AIOMEST AI-5800G

AIOMEST AI-5800G Ammonia Gas Detector User Manual

Model: AI-5800G | Brand: AIOMEST

1. Introduction

This manual provides detailed instructions for the safe and effective operation, maintenance, and troubleshooting of your AIOMEST AI-5800G Ammonia Gas Detector. This device is designed to accurately measure ammonia (NH3) gas concentrations in the range of 0 to 100 PPM, along with ambient temperature and humidity. It features an alarm system for critical concentration levels, making it suitable for various applications including home decoration, poultry farms, and industrial environments. Please read this manual thoroughly before using the device.

2. Product Overview

Familiarize yourself with the components of your AIOMEST AI-5800G Ammonia Gas Detector.

Figure 2.1: Front view of the AIOMEST AI-5800G Ammonia Gas Detector with key components labeled.

Components include:

- **Sensor:** Located at the top, responsible for detecting ammonia gas.
- **Display:** Large LCD screen showing NH3 concentration, humidity (RH%), and temperature (°C/°F).
- **Charging Interface:** DC input for charging, located on the side.
- **Charging Indicator Light:** Indicates charging status.
- **Alarm Indicator Light:** Flashes when an alarm threshold is exceeded.
- **°C/°F Button:** Toggles between Celsius and Fahrenheit temperature units.
- **ALRM Setting Button:** Used to set alarm thresholds.
- **Increment Button (Up Arrow):** Used to increase values or navigate menus.
- **Mode Button:** Used to switch modes or confirm selections.
- **Power On/Off Button:** Central button to power the device on or off.
- **Decrement Button (Down Arrow):** Used to decrease values or navigate menus.

3. Setup

3.1 Unboxing and Initial Inspection

Upon receiving your AIOMEST AI-5800G, carefully unpack all components and inspect for any signs of damage.

Figure 3.1: Typical package contents, including the detector, carrying case, USB charging cable, and user manual.

3.2 Charging the Device

The device is powered by a built-in rechargeable Nickel metal hydride battery. Before first use, fully charge the detector.

1. Locate the DC charging interface on the side of the device.
2. Connect the provided USB charging cable to the charging interface and a suitable USB power adapter (not included) or computer USB port.
3. The charging indicator light will illuminate during charging.
4. Once fully charged, the indicator light may change color or turn off, depending on the model.

4. Operating Instructions

4.1 Powering On/Off

- To power on: Press and hold the central **Power On/Off** button until the display illuminates.
- To power off: Press and hold the central **Power On/Off** button until the display turns off.

4.2 Reading Measurements

Once powered on, the device will begin to display real-time measurements for:

- **NH3 Concentration:** Shown in PPM (parts per million) on the main display.
- **Humidity:** Displayed as %RH (relative humidity).
- **Temperature:** Displayed in either Celsius (°C) or Fahrenheit (°F).

4.3 Changing Temperature Units (°C/°F)

Press the **°C/°F** button to toggle between Celsius and Fahrenheit temperature readings.

4.4 Setting Alarm Thresholds

The AI-5800G features adjustable alarm thresholds for ammonia concentration.

1. Press the **ALRM Setting** button to enter alarm setting mode.
2. Use the **Increment (Up Arrow)** and **Decrement (Down Arrow)** buttons to adjust the desired alarm concentration level.
3. Press the **Mode** button to confirm the setting and exit alarm setting mode.

4.5 Understanding Alarm Indications

When the detected ammonia concentration exceeds the set alarm threshold:

- The **Alarm Indicator Light** will flash.
- An audible alarm will sound (approximately 80dB).
- Take immediate action to ventilate the area or evacuate as necessary.

5. Technical Specifications

Below are the detailed technical specifications for the AIOMEST AI-5800G Ammonia Gas Detector.

Figure 5.1: Visual representation of the detector and its technical indicators.

Table 5.1: AIOMEST AI-5800G Specifications

Parameter	Value
Detection Gas	Ammonia (NH3)
Measuring Range	0-100 PPM
Resolution	0.1 PPM
Basic Error	Less than ± 5% (F.S.)
Response Time	Less than 60 seconds
Recovery Time	Less than 60 seconds
Repeatability	Less than ± 1%
Sensor Principle	Electrochemical, life for two years
Battery Type	Nickel metal hydride battery (1600mAh)
Display	Large screen liquid crystal display

Parameter	Value
Alarm	Acoustic (80dB), Optical (flashing light), adjustable thresholds
Working Temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Working Humidity	0-95% RH (Non-condensing)
Product Dimensions (D x W x H)	12" x 6" x 9" (approximate)
Item Weight	570 Grams

6. Maintenance

6.1 Cleaning the Device

To ensure accurate readings and prolong the life of your detector:

- Wipe the exterior of the device with a soft, damp cloth.
- Do not use abrasive cleaners, solvents, or immerse the device in water.
- Keep the sensor area free from dust and debris.

6.2 Battery Care

- Recharge the battery when the low battery indicator appears on the display.
- Avoid completely draining the battery frequently to extend its lifespan.
- If storing the device for an extended period, charge it periodically to maintain battery health.

6.3 Sensor Lifespan

The electrochemical sensor has an estimated lifespan of two years. After this period, the sensor's accuracy may degrade, and replacement of the device or sensor (if serviceable) may be necessary to ensure continued reliable detection.

7. Troubleshooting

If you encounter issues with your AIOMEST AI-5800G, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	Low or depleted battery.	Charge the device fully using the provided USB cable.
Inaccurate NH3 readings.	Sensor obstructed or dirty; sensor lifespan expired; device not calibrated.	Clean the sensor area. Consider sensor replacement if beyond lifespan. The device is not user-calibratable.
Alarm not sounding/flashing.	Alarm threshold set too high; device malfunction.	Verify alarm settings. If problem persists, contact customer support.
Display is blank or frozen.	Software glitch; extreme environmental conditions.	Try powering off and on again. Ensure operating within specified temperature/humidity ranges.

If you experience issues not listed here or if the suggested solutions do not resolve the problem, please contact AIOMEST customer support for further assistance.

8. Safety Information

Your AIOMEST AI-5800G Ammonia Gas Detector is a safety device. Adhere to the following safety guidelines to prevent injury or damage.

- This device is intended for detecting ammonia gas. Do not use it for other gases or purposes.
- Always ensure the device is charged and functioning correctly before entering areas where ammonia exposure is possible.
- Do not rely solely on this device for life-critical applications. Always follow established safety protocols and use appropriate personal protective equipment (PPE).
- Avoid exposing the device to extreme temperatures, high humidity, or corrosive environments outside its specified operating range.
- Do not attempt to open or modify the device, as this may compromise its accuracy and safety features, and will void the warranty.
- Keep the device out of reach of children.

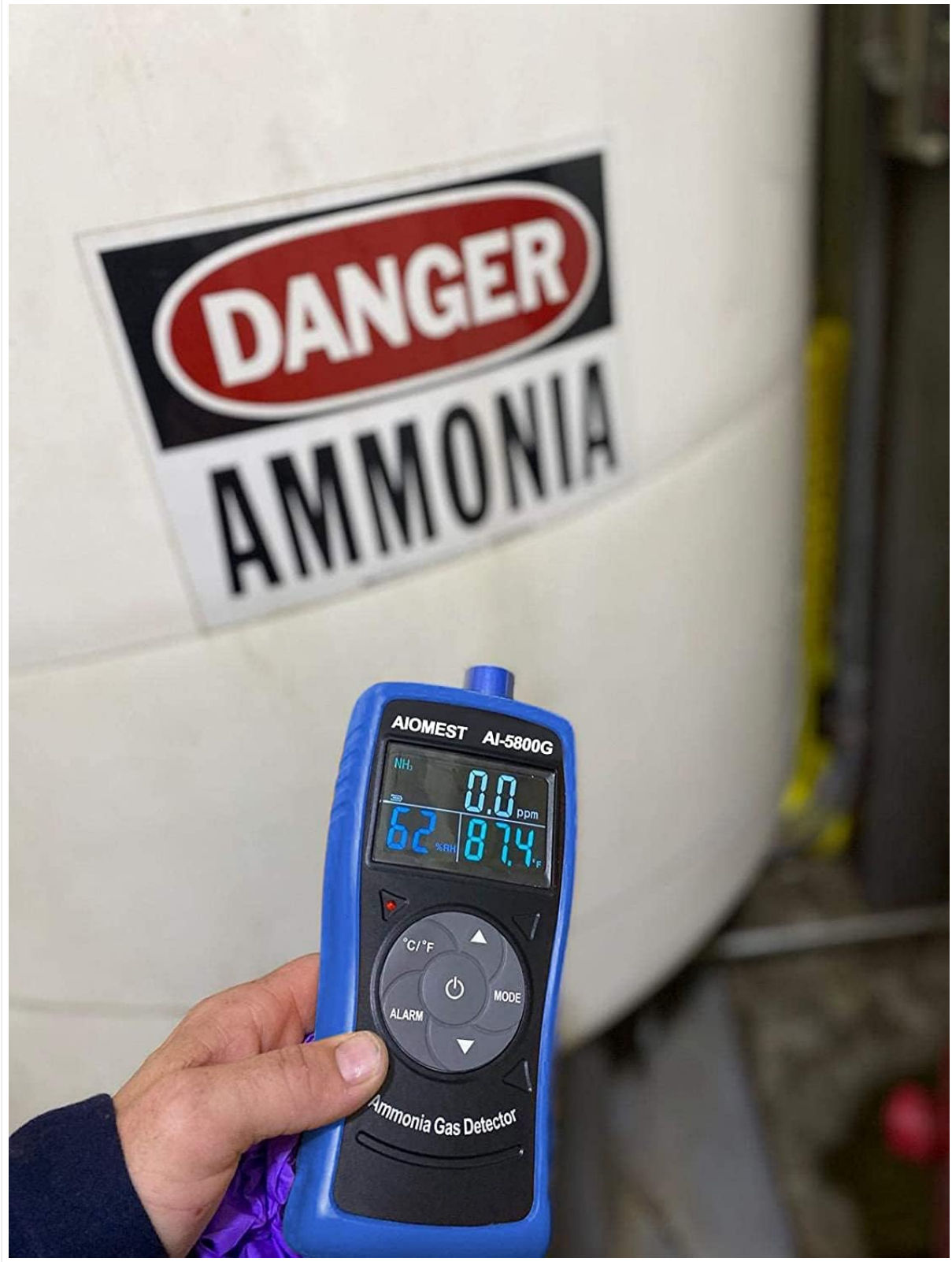

Figure 8.1: The detector being used in an environment with a "DANGER AMMONIA" warning, emphasizing its role in safety.

8.1 Ammonia Concentration and Human Reaction

Understanding the effects of different ammonia concentrations is crucial for safety.

Figure 8.2: Chart illustrating the physiological reactions to various ammonia concentrations in the atmosphere.

Key concentration levels and reactions:

- **5 ~ 10 ppm:** The nose may be aware of the smell.
- **20 ppm:** Aware of the special smell of ammonia.
- **40 ppm:** A few people feel mild stimulation.
- **100 ppm:** Exposure for more than thirty minutes may cause permanent damage to the eye.
- **400 ppm:** Cause throat, nasal cavity and upper respiratory tract acute stimulation.
- **700 ppm:** Severe cough, wheeze thirty minutes can be fatal.
- **1700 ppm:** Severe pulmonary edema disease, a moment can be fatal asphyxia.
- **5000 ppm:** Severe pulmonary edema disease, a moment can be fatal asphyxia.

9. Warranty and Support

9.1 Product Warranty

The AIOMEST AI-5800G Ammonia Gas Detector comes with a**2-year manufacturer's warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accidents, unauthorized modifications, or failure to follow the instructions in this manual.

9.2 Customer Support

For technical support, warranty claims, or any questions regarding your AIOMEST AI-5800G, please contact AIOMEST customer service. Refer to the contact information provided with your product packaging or visit the official AIOMEST website for the most up-to-date support details.

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