SMART SENSOR AS8805

SMART SENSOR AS8805 Digital Sulfur Dioxide Gas Monitor User Manual

Model: AS8805

1. Introduction

This manual provides detailed instructions for the safe and effective use of the SMART SENSOR AS8805 Digital Sulfur Dioxide Gas Monitor. This device is designed for high-sensitivity detection of sulfur dioxide (SO2) gas, featuring sound and light alarms, and a rechargeable Li-battery for portable operation. Please read this manual thoroughly before operating the device and retain it for future reference.

2. Safety Information

Always adhere to the following safety precautions to prevent injury or damage to the device:

- Do not attempt to modify or disassemble the device.
- Ensure the device is used within its specified operating temperature and humidity ranges.
- Keep the device away from strong electromagnetic fields.
- Regularly check the device for any signs of damage or malfunction.
- Perform zero calibration in a clean air environment, free from SO2 or other interfering gases.
- Recharge the battery promptly when the low power indicator is active to maintain optimal performance and safety.
- This device is designed for detecting SO2 gas. Do not use it for other gas types without proper calibration and verification.

3. Product Overview

The SMART SENSOR AS8805 is a compact and portable sulfur dioxide gas detector. Familiarize yourself with its components:

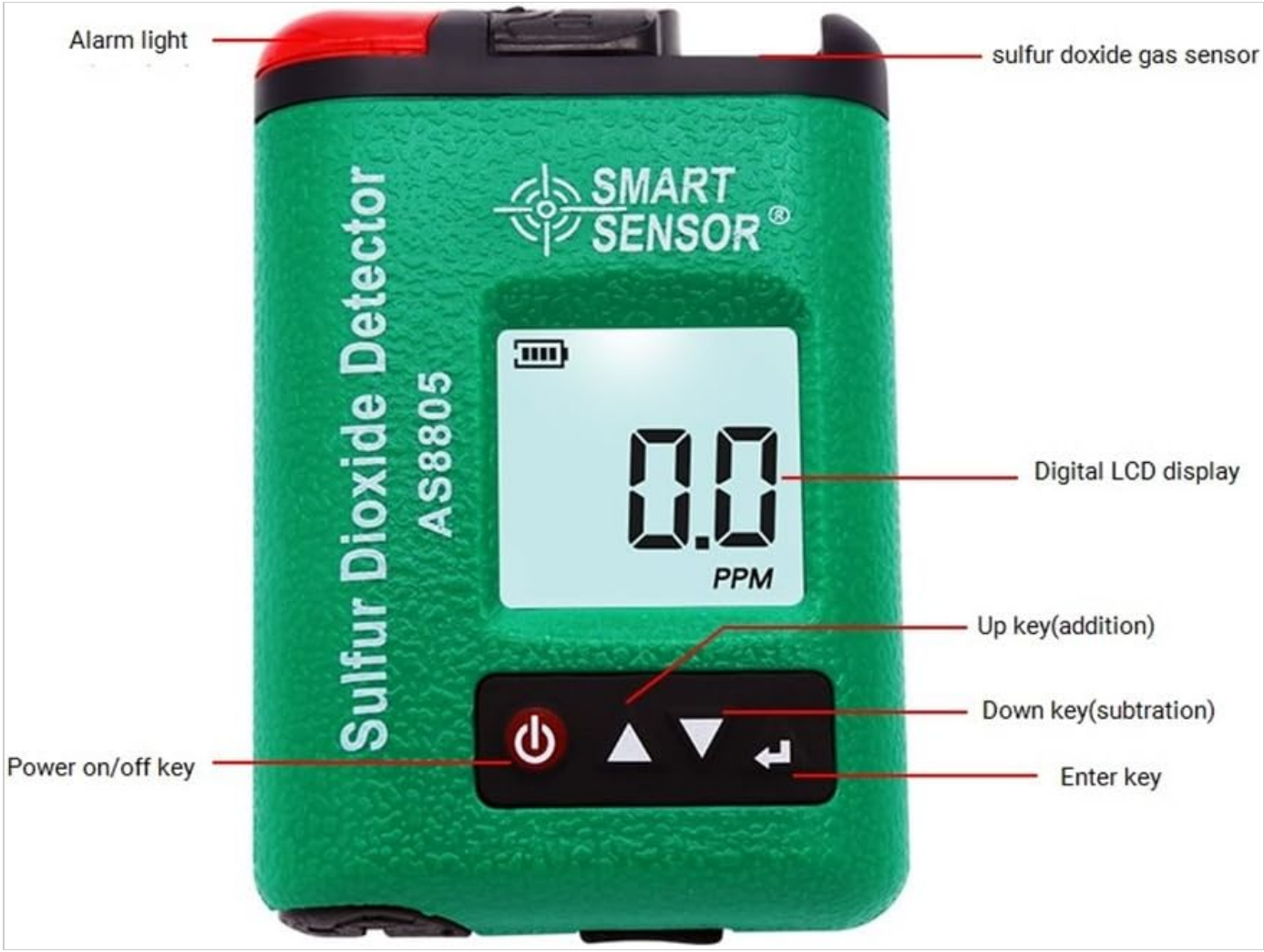

Figure 3.1: Front View of the AS8805 Detector. This image shows the front of the device, highlighting the digital LCD display, power on/off key, up key (addition), down key (subtraction), and enter key. The alarm light is visible at the top left, and the sulfur dioxide gas sensor is at the top right.

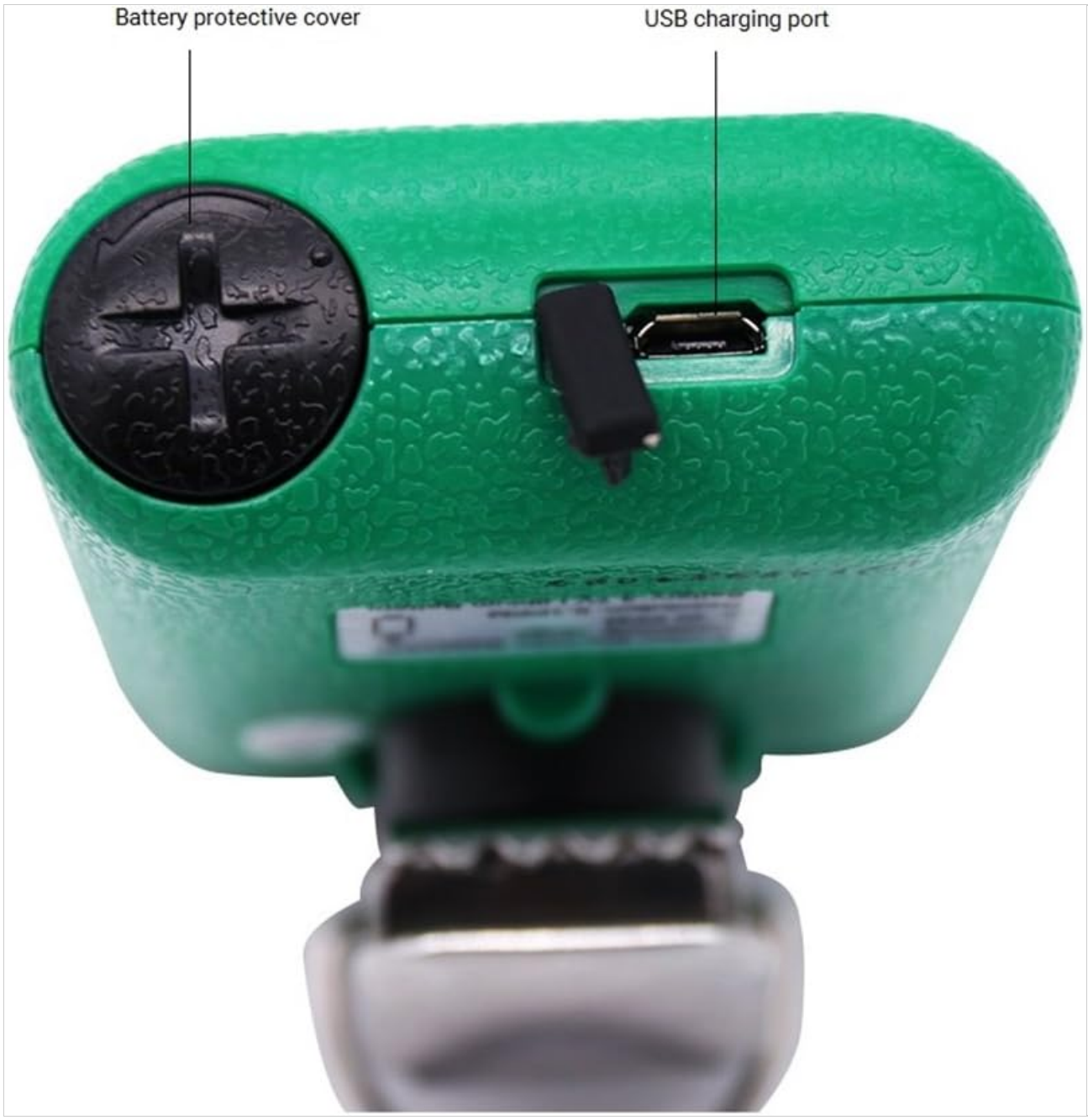

Figure 3.2: Top View of the AS8805 Detector. This image displays the top section of the device, indicating the battery protective cover and the USB charging port.

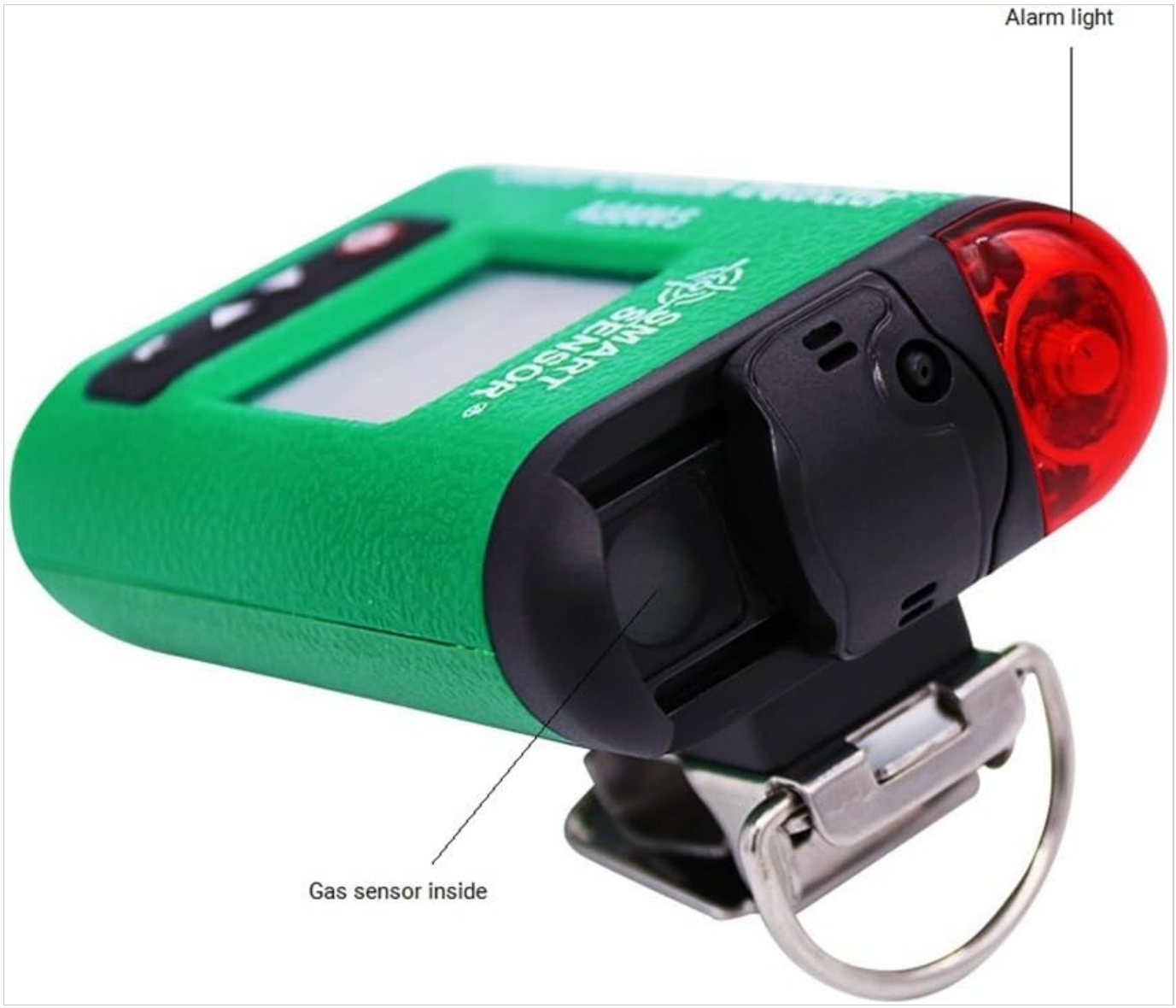

Figure 3.3: Side View of the AS8805 Detector. This image illustrates the side of the device, pointing out the gas sensor inside and the alarm light.

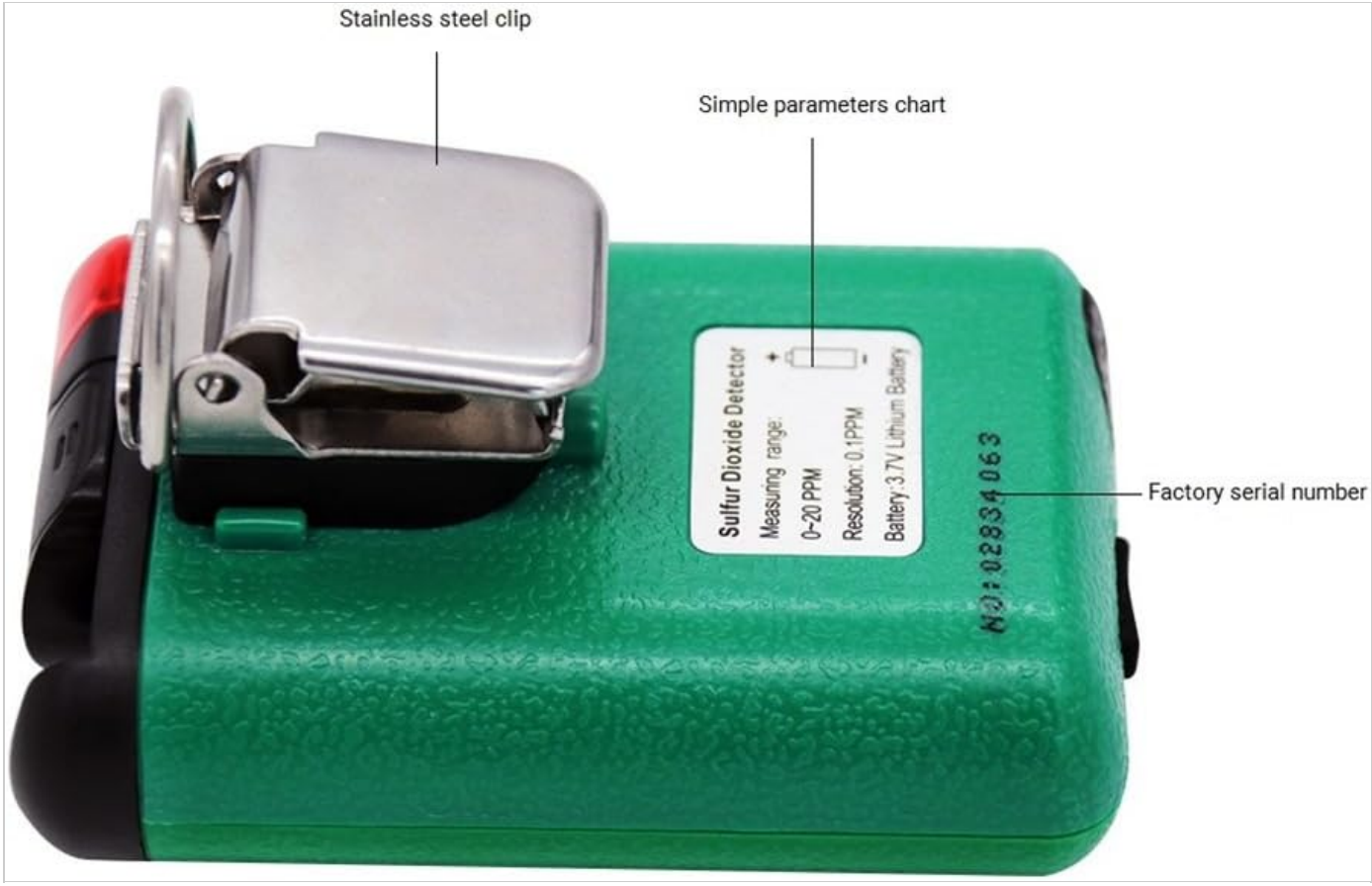

Figure 3.4: Back View of the AS8805 Detector. This image shows the back of the device, featuring the stainless steel clip, a simple parameters chart, and the factory serial number.

3.1 Key Components

- **Sulfur Dioxide Gas Sensor:** Detects SO2 concentration in the air.
- **Alarm Light:** Provides visual indication during an alarm event.
- **Digital LCD Display:** Shows real-time gas concentration, battery status, and other operational information.
- **Power On/Off Key:** Used to turn the device on or off.
- **Up Key (Addition):** Used for navigating menus or increasing values.
- **Down Key (Subtraction):** Used for navigating menus or decreasing values.
- **Enter Key:** Used to confirm selections or enter menus.
- **Battery Protective Cover:** Secures the internal battery.
- **USB Charging Port:** For recharging the device's internal Li-battery.
- **Stainless Steel Clip:** Allows for convenient carrying and attachment.

4. Setup

4.1 Unboxing and Package Contents

Carefully unpack the device and verify that all standard accessories are present:

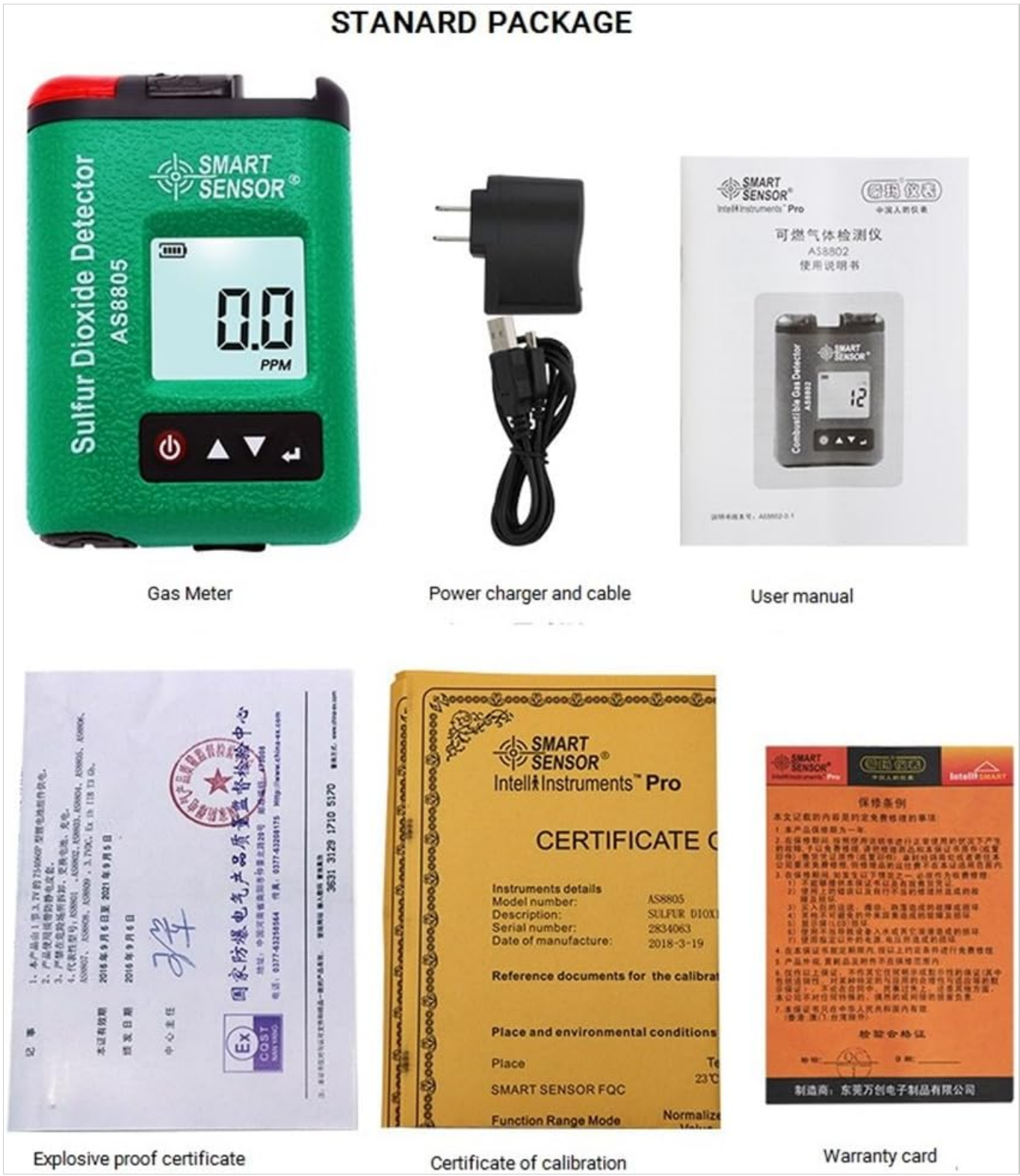

Figure 4.1: Standard Package Contents. This image shows the items included in the standard package: the AS8805 gas monitor, power charger and cable, user manual, explosive-proof certificate, certificate of calibration, and warranty card.

- 1x Sulfur Dioxide Gas Monitor (AS8805)
- 1x User Manual
- 1x Explosive-proof Certificate
- 1x Warranty Card
- 1x Power Charger
- 1x Power Cable

4.2 Charging the Battery

The device is powered by a 3.7V Li-battery. Before first use, or when the low power indicator appears, charge the device:

1. Connect the provided power cable to the USB charging port on the top of the device (refer to Figure 3.2).
2. Connect the other end of the cable to the power charger, and then plug the charger into a suitable power outlet.
3. The battery icon on the LCD display will indicate charging status.
4. A full charge typically allows for approximately 60 hours of continuous operation without alarms.

4.3 Initial Power-On

To power on the device:

- Press and hold the **Power On/Off Key** until the display illuminates.
- The device will perform a self-test and warm-up sequence. During this time, the display may show various readings before settling.

5. Operation

5.1 Power On/Off

- **Power On:** Press and hold the **Power On/Off Key** for a few seconds until the display turns on.
- **Power Off:** Press and hold the **Power On/Off Key** for a few seconds until the display turns off.

5.2 Display Information

The digital LCD display shows the following information:

- **Real-time SO2 Concentration:** Displayed in parts per million (ppm).
- **Battery Status Indicator:** Shows the current battery charge level.
- **Alarm Indicators:** Visual cues for high or low alarm conditions.

5.3 Alarm Functions and Settings

The device features adjustable high and low alarm values with three alarm methods: sound, light, and vibration. The alarm sound can reach up to 80dB.

- **Default High Alarm:** 10.0 ppm
- **Default Low Alarm:** 5.0 ppm

To adjust alarm values:

1. With the device powered on, press the **Up Key** or **Down Key** to enter the password interface.
2. Enter the password (e.g., "123" as shown in the calibration video, though specific password should be confirmed in the full user manual). Use the **Up** and **Down Keys** to change digits and the **Enter Key** to move to the next digit or confirm.
3. After entering the correct password, navigate through the menu using the **Up** and **Down Keys** to find the alarm setting options.
4. Adjust the high and low alarm thresholds as required using the **Up** and **Down Keys**, and confirm each setting with the **Enter Key**.

5.4 Zero Calibration

Zero calibration ensures accurate readings by setting the baseline in a clean air environment. This procedure should be performed regularly or if you suspect inaccurate readings.

1. Ensure the device is in a clean environment, free from any SO2 gas.

2. Power on the device.
3. Access the calibration menu by pressing the **Up Key** or **Down Key** to enter the password interface.
4. Enter the password (e.g., "123").
5. After successful password entry, navigate to the calibration option (often labeled "CAL" or "ZERO CAL").
6. Confirm the zero calibration selection with the **Enter Key**. The device will then perform the zero calibration, displaying a changing number as it stabilizes.
7. Wait for the device to stabilize and confirm the calibration. The display may show "F" or return to 0.0 ppm, indicating successful calibration.

5.5 Auto/Hand Power Off Function

The device includes an auto power-off feature to conserve battery life. This can be set manually.

- **Auto Power Off:** If enabled, the device will automatically turn off after 10 minutes of no operation.
- Refer to the full user manual for specific instructions on how to enable or disable the auto power-off function.

6. Maintenance

6.1 Battery Care

- Recharge the 3.7V Li-battery when the low power indicator is displayed.
- Avoid completely draining the battery frequently to prolong its lifespan.
- Use only the provided charger and cable.

6.2 Sensor Life

The electrochemical sensor has an estimated life of 2 years. After this period, the sensor's accuracy may degrade, and replacement or professional calibration may be required.

6.3 Cleaning

- Wipe the device exterior with a soft, damp cloth.
- Do not use abrasive cleaners or solvents.
- Ensure no liquid enters the sensor opening or charging port.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Low or depleted battery.	Charge the device using the provided charger and cable.
Inaccurate readings.	Sensor requires zero calibration; sensor lifespan exceeded.	Perform zero calibration in clean air. If issues persist, consider sensor replacement or professional service.
Alarm sounds continuously.	High SO2 concentration detected; alarm settings too low.	Evacuate the area and ventilate. Check and adjust alarm thresholds if necessary.
Display is blank or frozen.	Software error or battery issue.	Try restarting the device. If problem persists, contact support.

8. Specifications

Feature	Detail
Product Model Number	AS8805
Gas Measurement Type	Sulfur Dioxide (SO2)
Measuring Range	0 ~ 20 ppm
Testing Resolution	0.1 ppm
Measuring Principle	Electrochemical
Sensor Lifespan	2 years
Low/High Alarm	Supported, adjustable values
Alarm Methods	Sound, Light, Vibration
Alarm Sound Level	Up to 80 dB
Operating Temperature	-10 ~ 50 ℃ (14 ~ 122 ℉)
Operating Humidity	15 ~ 95% RH (Standard)
Battery Type	3.7V Li-battery (754060p)
Battery Working Time	Approx. 60 hours (no alarm)
Auto Power Off	Yes (after 10 minutes of no operation, if enabled)
Product Net Weight	200g (7.1 ounces)
Product Size	120 * 65 * 38 mm
UPC	785197913523

9. Warranty and Support

The SMART SENSOR AS8805 Digital Sulfur Dioxide Gas Monitor comes with a warranty as detailed in the included Warranty Card. Please refer to the card for specific terms and conditions.
For technical support, service, or inquiries regarding your device, please contact your retailer or the manufacturer directly. Keep your purchase receipt and warranty card handy when seeking support.