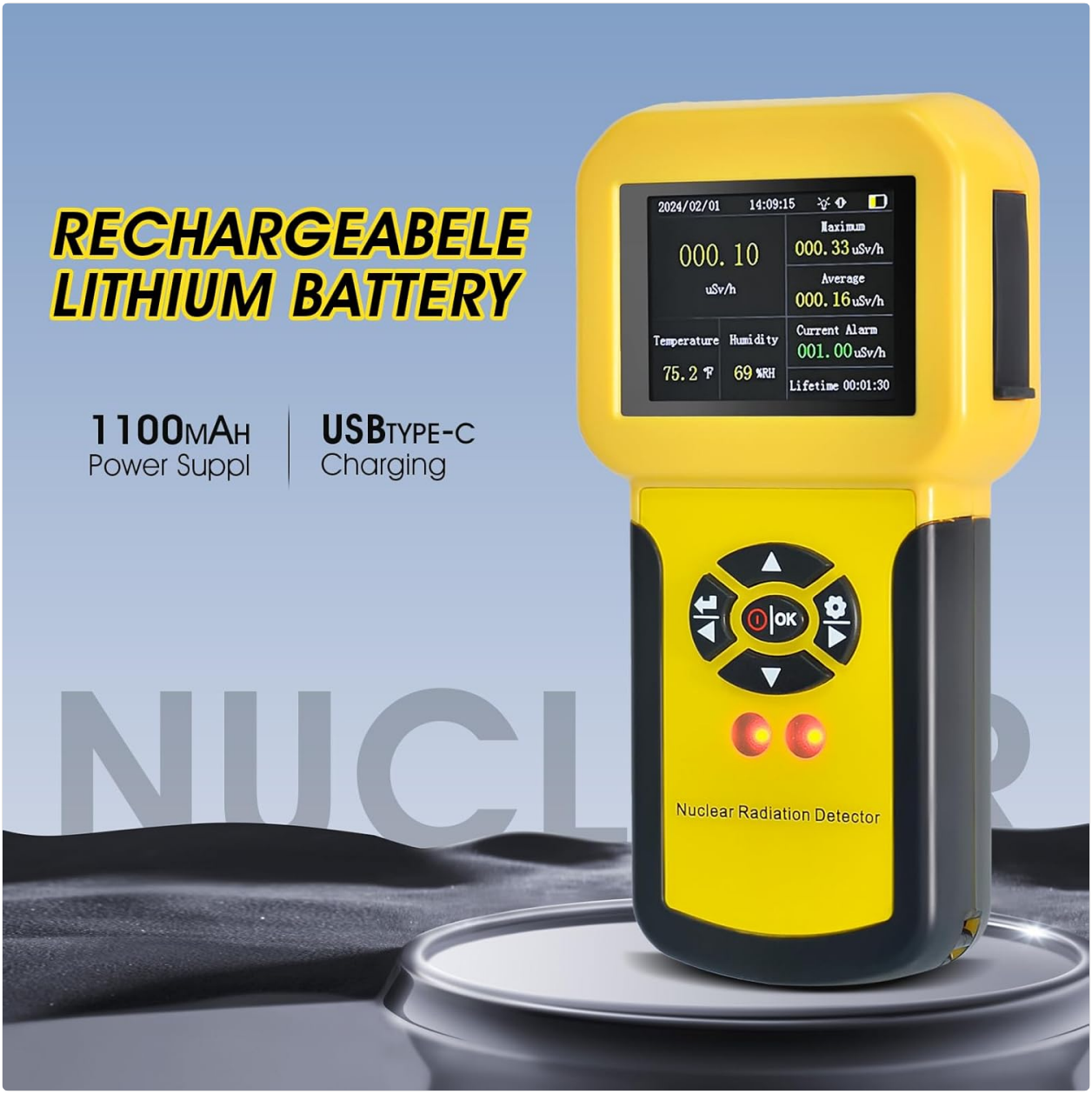

Figure 4.1: The AP-886A connected to its USB Type-C charging cable, highlighting its 1100mAh rechargeable lithium battery.

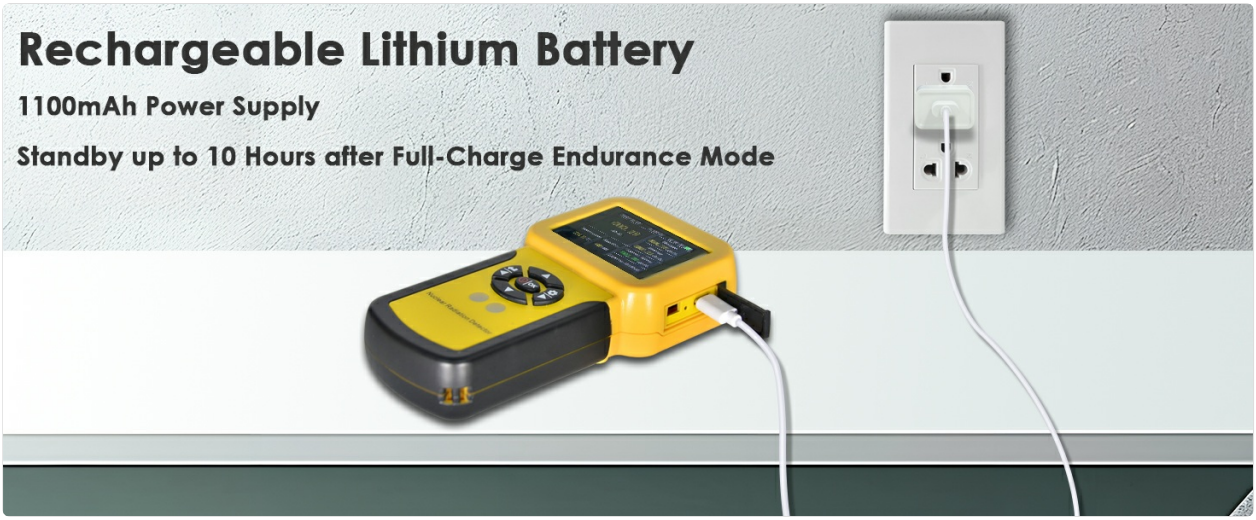

Figure 4.2: The detector being charged via a wall adapter, demonstrating its rechargeable capability and up to 10 hours of standby time.

4.2 Powering On/Off

To power on the device, press and hold the central "OK" button. The device will boot up and display the main monitoring interface. To power off, press and hold the same button until the display turns off.

Your browser does not support the video tag.

Video 4.1: This video demonstrates the unboxing, charging, and initial power-on sequence of the AOPUTTRIVER AP-886A Nuclear Radiation Detector, along with an overview of its display and settings.

5. Operating Instructions

The AP-886A features an intuitive interface for monitoring and adjusting settings.

5.1 Main Display Overview

The 2.5-inch LCD display provides comprehensive information at a glance:

- **Top Bar:** Current date, time, alarm indicators (flashing lights, vibration, audible alarm), and battery indicator.
- **Left Panel:** Current radiation level (e.g., in mR/h).
- **Right Panel:** Maximum and average radiation limits (e.g., in µSv/h), current alarm level, and lifetime measurement time.
- **Bottom Panel:** Temperature (Fahrenheit or Celsius) and humidity readings.

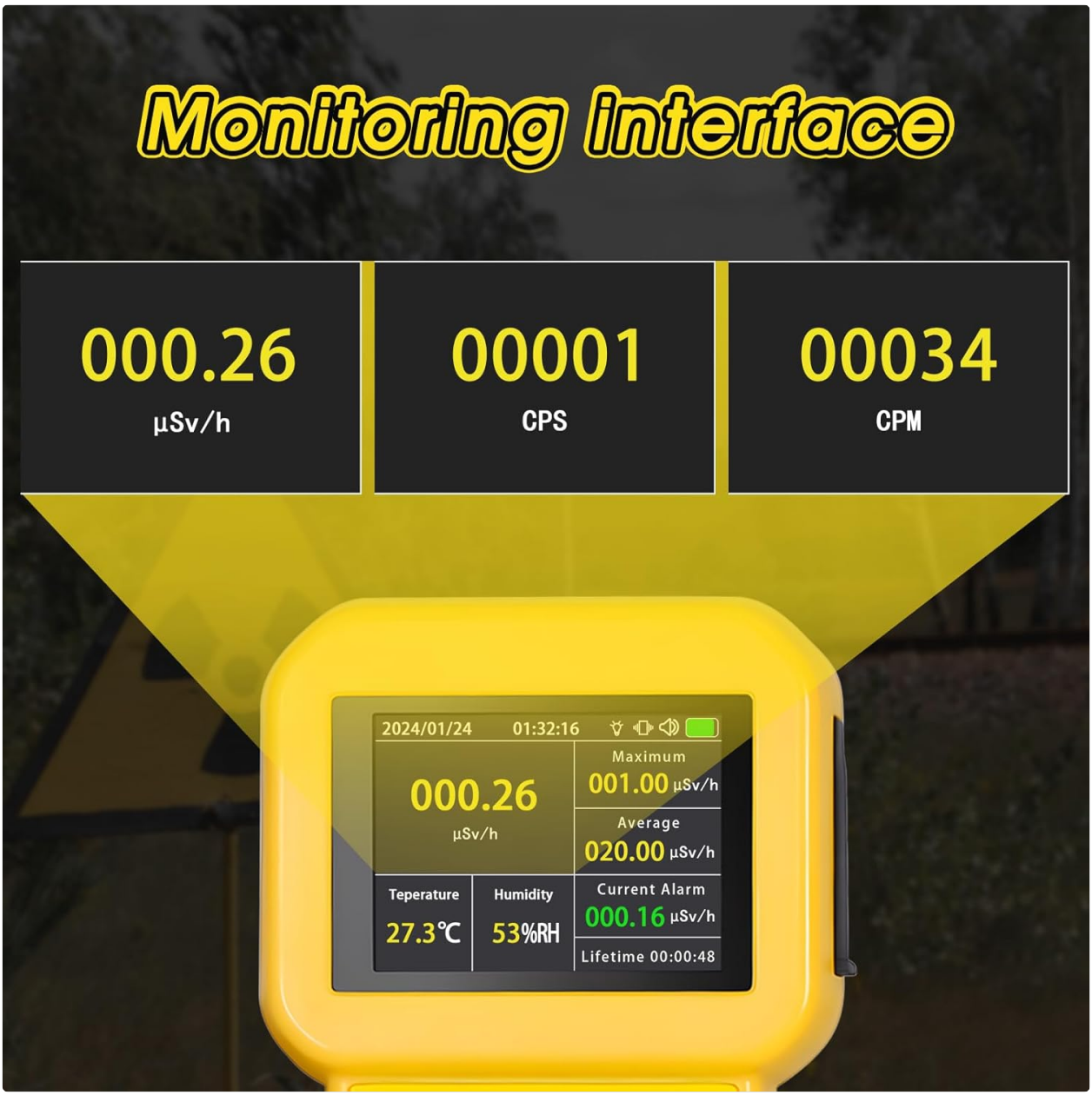

Figure 5.1: The main monitoring interface displaying current, maximum, and average radiation levels, along with temperature and humidity.

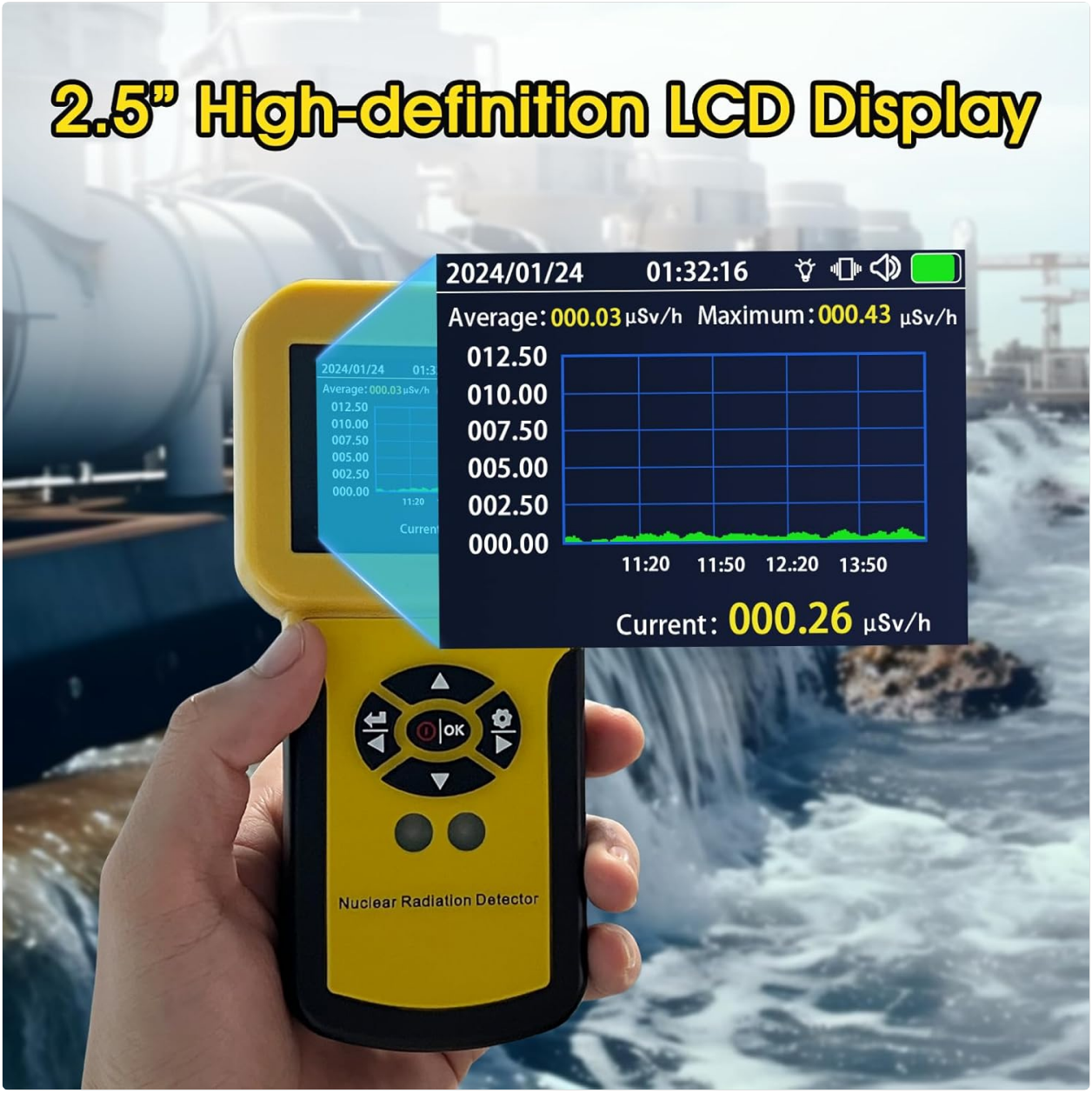

Figure 5.2: The 2.5-inch high-definition LCD display showing a trend graph of radiation levels over time.

5.2 Navigation and Settings

Use the directional buttons around the "OK" button to navigate the menu and adjust settings.

1. **Accessing Settings:** Press the "OK" button to enter the main settings menu.
2. **Set Unit:** Change measurement units for radiation (µSv/h, µGy/h, mR/h, CPS, CPM).
3. **Set Alarm:** Configure current and cumulative alarm thresholds. The device will alert you via sound, vibration, and blinking lights if these thresholds are exceeded.
4. **Sys Clock:** Adjust the system date and time.
5. **Ala Mode:** Enable or disable specific alarm modes (LED light, Shake/Vibration, Voice/Audible).
6. **Set Disp:** Adjust display brightness and change the display language (e.g., to English).

Figure 5.3: The interface for setting current and cumulative alarm values, providing visual cues for radiation levels.

Conversion off radioactive units

International Standards(1990)	
Radioactive staff:	20mSv/ year (I Oμ Sv/ hour)
General public:	I mSv/ year (0.52μSv/ hour)

International Standards(1990)	
1μSv/h=100μR/h 1nc/kg.h=4μR/h 1μR=1γ(The unit used for prospecting in the pronuclear industry)	
Radioact ivity:	1Ci=1000mCi 1mCi=1000μci 1Ci=3.7×10¹⁰Bq=37GBq 1mCi=3.7×10⁷Bq=37MBq 1μCi=3.7×10⁴Bq=37KBq 1Bq=2.703×10-11Ci=27.03pci
Exposure:	1R=10³mR=10⁶μR 1R=10³mR=10⁶μR
Absorption metering:	1Gy=10³mGy=10⁶μGy 1Gy=100rad 100μrad=1μGy
Metering equivalent:	1Sv=10³mSv=10⁶μSv 1Sv=100rem 100μrem=1μSv
Radon unit:	1Bq/L=0.27em=0.27×10-10Ci/L
Other: 1Sv is equivalent to 1Gy1gradium=0.97Ci≈1Ci	

Figure 5.4: A table illustrating the conversion of various radioactive units according to International Standards (1990).

6. Maintenance

To ensure the longevity and accuracy of your AP-886A Nuclear Radiation Detector, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents, as they may damage the display or casing.
- **Storage:** Store the detector in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** Recharge the device regularly, especially if it will be stored for an extended period, to maintain battery health. Avoid fully depleting the battery frequently.
- **Handling:** Handle the device with care to prevent drops or impacts that could damage internal components.

7. Troubleshooting

If you encounter any issues with your AP-886A Nuclear Radiation Detector, consider the following common troubleshooting steps:

- **Device Not Turning On:** Ensure the battery is charged. Connect the device to the USB Type-C charger and allow it to charge for at least 30 minutes before attempting to power it on again.

- **Inaccurate Readings:** Ensure the device is in an open area away from potential sources of interference. Calibrations are factory set, but if persistent issues occur, contact support.
- **Alarm Not Functioning:** Check the "Ala Mode" settings in the menu to ensure LED, Shake, and Voice alarms are enabled. Verify alarm thresholds are set appropriately.
- **Display Issues:** If the display is dim, adjust the brightness in the "Set Disp" menu. If the display is unresponsive, try restarting the device.

For issues not resolved by these steps, please refer to the Warranty and Support section.

8. Specifications

Detailed technical specifications for the AOPUTTRIVER AP-886A Nuclear Radiation Detector:

Attribute	Value
Detection Rays	Gamma, Beta, X-rays
Cumulative Dose Equivalent	0.00uSv-500.0mSv
Energy Range	48KeV-1.5MeV ≤ ±30% (for 137Csγ)
Display	2.5-inch High-Definition LCD
Dosage Units	μSv/h, μGy/h, mR/h, cps, cpm
Battery	1100mAh Rechargeable Lithium Battery
Charging Port	USB Type-C
Package Dimensions	7.95 x 4.69 x 1.97 inches
Item Weight	9.59 ounces
Manufacturer	AOPUTTRIVER
Country of Origin	China

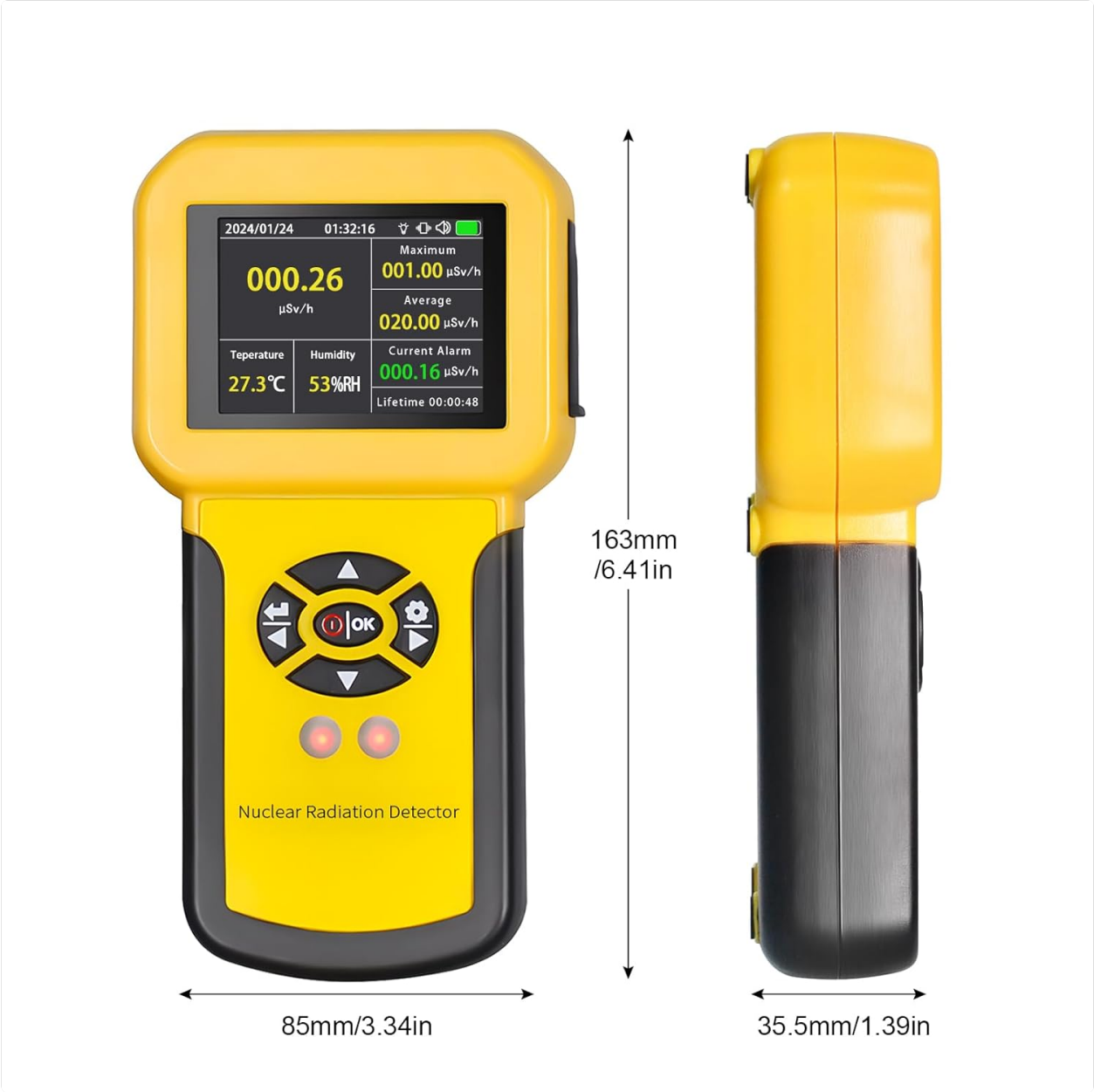

Figure 8.1: Physical dimensions of the AP-886A detector.

9. Warranty and Support

AOPUTTRIVER is committed to providing high-quality products and customer satisfaction. If you encounter any problems with your AP-886A Nuclear Radiation Detector, please contact AOPUTTRIVER customer support for assistance. Refer to the product packaging or the official AOPUTTRIVER website for contact information.

For additional resources and product information, you may visit theAOPUTTRIVER Store on Amazon.