EG EGVOC

EG Air Quality Monitor EGVOC User Manual

Model: EGVOC

1. Introduction

The EG Air Quality Monitor EGVOC is designed to assess indoor air quality by detecting concentrations of Formaldehyde (HCHO), Total Volatile Organic Compounds (TVOC), and fine Particulate Matter (PM2.5). This device provides real-time measurements to help users understand their indoor environment.

Key features include:

- Accurate assessment of HCHO, TVOC, and PM2.5.
- Built-in fan for rapid air sampling and real-time data.
- 2.8-inch color LCD display for clear information.
- Portable design with a 2200mAh rechargeable battery.

2. Safety Information

- Do not expose the device to extreme temperatures, humidity, or direct sunlight.
- Avoid dropping or subjecting the device to strong impacts.
- Keep the device away from water and other liquids.
- Do not attempt to open or repair the device yourself. Refer to qualified personnel for service.
- Use only the specified charging cable and adapter (DC 5V micro USB).
- Ensure proper ventilation when using the device, especially during calibration.

3. Product Overview

Familiarize yourself with the components of your EG Air Quality Monitor.

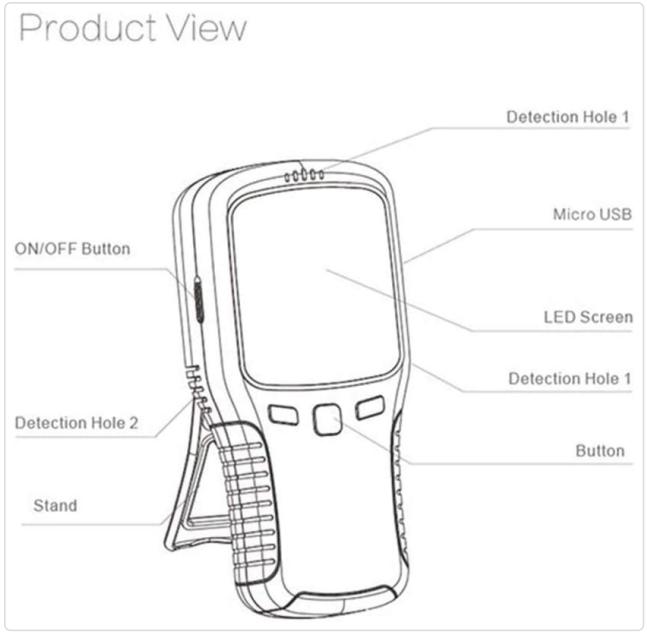

Figure 3.1: Product Component Diagram

This diagram illustrates the various parts of the EG Air Quality Monitor, including the power button, charging port, display screen, air detection holes, control buttons, and the integrated stand.

Figure 3.2: Air Holes Location

The image shows the front display and the rear of the monitor, indicating the locations of the air intake and exhaust holes essential for accurate air sampling.

Sensor Technology

Figure 3.3: Laser Sensor for Particulate Matter

This diagram details the operation of the laser sensor, which draws in ambient air to measure dust particles like PM2.5 by detecting light refraction.

Figure 3.4: Electrochemistry Sensor for HCHO and TVOC

The image displays the electrochemistry sensor, which utilizes multilayer fiberglass to minimize interference from other gases, ensuring precise measurement of formaldehyde and volatile organic compounds.

4. Setup

4.1 Charging the Device

The device is equipped with a 2200mAh Lithium Polymer battery. Before first use, or when the battery indicator is low, charge the device using the provided Micro USB cable and a DC 5V power adapter.

1. Connect the Micro USB cable to the device's charging port.
2. Connect the other end of the cable to a DC 5V USB power source.
3. The battery indicator on the display will show charging status.
4. A full charge typically provides up to 2 days of continuous monitoring.

4.2 Initial Power On and Calibration

Upon first power-on or after a period of inactivity, the device may require calibration to ensure accurate readings. This process helps the sensors adapt to the ambient air conditions.

1. Press and hold the **ON/OFF Button** to power on the device.
2. Place the monitor outdoors in a fresh air environment, away from direct pollution sources, for several minutes. This allows the sensors to stabilize.
3. If the device prompts for calibration, follow the on-screen instructions. Refer to the 'Sensor Calibration' option in the System Settings menu (see Figure 5.2).
4. Note that initial readings might be high due to off-gassing from the plastic casing; these will stabilize after some use.

5. Operation

5.1 Understanding the Display

The 2.8-inch color LCD display provides real-time air quality data.

Figure 5.1: Main Display Interface

This image shows the primary display of the monitor, indicating the Air Quality Index (AQI), Formaldehyde (HCHO) concentration, Total Volatile Organic Compounds (TVOC) concentration, and Particulate Matter (PM2.5 and PM10) levels. An overall air quality level (e.g., 'Moderate') is also displayed.

The display typically shows:

- **HCHO:** Formaldehyde concentration in mg/m³.

- **TVOC:** Total Volatile Organic Compound concentration in mg/m³.
- **PM2.5:** Particulate Matter less than 2.5 microns in size, in µg/m³.
- **PM10:** Particulate Matter less than 10 microns in size, in µg/m³.
- **AQI:** Air Quality Index, an overall indicator.
- **Level/Indicator:** A visual indicator (e.g., smiley face, text) representing the current air quality status.

5.2 Navigating System Settings

The device features a menu system for adjusting settings and viewing historical data.

Figure 5.2: System Settings Menu

This image displays the 'System Setting' menu, providing access to various configurations such as alarm settings, sensor calibration, and historical data records for HCHO, TVOC, and PM2.5.

Use the navigation buttons (typically left, right, and OK/Menu) to browse through options such as:

- **Alarm Setting:** Adjust thresholds for HCHO, TVOC, or PM2.5 to trigger an audible alarm.
- **Sensor Calibration:** Initiate or fine-tune sensor calibration.
- **HCHO/TVOC/PM2.5 Records:** View historical data for each parameter.
- **Auto-shutoff:** Configure the device to automatically power off after a set period (up to 2 days).

6. Maintenance

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place when not in use.
- **Sensor Care:** Keep the air intake and exhaust holes clear of dust and debris to ensure accurate readings. Do not insert objects into these openings.
- **Battery Life:** For optimal battery longevity, avoid fully discharging the battery frequently. Charge the device regularly.

7. Troubleshooting

- **Inaccurate Readings:**
  - Ensure the device has been properly calibrated in fresh air. Recalibrate if readings seem consistently off or after prolonged storage.

- Check for obstructions in the air intake/exhaust holes.
- Large variations in TVOC readings can occur due to interference from benign fragrances or odors. This is normal for sensitive electronic sensors.
- Readings may be affected by strong chemical odors (e.g., nail polish remover) in the vicinity.

- **Device Not Powering On:**
  - Ensure the battery is charged. Connect to a power source and allow it to charge for at least 30 minutes before attempting to power on again.
- **Display Not Working:**
  - If the screen is blank, try charging the device. If the issue persists, contact customer support.
- **Alarm Constantly Triggering:**
  - Check the alarm settings in the System Settings menu. Adjust the thresholds if they are too sensitive for your environment.
  - Investigate potential sources of pollution in the area if readings are genuinely high.

8. Specifications

Brand	EG
Model	EGVOC
Detection Parameters	HCHO, TVOC, PM2.5, PM10
Power Source	Battery Powered (Lithium Polymer)
Battery Capacity	2200mAh
Charging Input	DC 5V Micro USB
Display	2.8-inch Color LCD
Sensor Type	Electrochemical (HCHO, TVOC), Laser (PM2.5)
Operating Humidity	Up to 95%
Item Weight	0.36 Kilograms (12.6 ounces)
Product Dimensions	5.9 x 2.8 x 1.7 inches
UPC	761856502949, 761856503243, 761856502925, 761856503250

9. Warranty and Support

For technical assistance or inquiries, please contact EG customer support. Our US-based technical staff, including a chemist, is available to answer any questions you may have regarding the EG Air Quality Monitor.

Refer to your purchase documentation for specific warranty terms and contact information.