UNI-T®

UT334E+ 4 in 1 Portable Gas Detector



Operation Manual

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1. Product Overview

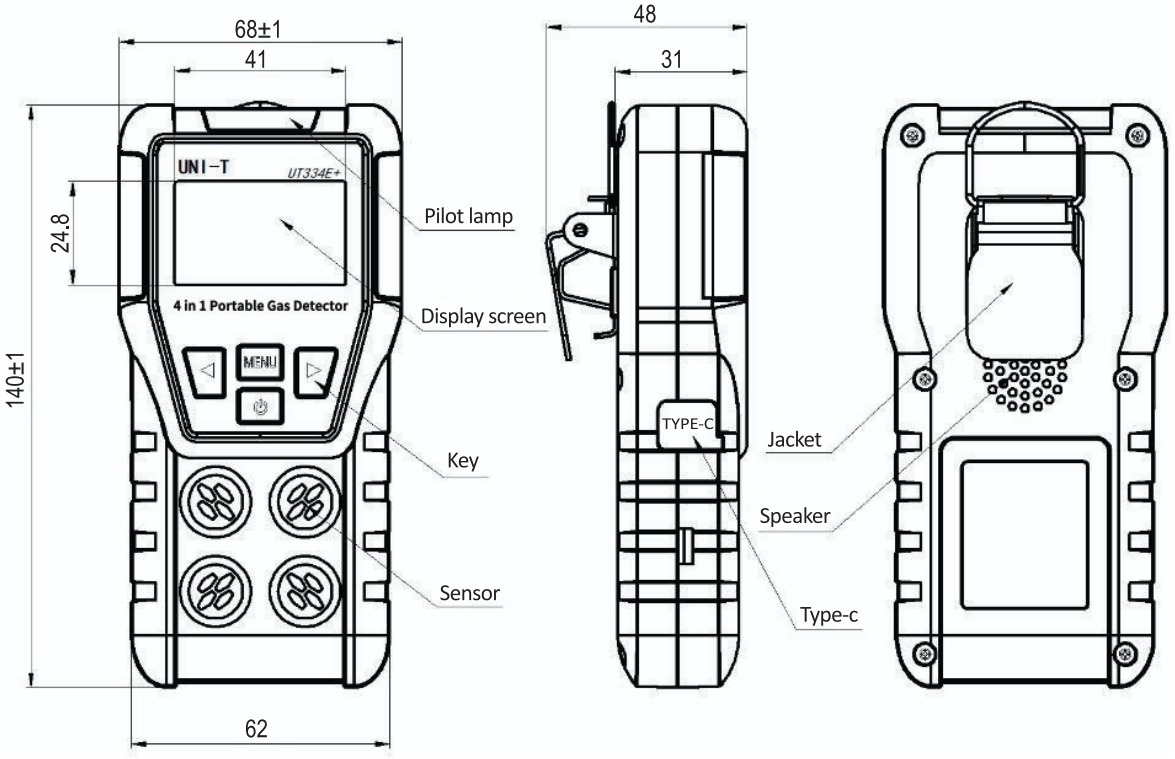
The portable gas detector (Detector for short) is a fully automatic intelligent device with the most advanced large-scale integrated circuit technology, international-standard intelligent technology design and proprietary hybrid digital-analog communication technology.

The detector detects gas in natural diffusion, using gas sensor of high quality, with high sensitivity and excellent repeatability. It is easy to use and maintain, greatly satisfies industrial sites safety monitoring to the reliable requirements on devices. The housing is with high-strength engineering plastic and touches good, and the device has features of waterproof, dustproof, and explosion-proof.

The detector is widely used in petroleum, chemical, environmental protection, metallurgy, refining, gas transmission and distribution, biochemical medicine, agriculture and etc.

2. Structural Features

2.1 Structures and Functions



Four buttons: LEFT, RIGHT, MENU and POWER button. See followings for details.

Icons	Buttons	Descriptions
MENU	MENU	Short press to enter the menu and confirm it.
◀	LEFT	Roll page left/ Select the cursor to move right/ Roll up options.
▶	RIGHT	Roll page right/Select the cursor to move right/Plus value/ Roll down options.
⏻	POWER	Long press to power on/off device. Short press it to back to previous interface.

2.2 Detector Structures

The device is mainly composed of housing, circuit board, battery, display screen, sensor and etc.

2.3 Operating Principles

Two types: Electrochemical and Catalytic combustion.

3. Technical Parameters

Conventional gas detection range:

Gas Types	Range	Low Alarm	High Alarm	Resolution
EX	(0~100)%LEL	20%LEL	50%LEL	1%LEL
H2S	(0~100)PPM	10PPM	20PPM	1PPM
CO	(0~1000)PPM	50PPM	200PPM	1PPM
O2	(0~30)%VOL	19.5%VOL	23.5%VOL	0.1%VOL

Value error: ±5%FS (EX), Absolute error ±5umol/mol or Relative error ±10% (CO), Absolute error ±2umol/mol or Relative error ±10% (H2S), ±2%FS (O2).

Response time: T≤60S

Indication: LCD to display the real-time data and status, with light emitting diode, voice and vibration alarm, failure and voltage shortage.

Working environment: Temperature is -20℃~50℃; Humidity is < 95% RH (No condensation).

Working voltage: DC3.7V (Li-ion battery: 2700mAh).

Charge time: 4~6 h

Standby duration: 12~14 h

Size: 140*68*48(mm)

Weight: 0.25kg

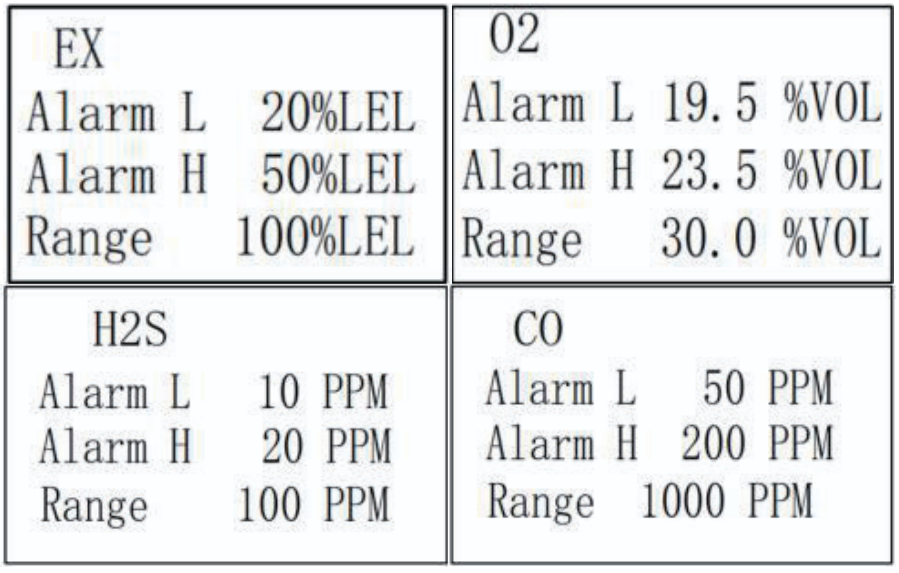
4. Functions and Operations

4.1 Power On

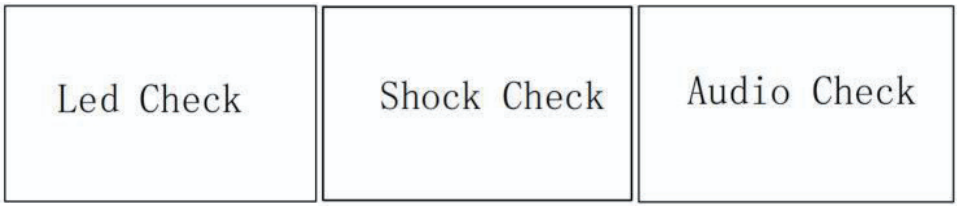
Hold POWER button for 3 seconds, lighting the backlight of screen, power on the device with voice indication and the following interfaces showed. See followings for interface details:



High/Low value and range of EX, H_2 S, CO, O_2 will be showed in sequence.

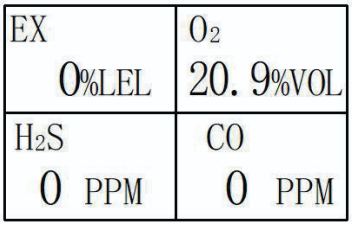


The device system and light will be in self-test state when the above information showing finished: Light flashing twice. Vibrating reed self-test: It will be in vibration and then stop. Voice self-test: Beeper will be intermittently beeping. The above operation showed the self-test of device passed.



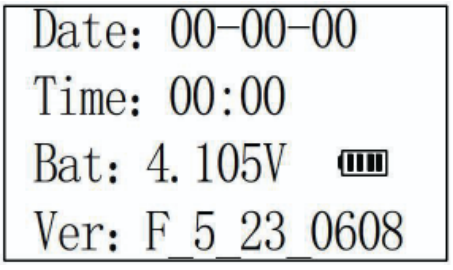
4.2 Detection & Alarm

When the gas concentration exceeded limit is detected by the device (O2 concentration is below low value and above high value), it will be intermittently beeping “Di…Di…,” with voice alarm indication, and LED lighting in red, screen backlight lighting and vibrating reed is in vibration. Only with the normal gas centration detected by the detector, can the device stops beeping and vibrating. See followings for interface details:



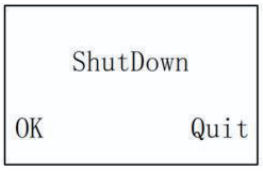
4.3 System State Check

Press LEFT button to check the battery status, date and time, showed on the screen. See followings for interface details:



4.4 Power Off

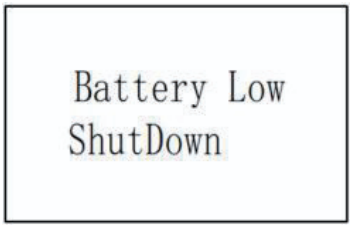
Long press POWER button for 3 seconds when device in normal detection, OFF interface will be showed on the screen, pressing LEFT and MENU button to power off it, and press POWER and RIGHT button to cancel the OFF operation.



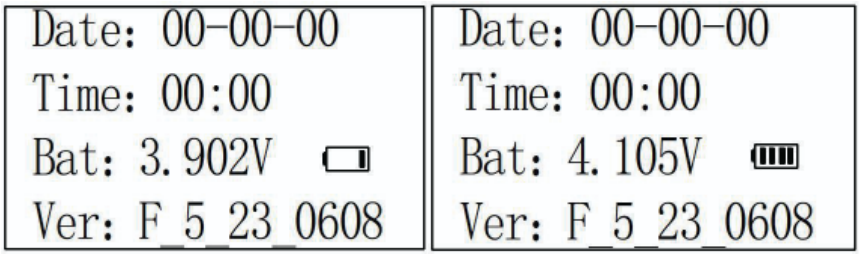
4.5 Charge

“Low Battery” will be indicated when the battery voltage of device is below 3.5V, needed

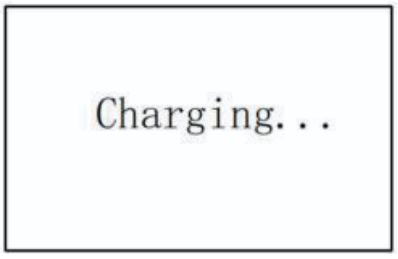
to charge device now with USB cable to avoid abnormal operation caused by low voltage.



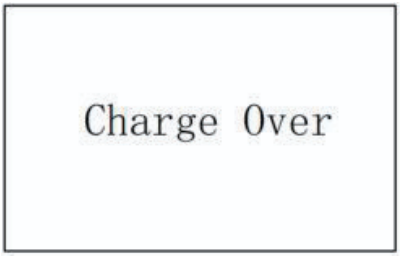
Alarm lights on the top and side of detector will be flashing when it is being charged. Press LEFT button to switch to the interface of current battery status and date & time. Process bar of battery icon scrolling means it is in charging, and full battery icon will be showed when the charging finished.



The device can be charged when it is OFF, showed “Charging…”

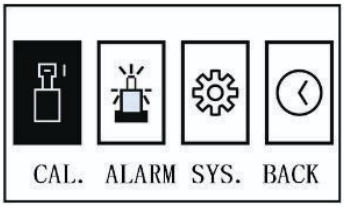


“Fully charged” will be showed when it is finished.

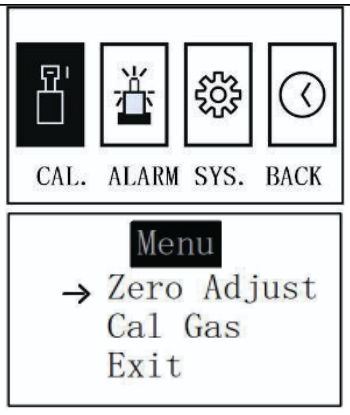
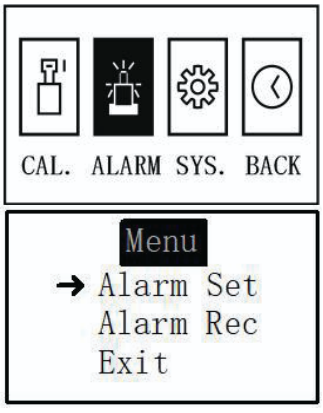
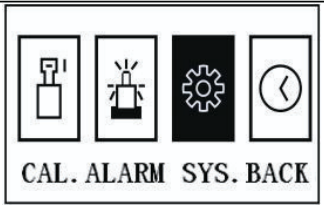


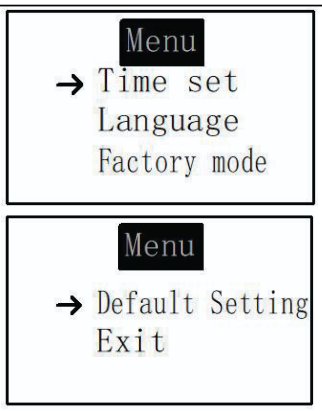
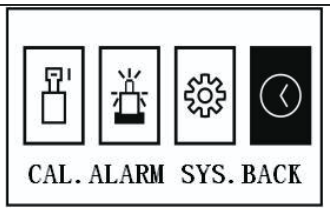
5. Menus

Enter the menu: Press MENU button to enter the main menu.

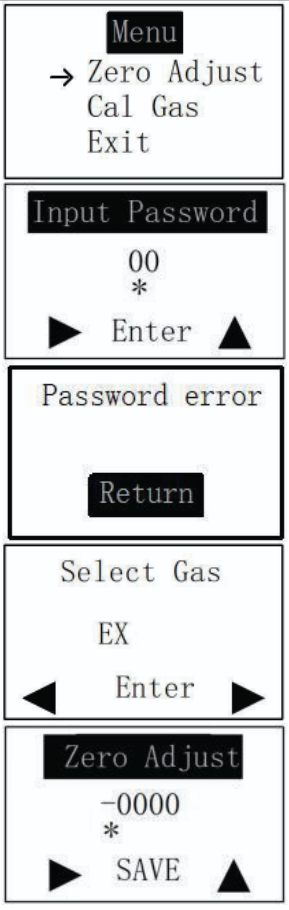


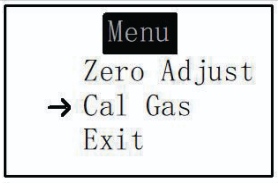
Buttons: Press LEFT and RIGHT button to select the items, POWER button to cancel it. Press MENU button to confirm to enter it for details.

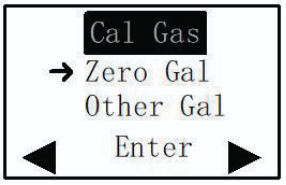
	Operation Details: Press MENU button to confirm to enter the submenu, LEFT and RIGHT button to select the items, POWER button to cancel, MENU button to confirm to enter it. 1. Submenu in the Calibration.
	2. Submenu in the Alarm.
	3. Submenu in the Settings.

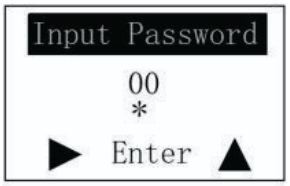
	
	Return

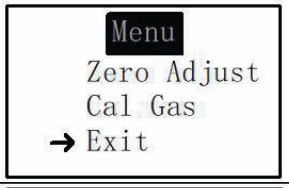
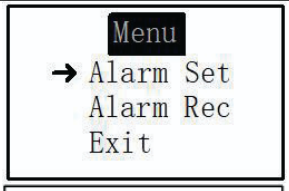
Functions details:

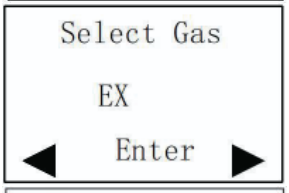
	Zero Trim Plus or minus the set value based on the actual detected gas concentration, used in the condition of failing to calibrate gas, but difference existed when it cannot be zero. Operations: Select the item, press MENU and input 11 to pass and enter the gas selection (“Password Error” showed if wrong), press POWER button to back to the normal detection interface, LEFT and RIGHT button to roll up and down the gas types. Select the gas and press MENU button to enter the interface of manufacture trim. Press LEFT button to cyclically move right one by one to select what you need to adjust (the value or digital character). Press RIGHT button to adjust the plus-minus sign or the value, MENU button to save it. For example, When the value of combustible gas in the air is showed 3 and cannot be zero, setup -0004 and press MENU button to save it. The show value of combustible gas should be 0 in the normal detection interface.

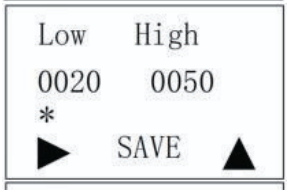
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<tr>
<td>
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<td>Note: The value should be set one digit more than the show value to avoid inaccuracy caused by the large difference between show value and actual gas concentration.</td>
</tr>
<tr>
<td>

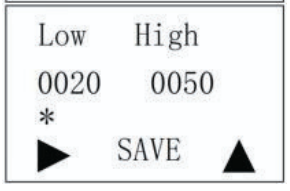




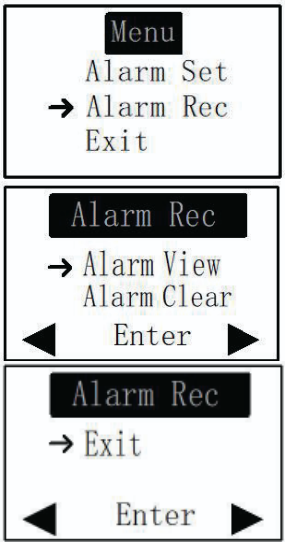
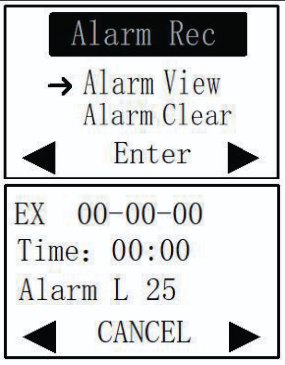
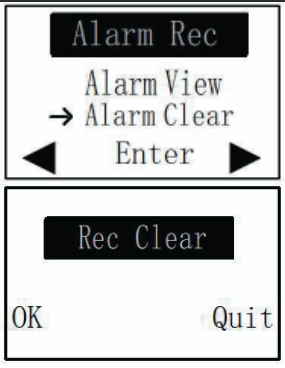
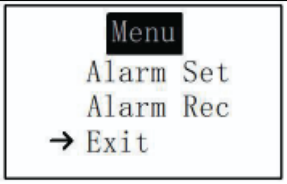
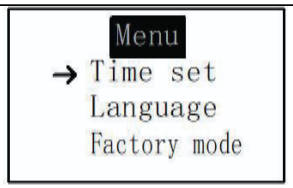

</td>
<td>Gas Calibration
Separately setup password (11) to avoid any improper operation on the device, and only the professionals can operate it, please contact manufacture for operation details if needed.
Exit
Exit the submenu.
Operations:
Press MENU button to exit and back to the main menu.</td>
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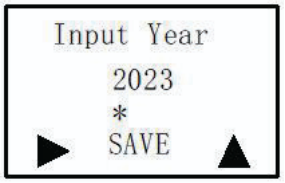
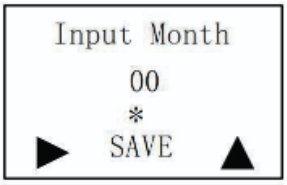
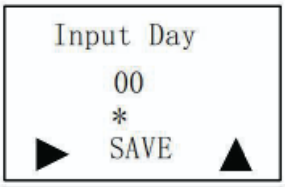
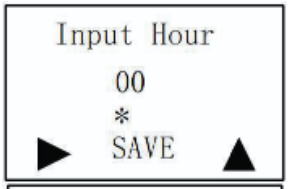
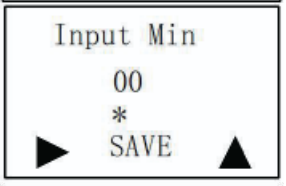
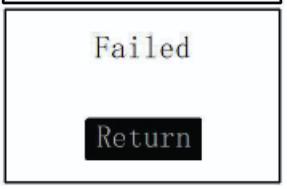
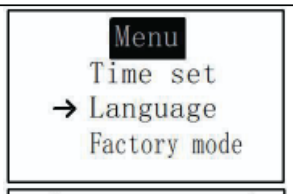


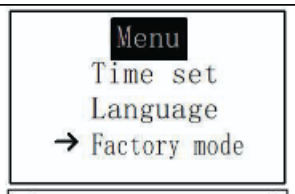
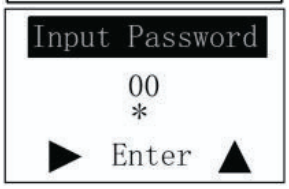
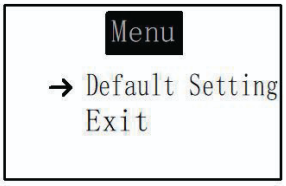
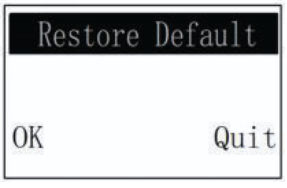
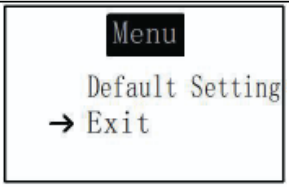



</td>
<td>Alarm Settings
To setup the alarm value of gas concentration detection, low alarm means the gas concentration exceeding low value, audible and visual alarm is triggered when the oxygen concentration is below low value, and high alarm means the gas concentration exceeding high value, audible and visual alarm is triggered.

Operations:
Select the item, press MENU and enter the gas selection, press LEFT and RIGHT button to roll up and down the gas types. Select the gas type and press MENU button to enter the Alarm Settings. Press LEFT button to cyclically move right one by one to select what you need to adjust (value). Press RIGHT button to adjust the digits, MENU button to save it. And press POWER button is back to previous menu.</td>
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</table>

	Alarm Records It includes the Alarm Check, Alarm Clear and etc. Operations: Select the item and press MENU to enter it. Press LEFT and RIGHT button to roll up and down the gas types. Press MENU to enter for selected details.
	Alarm Check Check the alarm history of the device. Operations: Press LEFT button to check new records, RIGHT button to check the history one. Press MENU to cancel.
	Alarm Clear Operations: Press POWER button to select “OK” to clear alarm records. Press RIGHT button to select “EXIT” to cancel the alarm clear.
	Exit Exit the submenu. Operations: Press MENU button to exit and back to the main menu.
	Time Setup Operations: Select the item and press MENU button to enter it, showing the year setting. Press LEFT button to cyclically move right one by

      	one to select what you need to adjust (value). Press RIGHT button to adjust the digits, MENU button to save it. Then enter the interface of month setting, and so on. Press MENU button to save the setup information with “Successful”showed, or “Failed”.
 	Languages It includes Chinese and English. Operations: Select the item and press MENU button to enter it, LEFT or RIGHT button to select the language and press MENU button to save it with “Saved” showed. The system language will be in English if the selected menu is English menu, vice versa.

	
 	Engineering Settings Operations: The function is set only for our company professionals to avoid any improper operation on the device. It is set by separate password and details omitted.
 	Factory Reset Operations: Select the Engineering Settings and press MENU to enter the Factory Reset. Press MENU button to confirm “OK”, RIGHT button to select “Quit”.
	Exit Exit the Factory Reset, and return to the normal detection interface. Operations: Select the item to exit and press MENU button to back to main menu.

Warning: Do not charge the Portable Gas Detector in the detection site to avoid fire or explosion caused by the charger. Do not charge the device when it is ON to avoid the charging speed impact.

6. Cautions

Prevent the device from dropping from height or violent shake.

Maybe fails to use the device in the condition of high gas concentration.

Operate the device as per the manual to avoid any damage.

This device should not be stored or used in the corrosive gases environment (such as the high chlorine gas concentration) or the poor environment (too high or low temperature, too high humidity, electromagnetic fields and strong sunlight).

Slightly wipe the device with clean soft cloth if it is dirty instead of using corrosive solvents and hard objects to avoid scratch or damage.

Regularly calibrate device to make sure the detection accuracy, the calibration period is ≤1 year.

Please contact us if any other troubles.

Do not remove, replace or charge the battery pack in the explosive gas condition. Do not use external pluggable devices without Ex-proof certification or change sensor.

7. Troubleshooting

Failures	Reasons	Solutions
Fail to enable device	Low voltage	Charge now
	Crash	Contact the manufacturer or distributor
	Power failure	Contact the manufacturer
No response to gas detection	Power failure	Contact the manufacturer
Inaccurate display	Sensor is out-of-service	Contact the manufacturer to change sensor
	Without calibration for a long time	Calibrate device in time
Incorrect time display	Depleted battery	Charge now and reset time
	Intense electromagnetic interference	Reset time
Zero Calibration failure	Too much sensor drift	Calibrate the device in time or change sensor
Full range showed	Sensor failure	Contact the manufacturer to change sensor

8. Storage

The device should be stored in the condition of ambient temperature - 10 °C~ 55°C and relative humidity ≤85%RH， without harmful gas or impurity corrosion.

9. Accessories

Toolbox*1, Gift Box*1, Charger Plug *1, USB Cable*1, User Manual*1, Calibration cover*1