

Thank you for choosing our product! Before using the product, please read this user manual carefully and keep it in a safe place for future reference.

Gas Detection Alarm Instrument User Manual



Product Compliance Standards: AQ6207-2007, MT703-2008, MT704-2008, MT563-1996,
GB3836.1-2010, GB3836.2-2010, GB3836.4-2010

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1 Overview

The portable gas detector is a composite multi-gas detector suitable for industrial environments and environments prone to flammable, toxic, and harmful gases that pose risks to human health.

The gas detector, designed with advanced very large scale integrated circuit technology and in accordance with international standard intelligent technology levels, is a fully intelligent gas detector designed with a combination of digital and analog communication technologies. This intelligent gas detector is technologically advanced, performs exceptionally, is highly stable, and is convenient to use, greatly meeting the high reliability requirements for equipment in industrial site safety monitoring. The gas detector is widely used in industries such as petroleum, chemical, metallurgy, refining, gas distribution, biochemistry, and pharmaceuticals.

This product is designed, manufactured, and calibrated in compliance with the following national standards:

GB3836.1-2010 "Explosive Atmospheres - Part 1: Equipment General Requirements"

GB3836.4-2010 "Explosive Atmospheres - Part 4: Equipment Protected by Intrinsic Safety"

GB1522.3-2003 "Portable Combustible Gas Detectors - Part 3: Portable Combustible Gas Detectors with a Measurement Range of 0-100% LEL"

JJG915-2008 "Verification Regulations for Carbon Monoxide Detection Alarms"

JJG695-2003 "Verification Regulations for Hydrogen Sulfide Gas Detectors"

JJG 693-2011 "Verification Regulations for Combustible Gas Detection Alarms"

JJG 365-2008 "Verification Regulations for Electrochemical Oxygen Analyzers".

2 Functional Features

2.1 Auto-inspection upon power-up, low battery indication, high-definition LCD

display, two-level triple alarm (sound, light, vibration).

2.2 Advanced ultra-low power microcontroller with built-in temperature compensation and automatic calibration, featuring high precision, good linearity, anti-interference, and other characteristics.

3 Technical Specifications

Gases Detected: Flammable, toxic, oxygen, TVOC, etc.

Sampling Method: Diffusive

Reading Error: $\pm 3\%$ FS

Response Time: T90 < 30S (for flammable gases, carbon monoxide, hydrogen sulfide)

Alarm Methods: Audible, visual, vibration

Display Method: LCD displays real-time data and alarm status, detected gases

Explosion-Proof Rating: Ex ib IIC T4 Gb

Operating Environment:

Temperature: -10°C to 55°C

Humidity: <95%RH without condensation

Operating Voltage: DC 3.7V (Lithium battery 2000mAh)

Charge Time: 6h-8h

Standby Time: More than 8 hours

Dimensions: 145*70*35 (mm)

Weight: 250g

4 Structure and Functions

4.1 Appearance of the Multi-Parameter Gas Detector and Single-Gas Detector



4.2 The keyboard

When using the function buttons, functional prompts will appear at the bottom of the display screen for easy operation.

The keys	Functional specifications
	Power On Button: In the off state, hold for 3 seconds to turn on. Power Off Button: In the gas detection interface, hold for 3 seconds to turn off. Confirm Button: Enter the menu or confirm the current value.
	Up button: Scroll up the menu catalogue Add key: The current operand value increases Electric quantity key: In detection state, press to display electric quantity, monitored time and current date and time, and press again to return to the monitoring interface
	Down key: Scroll down the menu directory Decrease key: The current operand value decreases Mute button: in alarm state, press it to eliminate sound and light alarm and keep vibration.

5 operating menu

5.1 Operation Interface description

The diagram below shows just four conventional gases :

Ex	O2
0%LEL	20.9%VOL
H2S	CO
0PPM	0PPM

Portable 4-in-1 Interface

Ex
0%LEL

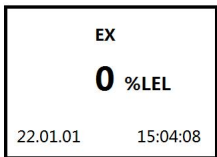
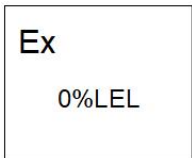
Single portable Interface

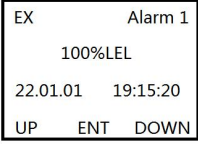
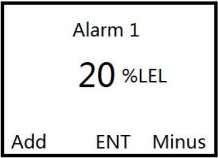
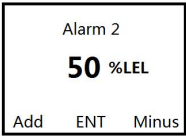
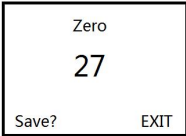
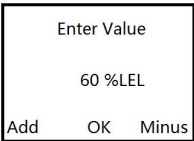
5.2 Description of instrument system function menu

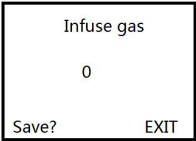
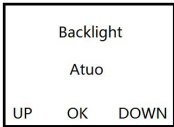
Press the poer button: Enter the correct password (1111)to enter the menu

Menu			
1	Record	2	Alarm 1
3	Alarm 2	4	Zero
5	Calibration	6	Time
7	Back light	8	Password
9	Check	10	Information
11	Exit		

The following table describes menu operations:

Display screen parameters	Detailed operation instructions
	Power on: Hold down power 3s to enter the startup interface; Display self-check information and channel information. After all functions are normal, the system enters the normal detection state
	Power off: In normal detection status, long press Enter the shutdown interface, long press power for 3s to shut down Note: because the key reuse function, so only in the normal display interface, long press more than 3s can shut down

	Password authentication: Short press power Enter the password verification interface as show in Figure. Press up and down To adjust the value,press up and down to change position.If the password is correct, you can access the menu
	1.Record After entering the menu, press up or down Key to view alarm record, short press Key, enter the option menu to delete alarm records
	2. Alarm 1 : After entering the low alarm setting, first select the channel and press power After entering the channel, press up or down Key adjustment low value; Short press power Enter options, save low alarm Settings or exit;
	3. Alarm 2: After entering high alarm setting, first select channel and press power After entering the channel, press up and down Key adjustment of high value; Short press Enter options, save high alarm Settings or exit;
	4. Zero : Enter the password, select the channel, enter the zero setting interface, press Key, save zero; Warning: Please ensure that this operation is done in clean air.
	5.Calibration: Enter the menu to display the current calibration concentration, press up and down Calibration concentration can be modified, short press power After confirmation, the AD value screen is displayed. Enter

 The screen displays 'Infuse gas' at the top, '0' in the center, and 'Save?' and 'EXIT' at the bottom.	the gas with the standard concentration. When the value is stable, press power Save the calibration results; Warning:calibration has been completed before delivery, users need to operate with caution.
 The screen displays 'Time' at the top, '22.01.01' and '19:45:02' in the center, and 'Add', 'OK', and 'Minus' at the bottom.	6. Time : Enter year, month, day, hour, minute, second as prompted,Short press power Saves the current date and time
 The screen displays 'Backlight' at the top, 'Atuo' in the center, and 'UP', 'OK', and 'DOWN' at the bottom.	7. Backlight: After entering the menu, press the short press up and down Adjust the backlight mode. You can choose Automatic or Steady on.
 The screen displays 'Password' at the top, '0000' in the center, and 'Add', 'OK', and 'Minus' at the bottom.	8. Password : After entering the menu, enter a correct password, enter a new password, and press power Save Settings。
	9.Check: detect sound, light and vibration equipment in turn。
	10.Information: Displays channel information in sequence
	11.Exit: Exit the menu to return to the monitoring status

6 Matters needing attention

◆ Please read the product instruction carefully before using the instrument.

It is strictly forbidden to start maintenance or replace parts without authorization.

◆ In order to ensure the testing accuracy, the instrument is calibrated regularly, the

calibration period should not be more than 12 months.

◆ The instrument may not work when the gas concentration in the field is higher than the range.

◆ To prevent the instrument from falling from high or by violent impact.

◆ If the machine is damaged by human or improper use, it will not enjoy free warranty.

◆ The storage temperature of the instrument is -10°C~55°C, the relative humidity is not more than 85%, the room should be ventilated, no corrosive gas.

7 Common faults and troubleshooting methods

The fault phenomenon	Possible fault causes	handling
Unable to boot	Voltage is too low	Please charge in time.
	Crash	Please contact the dealer or manufacturer for repair
	Circuit fault	Please contact the dealer or manufacturer for repair
No reaction to the detected gas	Circuit fault	Please contact the dealer or manufacturer for repair
Inaccurate display	Sensor outage	Contact your dealer or manufacturer to replace the sensor
	Long-term uncalibration	Please calibrate in time
Time display error	The battery is completely discharged	Charge in time and reset the time
	Strong electromagnetic interference	Reset time
The zero calibration function is not available	Excessive sensor drift	Calibrate or replace the sensor in time
The instrument is normal, and the detection interface displays "- 0"	Sensor drift	Perform zero calibration

When the instrument is normal, the detection interface displays full scale	Sensor failure	Contact your dealer or manufacturer to replace the sensor
The lamp is not on	The voltage is too low	Please charge in time
	Lamp failure	Please contact your dealer or manufacturer for replacement

8 After-Sales Service

- ◆ If there is oil stain on the surface of this product, please wipe it gently with a clean soft cloth dipped in water. Do not wipe the surface of this machine with corrosive solvent or hard object, otherwise the machine may be damaged.
- ◆ the product host will be guaranteed free of charge within 12 months from the date of purchase
- ◆ if the product has passed the warranty period, our company will charge maintenance fees as appropriate
- ◆ damage caused by human damage or improper use is not within the scope of warranty
- ◆ this product is disassembled without permission of our company, and free maintenance is not allowed

9 Parts

A packing box, a portable gas detector, a set of charger, a manual, a certificate and a warranty card are provided for the supporting detector.

Appendix 1 (gas parameter table)

Detection gas	Detection range	Indication error	Minimum reading	Under-reporting value
Oxygen (O ₂)	0-30%VOL	<±3%FS	0.1%VOL	18.5%VOL
Combustible	0-100%LEL	<±3%FS	1%LEL	20%LEL
Carbon Monoxide	0-1000ppm	<±3%FS	1ppm	50ppm
Hydrogen Sulfide (H ₂ S)	0-100ppm	<±3%FS	1ppm	10ppm
Sulfur Dioxide (SO ₂)	0-100ppm	<±3%FS	0.1ppm	10ppm
Nitric Oxide (NO ₂)	0-250ppm	<±3%FS	1ppm	10ppm
Nitrogen Dioxide (NO ₂)	0-20ppm	<±3%FS	0.1ppm	5ppm
Chlorine	0-20ppm	<±3%FS	0.1ppm	5ppm
Ammonia	0-100ppm	<±3%FS	1ppm	10ppm
Hydrogen (H ₂)	0-1000ppm	<±3%FS	1ppm	50ppm
Detection gas	Detection range	Indication error	Minimum reading	Underreporting value
Hydrogen Cyanide	0-50ppm	<±3%FS	0.1ppm	5ppm
Hydrogen Chloride	0-20ppm	<±3%FS	0.1ppm	5ppm
Ozone (O ₃)	0-20-100ppm	<±3%FS	0.01ppm	5ppm
Ethylene Oxide	0-100ppm	<±3%FS	0.1ppm	10ppm
Methane	0-4%VOL	<±3%FS	0.01%VOL	1.00%VOL

NOTE: Please contact the manufacturer for gases not listed.

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Keep this manual for reference.

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