UNI-T UT334F

UNI-T UT334F 4-in-1 Gas Leak Detector User Manual

Model: UT334F

1. Introduction

The UNI-T UT334F is a portable, voice-enabled 4-in-1 gas detector designed for continuous monitoring of gas concentrations. This safety device utilizes advanced integrated circuit technology, embedded microcomputer control, and high-quality imported gas sensors to provide excellent sensitivity and repeatability. It features a 2.4-inch color LCD display with support for English and Chinese interfaces and voice prompts, ensuring ease of use and maintenance. The robust shell is constructed from high-strength engineering plastic, offering good vibration resistance, high strength, dust protection, waterproofing, and explosion-proof capabilities.
This manual provides essential information for the safe and effective operation, setup, and maintenance of your UT334F gas detector.

2. Safety Information

WARNING: Read all safety instructions before operating this device. Failure to follow these instructions may result in injury, damage to the device, or inaccurate readings.

- Always operate the device in well-ventilated areas unless specifically testing for gas leaks in confined spaces.
- Do not attempt to open or modify the device. Servicing should only be performed by qualified personnel.
- Ensure the device is properly calibrated according to manufacturer guidelines to maintain accuracy.
- Protect the device from extreme temperatures, humidity, and direct sunlight.
- Avoid exposing the sensors to corrosive substances or high concentrations of gas that may damage them.
- Keep the device clean and free from dust and debris.
- The device is explosion-proof; however, always follow local safety regulations when operating in potentially explosive atmospheres.

3. Product Overview

3.1 Key Features

- **Multi-Gas Detection:** Simultaneously detects EX (combustible gas), H2S (Hydrogen Sulfide), CO (Carbon Monoxide), and O2 (Oxygen).
- **Quadruple Alarm System:** Features sound, light, vibration, and screen flashing alarms for comprehensive alert notification.
- **User-Friendly Interface:** Supports both English and Chinese display interfaces with corresponding voice prompts.
- **High-Capacity Battery:** Equipped with a 2500mAh built-in high-capacity lithium battery for extended operation.
- **Data Storage:** Automatically stores detection records, which can be viewed and deleted directly on the device.
- **Clear Display:** 2.4-inch color LCD display provides clear visualization of gas detection indicators and data.
- **Durable Construction:** Made from high-strength engineering plastic, offering anti-compression, anti-drop, and explosion-proof properties.
- **High-Precision Sensors:** Utilizes imported sensors for sensitive induction, short response time, and accurate detection.
- **Curve Drawing Function:** Supports graphical representation of gas concentration over time, aiding in observing periodic states.
- **Configurable Alarms:** Allows users to set high and low alarm values.
- **Advanced Processing:** Incorporates a high-precision ADC acquisition chip and a 32-bit nano-level microprocessor for higher resolution and faster response.

3.2 Device Components

The UNI-T UT334F features a compact design with an intuitive layout for easy operation.

Figure 1: Overview of UNI-T UT334 series gas detectors. The UT334F model is on the right, featuring a color LCD screen displaying gas concentrations for H2S, O2, CO, and EX, along with power and navigation buttons.

- **Gas Sensor Inlet:** Located at the top of the device, where gas samples are drawn for analysis.
- **2.4-inch Color LCD Display:** Front-facing screen showing real-time gas concentrations, alarm status, battery level, and other operational information.
- **Control Buttons:** Typically include Power/OK, Navigation (Up/Down/Left/Right) buttons for menu interaction and settings adjustment.
- **Alarm Indicators:** Integrated LED lights for visual alarms, internal buzzer for audible alarms, and a vibration motor for tactile alerts.
- **MicroUSB Charging Port:** Located on the side or bottom for battery charging.

Figure 2: The UT334F model highlighting its capability to detect four different gases: EX (combustible), H2S (Hydrogen Sulfide), CO (Carbon Monoxide), and O2 (Oxygen).

4. Setup

4.1 Initial Charging

The UT334F is equipped with a built-in 2500mAh lithium battery. Before first use, or if the battery is low, charge the device using the provided MicroUSB cable and a compatible power adapter (not always included, typically a standard 5V USB charger).

1. Connect the MicroUSB cable to the charging port on the device.
2. Connect the other end of the cable to a USB power source.
3. The display will show a charging indicator. Allow the device to charge fully.

Figure 3: Illustrates the charging process of the device. The screen displays a battery icon indicating charging status.

4.2 Powering On/Off

- **To Power On:** Press and hold the Power/OK button for a few seconds until the display illuminates and the device starts up.
- **To Power Off:** Press and hold the Power/OK button. A prompt may appear asking for confirmation to shut down. Select "Yes" or press the Power/OK button again to confirm.

4.3 Language Selection

The device supports both English and Chinese interfaces. Refer to the device's menu settings to switch between languages. Typically, this can be found under "System Settings" or "Language".

5. Operating Instructions

5.1 Real-time Gas Detection

Once powered on, the UT334F will automatically begin detecting gas concentrations in its environment. The 2.4-inch color LCD display will show real-time readings for EX, H2S, CO, and O2.

- **EX:** Combustible gas concentration, typically displayed in %LEL (Lower Explosive Limit).
- **H2S:** Hydrogen Sulfide concentration, typically displayed in PPM (Parts Per Million).
- **CO:** Carbon Monoxide concentration, typically displayed in PPM.
- **O2:** Oxygen concentration, typically displayed in %VOL (Percentage by Volume).

5.2 Alarm System

The device is equipped with a quadruple alarm system to alert users to dangerous gas levels. Alarms are triggered when gas concentrations exceed pre-set low or high alarm points.

Figure 4: Illustration of the quadruple alarm system, showing visual (flickering lights, red screen background), audible (buzzer), and tactile (body vibration) alerts.

- **Audible Alarm:** A loud buzzer sound.
- **Visual Alarm:** LED lights will flicker, and the screen background may change (e.g., to red).

- **Vibration Alarm:** The device will vibrate.
- **Screen Flashing:** The display itself will flash to draw attention.

To acknowledge or silence an alarm, refer to the device's on-screen prompts or press the OK button.

5.3 Data Logging and Curve Drawing

The UT334F automatically stores detection data. Users can access historical data and view gas concentration trends through the curve drawing function.

1. Navigate to the "Data Log" or "History" menu option using the navigation buttons.
2. Select specific records to view detailed information.
3. Choose the "Curve Drawing" option to visualize gas concentration changes over time. This feature is useful for identifying patterns or intermittent gas releases.

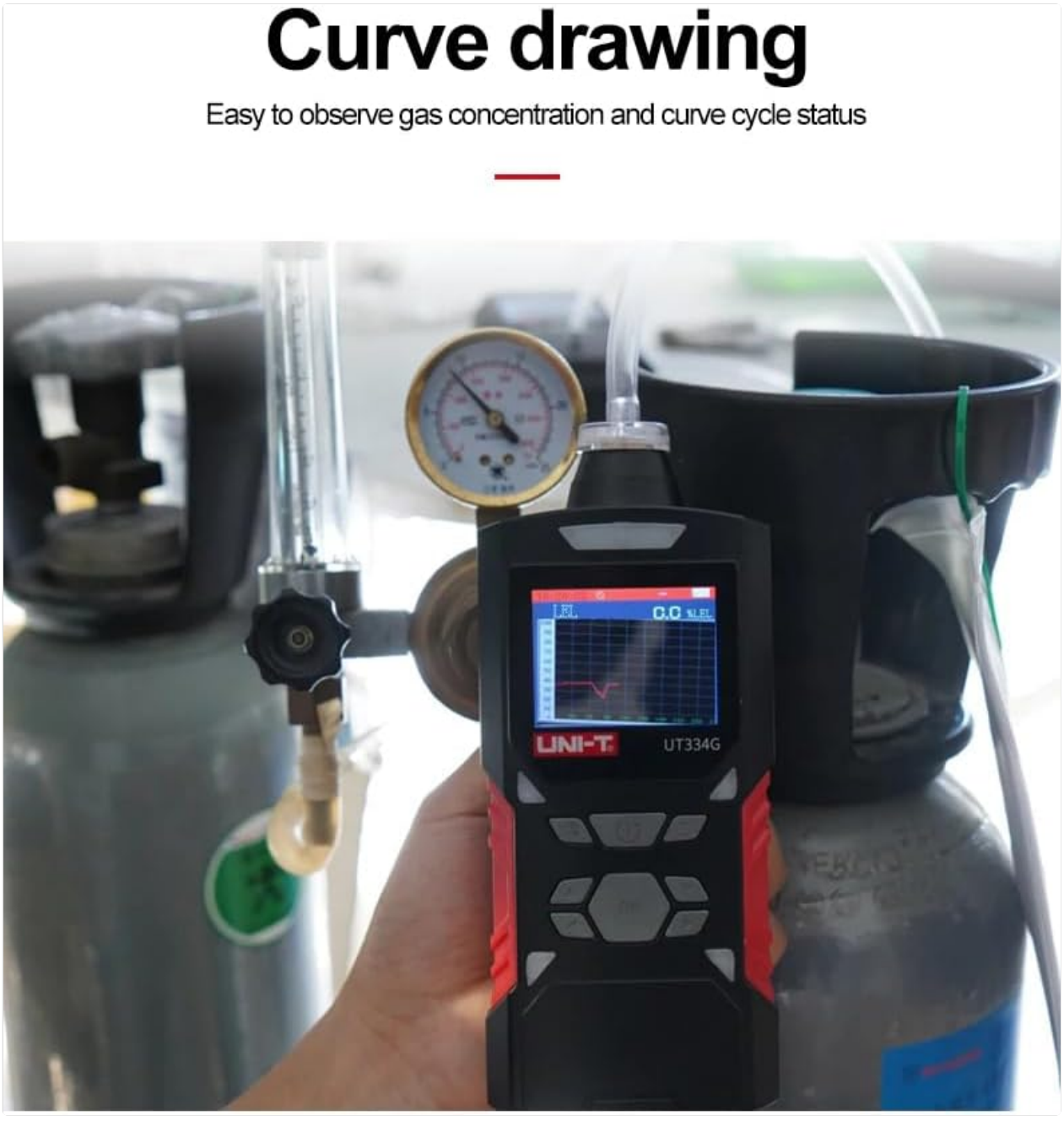


Figure 5: Demonstrates the curve drawing function, allowing users to observe gas concentration trends and cycle status over time.

5.4 Setting Alarm Thresholds

The device allows for customization of low and high alarm points for each gas. This feature enables users to tailor the detector's response to specific safety requirements.

1. Access the "Alarm Settings" or "Thresholds" menu.
2. Select the gas (EX, H2S, CO, O2) for which you want to adjust the alarm points.
3. Use the navigation buttons to increase or decrease the low and high alarm values.
4. Confirm your settings to save the changes.

6. Maintenance

6.1 Cleaning

Regular cleaning helps maintain the device's performance and longevity.

- Wipe the exterior of the device with a soft, damp cloth.
- Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the casing or display.
- Ensure the sensor inlet is free from dust and obstructions. Use a soft brush if necessary, but avoid inserting objects into the sensor opening.

6.2 Battery Care

To maximize battery life and ensure reliable operation:

- Charge the device fully before long periods of storage.
- Avoid completely draining the battery frequently.
- If storing for an extended period, charge the battery to approximately 50% every few months.

6.3 Calibration

Gas detectors require periodic calibration to ensure accuracy. While the device uses high-quality sensors, environmental factors and sensor aging can affect readings over time.

- Refer to the manufacturer's specific calibration schedule and procedures.
- Calibration typically involves exposing the sensors to known concentrations of gases and adjusting the device to match these values.
- It is recommended to have calibration performed by certified technicians or use approved calibration kits.

6.4 Storage

When not in use, store the device in a cool, dry place, away from direct sunlight, extreme temperatures, and corrosive environments. Use the original packaging or a protective case if available.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Battery is depleted.	Charge the device fully using the MicroUSB cable.
Inaccurate gas readings.	Sensor contamination or aging; device requires calibration.	Clean the sensor inlet. Perform or arrange for professional calibration.

Problem	Possible Cause	Solution
Alarm triggers frequently without apparent gas presence.	High sensitivity settings; environmental interference; sensor issue.	Check and adjust alarm thresholds. Ensure no sources of interference. If problem persists, seek technical support.
Display is blank or frozen.	Software error; low battery.	Attempt a hard reset (if available, consult manufacturer). Charge the device.
Voice prompts are not in the desired language.	Incorrect language setting.	Navigate to "System Settings" or "Language" menu to select the preferred language.

8. Specifications

The following table outlines the technical specifications for the UNI-T UT334F gas detector.

(UT334F)

Detect gas	Range	Low alarm point	High alarm point	Resolution
EX	(0~100)%LEL	20.0%LEL	50.0%LEL	0.1%LEL
H_2S	(0~100)PPM	10.0PPM	35.0PPM	0.1PPM
CO	(0~1000)PPM	50.0PPM	150.0PPM	0.11PPM
O_2	(0~30)%VOL	19.5%VOL	23.5%VOL	0.1%VOL
For other combination gases, please contact our company				

Response time	≤30 seconds
Display error	≤±5%FS
Protection class	IP65
Instructions	Color LCD display real-time data and system status, light, vibration, screen flashing quadruple Alarm and real voice (support Chinese and English switching) prompt
Working power	2500mAh rechargeable polymer battery
Operating temperature	-20℃~50℃
Working humidity	≤95%RH without condensation
Work pressure	-30kPa~200kPa
Physical dimension	145mm×71mm×36mm
Weight	234g
Detection method	Diffusion

Figure 6: Detailed technical specifications for the UT334F model, including gas detection parameters and environmental ratings.

Parameter	Value
Gas Detection Parameters (UT334F)	
Detect Gas	EX, H2S, CO, O2

Parameter	Value
EX Range	(0~100)%LEL
EX Low Alarm Point	20.0%LEL
EX High Alarm Point	50.0%LEL
EX Resolution	0.1%LEL
H2S Range	(0~100)PPM
H2S Low Alarm Point	10.0PPM
H2S High Alarm Point	35.0PPM
H2S Resolution	0.1PPM
CO Range	(0~1000)PPM
CO Low Alarm Point	50.0PPM
CO High Alarm Point	150.0PPM
CO Resolution	0.1PPM
O2 Range	(0~30)%VOL
O2 Low Alarm Point	19.5%VOL
O2 High Alarm Point	23.5%VOL
O2 Resolution	0.1%VOL
Response Time	≤30 seconds
Display Error	≤±5%FS
Protection Class	IP65
Instructions	Color LCD display real-time data and system status, light, vibration, screen flashing quadruple Alarm and real voice (support Chinese and English switching) prompt

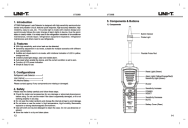
Parameter	Value
Working Power	2500mAh rechargeable polymer battery
Operating Temperature	-20°C ~ 50°C
Working Humidity	≤95%RH without condensation
Work Pressure	-30kPa ~ 200kPa
Physical Dimension	145mm × 71mm × 36mm
Weight	234g
Detection Method	Diffusion
General Specifications	
Manufacturer	UNI-Trend
Part Number	HY-UT334F
Product Dimensions	16.5 x 11 x 12 cm
Item Model Number	HY-UT334F
Color	Multicolored
Material	Acrylonitrile Butadiene Styrene
Power Source	Battery Powered
Wattage	5 watts
Measurement Accuracy	±0.1%
Certification	CE, ISO 9001, RoHS, UKCA
Included Components	UT334F (main unit)
Battery Cell Type	Lithium
Item Weight (packaged)	600 g

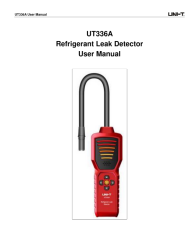
Parameter	Value
Country of Origin	China

9. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your point of purchase or the official UNI-T customer service. Keep your purchase receipt as proof of purchase for warranty claims.
UNI-T official website: www.uni-trend.com

Related Documents - UT334F

	UNI-T UT336B Refrigerant Leak Detector User Manual and Specifications Comprehensive user manual and technical specifications for the UNI-T UT336B Refrigerant Leak Detector, detailing its features, operation, safety, troubleshooting, and maintenance.
	UNI-T UT662 Series Multi-functional Intelligent Leak Detector User Manual User manual for the UNI-T UT662 Series Multi-functional Intelligent Leak Detector, providing detailed information on setup, operation, features, maintenance, troubleshooting, and specifications for accurate water leak detection.
	UNI-T UT262E Phase Sequence Detector User Manual Comprehensive user manual for the UNI-T UT262E Phase Sequence Detector. Learn about its features, specifications, safety precautions, operating instructions, and troubleshooting for non-contact 3-phase sequence testing.
	UNI-T UT387B Wall Detector User Manual: Features, Operation, and Specifications User manual for the UNI-T UT387B Wall Detector, detailing its features, operating steps for detecting metal, AC wires, and wood, technical specifications, maintenance, and safety precautions.

	[UNI-T UT336A Refrigerant Leak Detector User Manual] User manual for the UNI-T UT336A Refrigerant Leak Detector. Provides detailed information on features, operation, safety guidelines, specifications, troubleshooting, and maintenance for detecting refrigerant leaks in HVAC and refrigeration systems.
	[UNI-T UT334A Radiation Dose Tester User Manual] Comprehensive user manual for the UNI-T UT334A Radiation Dose Tester, detailing its features, specifications, operation, safety instructions, and warranty information.