

可燃气体检测仪

Combustible Gas Detector



用户手册
User Manual

SW-733GS

中 文	-----	01~16
English	-----	17~32

用户须知

- ◆ 本手册详细介绍了产品的使用方法、注意事项以及相关事项，在使用产品之前，请详细阅读手册，以便发挥产品的最佳效能。
- ◆ 请勿近距离进行高浓度燃气测试。（如需测试打火机气体，需由远到近并且最小距离传感器5CM；无点火无火焰开启时间需小于3秒，确保安全）
- ◆ 不要在易燃、易爆的环境中使用仪器及给仪器充电。
- ◆ 注意保护传感器，不沾水、油污等，更不能用硬物破坏传感器。
- ◆ 仪器更换的废旧电池和报废的仪器不可与生活垃圾一同处理，请按国家或者当地的相关法律规定处理。
- ◆ 仪器出现任何的质量问题，或对使用仪器有任何疑问时，请及时联系当地经销商或深达威厂家，我们将第一时间为您解决。

感谢您购买  **SNOWWAY**
深达威® 仪器 系列产品！

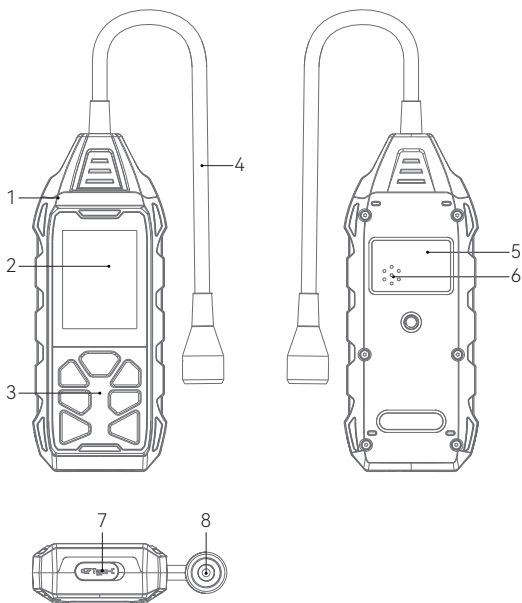
专业铸造品质 品质成就品牌

本可燃气体检测仪（以下简称检测仪）采用当前先进的电路技术，优质高性能传感器，具有灵敏度高、可靠性好、响应速度快、稳定性高、操作简单等特点，是输气管道燃气泄漏检测最理想的仪器。使用和维护方便，外壳采用高强度工程塑料，强度高、手感好，并且防爆。

本仪器是理想的燃气泄漏检测设备，能检测 $\mu\text{mol/mol}$ 级含量，及时发现燃气微量漏气。可应用于农业/牧业、化工厂、矿业、建筑工地、消防、石油石化、污水处理等各个需要安全检测有毒有害，防爆炸的行业及场所。

本产品设计、制造、检定遵守以下国家标准：

- 1、GB12358-2006 《作业场所环境气体检测报警仪通用技术要求》
- 2、GB/T 3836.1-2021 《爆炸性环境 第1部分：设备通用要求》
- 3、GB/T 3836.4-2021 《爆炸性环境 第4部分：由本质安全型“i”保护的设备》
- 4、GB15322.3-2019 《可燃气体探测器 第3部分：工业及商业用途便携式可燃气体探测器》
- 5、JJG693-2011 《可燃气体检测报警器的检定规程》



1. 外壳 2. 显示屏 3. 按键 4. 万向定型管 5. 铭牌
6. 语音孔 7. USB接口 8. 传感器、警报灯、手电筒

技术参数

项目		SW-733GS
显示屏幕		2.4寸彩屏
语言界面		中文/英文
语音播报		报警音提示
可燃 气	探测气体	天然气、液化石油气等可燃气体 (主要成分甲烷, 异丁烷等)
	气体量程	0~20%LEL, 0~10000 μ mol/mol (ppm)
	气体分辨率	0.1%LEL, 1 μ mol/mol (ppm)
	气体浓度单位	%LEL、ppm、 μ mol/mol三种单位切换
	气体测量精度	$\pm 5\%$ FS
	预热时间 (T90)	约30秒
	响应时间 (T90)	<30秒
	采样方式	扩散式
	校正	用户可零点校准
	默认可燃 气报警值	低限报警1000 μ mol/mol; 高限报警4000 μ mol/mol; 用户可根据需要自行更改
时间显示		√
报警		声音/灯光/振动/屏幕显示四种报警模式, 工作电压欠压指示
报警音频提示		浓度到达“下限”或“上限”时, 会产生报警。
电池规格		3.7V 2000mAh锂电池
充电规格		Type-C DC5V 1A
充电时长		约2.5小时
满电续航		约9小时(关闭手电筒情况下)
自动关机		默认5分钟(5分钟/10分钟/30分钟可选)
工作温湿度		-10℃~50℃; 20%~95%RH
储存温湿度		-20℃~60℃; $\leq 85\%$ RH
防爆等级		Ex ib IIB T3 Gb
机身尺寸		170x66x28.5mm(万向定型管长约260mm)

● 按键功能

	主界面：短按切换REAL/HOLD(打开/关闭数据保持) 菜单/设置界面：短按返回上层界面，长按直接返回主界面
	主界面：短按进入设置界面 菜单/设置界面：短按确认选项
	菜单/设置界面：短按左移选项
	菜单/设置界面：短按右移选项
	主界面：短按打开手电筒 菜单/设置界面：短按上移选项
	主界面：短按切换测量模式REAL/MIN/AVG/MAX(实时值/最小值/平均值/最大值)；长按切换单位 菜单/设置界面：短按下移选项
	短按开机/长按关机

● 开机操作

关机状态下，短按  键仪器开机。开机状态下，长按  键关机。

当仪器为关机状态时，短按  键开机显示主界面，检测并显示可燃气值。



可燃气趋势

可燃气趋势界面：测量可燃气，趋势图每2秒记录一次最大值，趋势图Y轴会随测量的最大值变化而变化，单位随主单位。X轴可记录时间为90秒(上图表示58分0秒至59分30秒时段)。

注意：当测量值超过最大量程时，仪器会显示最大量程，此时请将仪器移开被测气体，否则在停止通入气体后，仪器可能需要非常长的时间才能恢复到零点。

模式：

- 1、在主界面短按  键，可以切换“最大值、最小值、平均值和实时值”，对应显示“MAX/MIN/AVG/REAL”。

MAX：模式选择MAX，开始记录最大值。

MIN：模式选择MIN，开始记录最小值。

AVG：模式选择AVG，开始记录平均值。

REAL：模式选择REAL，开始记录实时值。

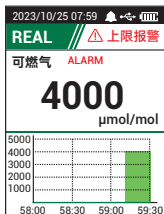
- 2、短按  键时会锁住当前数值，再次短按  键返回实时值。

HOLD：模式选择HOLD，锁定当前值。

- 3、在主界面短按  键，切换手电筒开关灯状态。（手电筒默认为关闭状态）。

● 报警提示

在可燃气趋势界面状态下，可燃气体浓度值达到报警限制时，会触发报警，主界面上显示报警类型。



可燃气趋势

● 菜单操作

在主界面状态下，按 **SET MENU** 键进入设置菜单选项。



▲ ▼ ◀ ▶ 选择菜单。（注：压力校零不可选）

● 报警设置

选择报警设置，按 **SET MENU** 键进入设置页面。



<报警类型页面>



<报警值设置页面>

  切换报警类型， 进入报警值设置。

  修改报警值， 确认设置并返回。

 返回报警设置界面。

● 单位设置

选择单位设置，按  键进入设置页面。



 进入单位设置。

  修改单位， 确认设置并返回。

 返回设置页面。

● 语言设置

选择语言设置，按 **SET MENU** 键进入设置页面。



按 **▲** **UNIT** 切换语言类型，按 **SET MENU** 确认设置并返回。

按 **↶** **HOLD** 返回设置页面。

● 时间设置

选择时间设置，按 **SET MENU** 键进入设置页面。



  切换时间类型,   调整时间,  确认设置并返回。

 返回菜单页面。

● 通用设置

选择通用设置, 按  键进入设置页面。

2023/10/25 07:59   	
 通用设置	
自动关机	< 5 min >
自动背光	< ON >
按键声音	< ON >
报警声音	< ON >
报警震动	< ON >
报警灯	< ON >

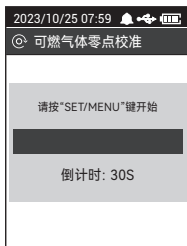
  切换设置类型,  进入设置。

  选择OFF/ON,  确认设置并返回。

 返回设置页面。

● 气体校零

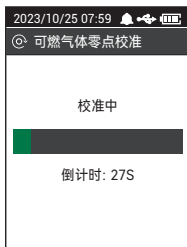
选择气体校零，按  键进入可燃气体零点校准页面。



开始校准，倒计时30秒结束。



返回菜单页面。



● 系统恢复

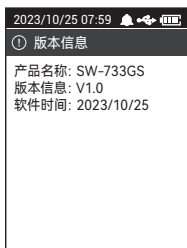
选择系统恢复，按 **SET MENU** 键进入系统恢复页面。



选择“确认”，按 **SET MENU** 恢复到出厂前的参数设置。
选择“返回”，按 **SET MENU** 或 **HOLD** 返回菜单页面。

● 版本信息

选择版本信息，按 **SET MENU** 键进入版本信息页，按 **HOLD** 键返回菜单页面。后续软件版本如有更新，请以实际为准！



电池充电

1. 本仪器采用3.7V 2000mAh 锂电池供电。屏幕右上角的电池符号  显示电池当前的电量状况。
2. 当电池电量减少时，图标小格会随之减少，当电量耗尽时，电池符号显示 ，需要给电池充电。
3. 仪器充电：使用DC 5V 大于1A的充电器，通过Type-C充电线给仪器充电。

维护操作

1. 只有经过专门培训，并经本公司授权的专业人员，才允许维修本仪器。
2. 在维修本仪器之前，请仔细阅读和理解本操作手册。
3. 在拆卸仪器，更换仪器元件时，必须先关闭仪器。

仪器清洁

1. 检查仪器是否干净，如果不干净，可用干的软布清洁，不得用溶剂或洗涤剂化学溶剂。
2. 不要把仪器浸在水中或在流水中清洗。如果有必要，仪器可用湿布（只能是水）清洁。
3. 清洁前，最好把传感器盖上，这样可以避免水分、灰尘进入到传感器的进气孔，并保证过滤网不被弄脏。

注意事项

- * 仪器使用环境温度为-10℃ ~ 50℃。
- * 仪器的报警为非锁定报警器：当气体浓度达到报警设定值时即报警，当读数回到正常范围时，就停止报警。
- * 仪器传感器的窗口必须保持清洁，若被污染应清洗干净后方可使用。
- * 仪器禁止在含有水蒸汽、酸性气体、碱性气体、强氧化性气体、硅胶气体、硅化合物蒸气及灰尘过高的环境中使用和储存。
- * 若仪器发生故障或被污染时应立即停止使用并与有关技术人员联系进行检修维护。
- * 禁止本机从高处跌落或敲击万向定形管（传感器）。
- * 禁止将传感器直接置于高浓度气体测试。
- * 本产品是气体探测器，不是测量装置。

常见故障及其解决方法

故障现象	可能的故障原因	处理方式
无法开机	电压过低	请及时给仪器充电
	死机	长按  键恢复
	电路故障	请联系经销商或制造商维修
对检测气体没有反应	电路故障	请联系经销商或制造商维修
显示不准确	传感器超期	请联系经销商或制造商更换传感器
	长期未校准	请及时校准
当仪器在正常空气中检测，界面显示满量程	传感器故障	请联系经销商或制造商更换传感器

装箱清单

请按下列清单认真检查仪器所有附件是否完整。如不完整，请及时联系经销商或生产厂家。

序号	名称	单位	数量	备注
1	主机	台	1	
2	Type-C线	条	1	
3	彩盒	个	1	
4	说明书	本	1	
5	布包盒	个	1	
6	保修卡	张	1	

Notes for the user

- ◆ In this manual, the directions for use, precautions and related matters of the product are introduced in details. Before using the product, please read the manual carefully so that the performance of the product can be maximized.
- ◆ Do not conduct high concentration gas testing at a close distance (if lighter gas needs to be tested, the test shall be conducted from far to close with a sensor at the nearest distance of 5CM. The ignition time without flame should be less than 3 seconds to ensure safety).
- ◆ Do not use the instrument or charge it in a flammable and explosive environment.
- ◆ Make sure to protect the sensor from water, oil, etc., and do not use any hard object to damage the sensor.
- ◆ Do not mix waste batteries and scrapped instruments that have been replaced with household waste for disposal, instead, dispose of them in accordance with relevant national or local laws and regulations.
- ◆ In case of any quality problem with the instrument or in case of any question about using the instrument, please contact the local distributor or us in time, and we will solve them for you as soon as possible.

***Professional casts quality and good
quality gets reputation !***

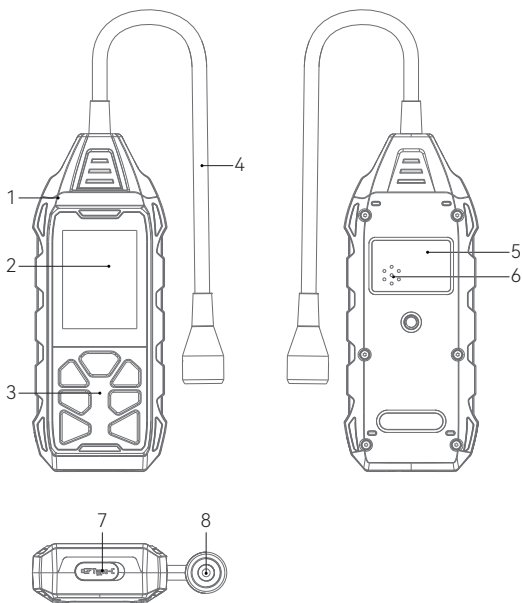
This combustible gas detector (hereinafter referred to as the detector) is made using advanced circuit technology and high-quality high-performance sensors. It has the characteristics of high sensitivity, good reliability, fast response speed, high stability, and simple operation, and is the most ideal instrument for gas leakage detection in gas pipelines. It is easy to use and maintain, and the outer shell is made of high strength engineering plastic, featuring high strength, good hand feel and explosion-proof.

This instrument is an ideal gas leakage detection equipment that can detect $\mu\text{mol/mol}$ level content and find trace gas leakage in time. It can be applied to various industries and places that require safety testing for toxic and harmful substances and explosion prevention including agriculture/ animal husbandry, chemical plants, mining, construction sites, fire protection, petroleum and petrochemical, and sewage treatment.

The design, manufacturing and verification of this product comply with the following national standards:

1. GB12358-2006 Gas Monitors and Alarms for Workplace - General Technical Requirements
2. GB/T 3836.1-2021 Explosive Atmospheres - Part 1: Equipment-General Requirements
3. GB/T 3836.4-2021 Explosive Atmospheres - Part 4: Equipment Protection by Intrinsic Safety "i"
4. GB15322.3-2019 Combustible Gas Detectors - Part 3: Portable Combustible Gas Detectors for Industrial and Commercial Use
5. JJG693-2011 Verification Regulation of Alarmer for Detection of Combustible Gas

Structure of Main Unit



- | | |
|---------------------------|-----------------------------------|
| 1. Outer shell | 5. Nameplate |
| 2. Display screen | 6. Voice hole |
| 3. Key | 7. USB interface |
| 4. Universal shaping tube | 8. Sensor, alarm lamp, flashlight |

Technical Parameters

Item		SW-733GS
Display screen		2.4-in color screen
Language interface		Chinese/English
Voice broadcast		Alarm sound prompt
Combustible gas	Gas for detection	Combustible gases such as natural gas and liquefied petroleum gas (main components include methane, isobutane, etc.)
	Gas range	0~20%LEL, 0~10000 μ mol/mol (ppm)
	Gas resolution	0.1%LEL, 1 μ mol/mol (ppm)
	Gas concentration unit	Switch among %LEL, ppm and μ mol/mol
	Gas measurement precision	$\pm 5\%$ FS
	Preheating time (T90)	Approx. 30s
	Response time (T90)	<30s
	Sampling method	Diffused
	Calibration	Zero calibration by the user
	Default combustible gas alarm value	Lower limit alarm 1000 μ mol/mol; Upper limit alarm 4000 μ mol/mol; The user can change it according to needs
Time display		√
Alarm		Four alarm modes of sound/light/vibration/screen display, undervoltage indication of operating voltage
Alarm audio prompt		When the concentration reaches the "lower limit" or "upper limit", an alarm will be triggered.
Battery specification		3.7V 2000mAh lithium battery
Charge specification		Type-C DC5V 1A
Charge duration		Approx 2.5 hours
Endurance after full charge		Approx 9 hours (when flashlight is off)
Automatic shutdown		5 minutes by default (5/10/30 minutes optional)
Working temperature and humidity		-10°C~50°C; 20%~95%RH
Storage temperature and humidity		-20°C~60°C; $\leq 85\%$ RH

Explosion-proof grade	Ex ib IIB T3 Gb
Dimension of instrument	170x66x28.5mm (length of universal shaping tube is about 260mm)

Operation Description

● Functions of Keys

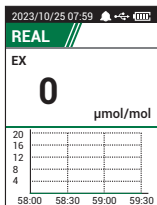
	Main interface: Press to switch between REAL/HOLD (keep open/close data) Menu/setting interface: Press to return to the upper interface, and hold to directly return to the main interface
	Main interface: Press to enter the setting interface Menu/settings interface: Press to confirm option
	Menu/setting interface: Press to move left option
	Menu/setting interface: Press to move right option
	Main interface: Press to turn on the flashlight Menu/setting interface: Press to move up option
	Main interface: Press to switch among measurement modes REAL/MIN/AVG/MAX (real-time value/minimum value/average value/maximum value); Hold to switch unit Menu/setting interface: Press to move down option
	Press to turn on/Hold to turn off

● Startup Operation

In the shutdown state, press  key to turn on the instrument.
In the power-on state, hold  key to turn it off.

Main Display Interface

When the instrument is in the shutdown state, press  key to turn it on and display the main interface, detect and display the combustible gas value.



Combustible gas trend

Combustible gas trend interface: Measure combustible gas, record the maximum value every 2 seconds in the trend chart, and the Y-axis of the trend chart will change with the measured maximum value, with the unit changing with the main unit. The X-axis can record a time of 90 seconds (the above figure shows the period from 58 minutes and 0 seconds to 59 minutes and 30 seconds).

Attention: When the measured value exceeds the maximum range, the instrument will display the maximum range. At this time, please move the instrument away from the measured gas, otherwise it may take a very long time for the instrument to return to zero after stopping gas injection.

Mode:

1. Press  key on the main interface to switch between "maximum, minimum, average, and real-time values", corresponding to the display of "MAX/MIN/AVG/REAL".

MAX: Select MAX mode to start recording the maximum value.

MIN: Select MIN mode to start recording the minimum value.

AVG: Select AVG mode and start recording the average value.

REAL: Select REAL mode to start recording real-time value.

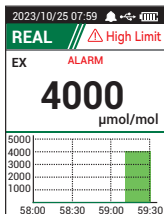
2. Press  key to lock current value, and press  key again to return to real-time value.

HOLD: Select HOLD mode to lock the current value.

3. Press  key on the main interface to switch the flashlight on/off light state. (The flashlight is turned off by default).

● Alarm Prompt

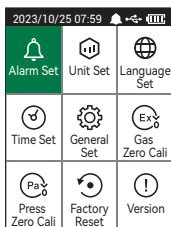
In the state of combustible gas trend interface, when the concentration value of combustible gas reaches the alarm limit, an alarm will be triggered, and the alarm type will be displayed on the main interface.



Combustible gas trend

● Menu Operations

In the main interface state, press **SET MENU** key to enter the setting menu option.

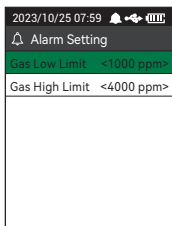


Press **▲** **▼** **◀** **▶** key to select the menu.

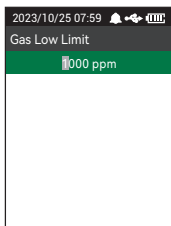
(Note: "Press Zero Cali" is not optional)

● Alarm Setting

Select "Alarm Set" and press **SET MENU** key to enter the setting page.



<Alarm Type Page>



<Alarm Value Setting Page>

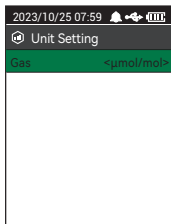
Press   key to switch the alarm type, and press  key to enter the alarm value setting.

Press   key to modify the alarm value, and press  key to confirm the setting, and return.

Press  key to return to the alarm setting interface.

● Unit Setting

Select "Unit Set" and press  key to enter the setting page.



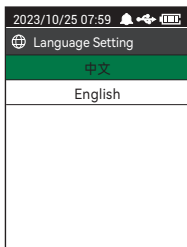
Press  key to enter the unit setting.

Press   key to modify the unit, and press  key to confirm the setting and return.

Press  key to return to the setting page.

● Language Setting

Select "Language Set" and press key  to enter the setting page.

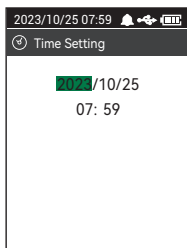


Press   key to switch language types, and press  key to confirm setting and return.

Press  key to return to the setting page.

● Time Setting

Select "Time Set" and press  key to enter the setting page.



Press   key to switch time types, press   key to adjust time, and press  key to confirm setting and return.
Press  key to return to the menu page.

● General Setting

Select "General Set" and press  key to enter the setting page.

2023/10/25 07:59   		
 General Setting		
Auto Power Off	< 5 min >	
Auto Back Light	< ON >	
Key Tip	< ON >	
Alarm Sound	< ON >	
Alarm Shake	< ON >	
Alarm Light	< ON >	

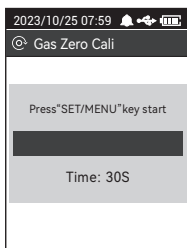
Press   key to switch setting types and press  key to enter setting.

Press   key to select OFF/ON, and press  key to confirm the setting and return.

Press  key to return to setting page.

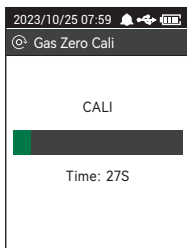
● Gas Zero Calibration

Select "Gas Zero Cali" and press  key to enter the combustible gas zero calibration page.



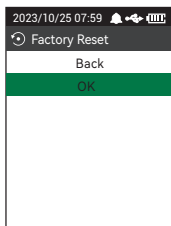
Press  key to start calibration and countdown to 30 seconds.

Press  key to return to the menu page.



● Factory Reset

Select "Factory Reset" and press **SET MENU** key to enter factory reset page.



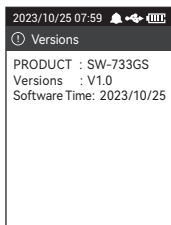
Select "OK", and press **SET MENU** key to restore to the default parameter setting.

Select "Back", and press **SET MENU** key or **↶ HOLD** key to return to menu page.

● Version Information

Select "Version", press **SET MENU** key to enter the version information page, and press **↶ HOLD** key to return to the menu page.

If there are any updates to the subsequent software versions, the actual version will prevail!



Battery Charging

1. This instrument is powered by 3.7V 2000mAh lithium battery. The battery symbol  in the upper right corner of the screen displays the current battery level.
2. When the battery level decreases, the icon grid will decrease accordingly. When the battery level is depleted, the battery symbol will be displayed as  , indicating the battery needs to be charged.
3. Instrument charging: Use a charger with a DC 5V 1A+ to charge the instrument through a Type-C charging cable.

Maintenance Operation

1. Only professionals who have received specialized training and are authorized by our company are allowed to repair this instrument.
2. Before repairing this instrument, please read and understand this operating manual carefully.
3. Turn of the instrument before disassembling the instrument and replacing parts and components.

Cleaning of The Instrument

1. Check if the instrument is clean. If not, use dry and soft cloth to clean it, and chemical solvents such as solvents or detergents shall not be used.
2. Do not immerse the instrument in water or clean it in running water. If necessary, the instrument can be cleaned with wet cloth (only with water).
3. Before cleaning, it is best to cover the sensor to prevent moisture and dust from entering the air inlet of the sensor and ensure that the filter screen is not dirty.

Precautions

- * The ambient temperature for using the instrument is $-10^{\circ}\text{C}\sim 50^{\circ}\text{C}$.
- * The alarm of the instrument is a non-locking alarm: it alarms when the gas concentration reaches the alarm set value, and stops when the reading returns to the normal range.
- * The window of the instrument sensor must be kept clean. If it is contaminated, it should be cleaned before use.
- * The instrument is prohibited from being used and stored in an environment containing high levels of water vapor, acidic gas, alkaline gas, strong oxidizing gas, silicone gas, silicone compound vapor, and dust.
- * If the instrument malfunctions or is contaminated, it should be immediately stopped from use and contact relevant technical personnel for maintenance.
- * Do not drop the device from a high place or strike the universal shaping tube (sensor).
- * It is prohibited to directly place the sensor in high concentration gas for testing.
- * This product is a gas detector, and is not a measuring device.

Trouble-shooting

Symptom of fault	Possible cause	Solution
Unable to power on	Voltage is too low	Charge the instrument in time
	The device gets halted	Hold  key to recover
	The circuit fails	Contact the distributor or manufacturer for repair
No response for gas detection	The circuit fails	Contact the distributor or manufacturer for repair
Display is not accurate	The sensor expires	Contact the distributor or manufacturer for replacing the sensor
	It is not calibrated for a long time	Calibrate in time
When the instrument detects in normal air, the interface displays full range	The sensor does not work	Contact the distributor or manufacturer for replacing the sensor

Packing List

Please check carefully whether all accessories of the instrument are complete according to the following list. If incomplete, please contact the distributor or manufacturer in time.

No.	Name	Unit	QTY	Remarks
1	Detector	PC	1	
2	Type-C cable	PC	1	
3	Colorbox	PC	1	
4	User manual	PC	1	
5	Pouch	PC	1	

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