

# **Portable ammonia gas detector instruction manual**

**JXBS-4001-Gas**

**Ver1.0**

**威海精讯畅通电子科技有限公司**

Weihai JXCT Electronics Co., Ltd.

# 第 1 章 Product introduction

## 1.1 Product overview

JXBS-4001 series portable gas detector adopts the latest digital integrated circuit technology and international gas detection technology design into a new intelligent gas detector.

The portable gas detector uses a large-size full-color LCD screen to display readings in real time. The probe selects a well-known brand manufacturer probe in the industry. Relying on several years of gas transmitter R & D experience, the use of mature, stable and long-life probe solutions.

The detector uses natural diffusion to detect gas, and the detection circuit designed by the digital chip of international manufacturers can achieve very high sensitivity and excellent repeatability. The shell adopts industrial-specific high-strength composite plastic, which has high strength and good feel, and has functions such as waterproof, dustproof and explosion-proof.

This detector is widely used in petrochemical, environmental protection, metallurgy, mining, agriculture, experiment, surveying and mapping and other industries.

## 1.2 Features

- It can detect 1-4 kinds of gases at the same time, and

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the manufacturer can customize the detected gas types according to customer needs.

- It has a variety of units, including ppm, mg/m<sup>3</sup>, Vol%, LEL%, PPB and many other units to switch freely.
- Rich man-machine interface, full-color interface designed based on the latest embedded ideas, can query, record and display gas data in real time.
- Three gas concentration display methods, gas individual Digital + meter display, multi-gas collection display, optional real-time curve display.
- Optional data storage function, support up to 100,000 data storage function, you can export data to the computer through Excel, and print, edit, icon display function, etc.

### 1.3 Main parameters

Parameters	Technical indicators
Detect gas	Ammonia
Measurement method	Electrochemistry
Display error	$\leq \pm 3\%F.S$
Response time	$T_{90} < 30$ seconds
Linearity	$\leq \pm 2$
Repeatability	$\leq \pm 2$

<b>Recovery time</b>	≤ 30 seconds
<b>Working temperature</b>	-20 °C to 50 °C
<b>Working humidity</b>	<95% RH without condensation
<b>Working power supply</b>	3.6VDC ,2000mAh (standard) lithium battery
<b>Display mode</b>	2.2 inch LCD
<b>Communication method</b>	USB (charging and communication)
<b>Data storage</b>	Standard 15,000 data storage space
<b>Protection level</b>	IP65
<b>Explosion-proof signs</b>	Exia II CT6
<b>Charging time</b>	≤ 8H (standard)
<b>Size</b>	125*65 * 45mm
<b>Weight</b>	200g

## 1.4 Probe parameters

Detector probe parameters			
Gas type	Range	Resolution	Default alarm point

Ammonia

0-100ppm

0.1ppm

20ppm

## 1.5 Product structure

As shown in the figure below, the product is mainly composed of Shell, display screen, alarm light, buzzer, probe, Button, back clip and other parts.



## 第 2 章 Basic use of the product

### 2.1 Basic button of the device

The portable gas detector itself has three buttons to operate, as shown in the figure below, the button on the

left is **power key**, Press for three seconds and release to turn on or off.

According to the length of time pressed, the middle and right buttons have two functions respectively: when you press it for a short time, the middle button represents **turn the page to the left**, the right button represents **turn the page to the right**; When you press for a long time for one second, the middle button represents **cancel**, the right button represents **confirm**.



## 2.2 Device status bar

After booting up, the first screen displays the welcome interface, and automatically jumps to the first interface after three seconds. The upper part of the yellow line of our device interface is the status bar, as shown in the figure below.



12:31 on the left side of the status bar is the current time, and the current time is 12:31. There are three icons on the right. The first icon is the storage icon. The icon appears after the storage function is turned on. The icon will automatically turn green every time it is stored. When the storage space is insufficient, the icon will turn red.

The second icon on the right is the USB insert icon. When your device is connected to the computer via a USB Cable, the icon will appear. The third icon is the battery icon, which displays the battery level. When the system is charging, the power icon will turn green, the power bar will cycle from beginning to end, and the icon will turn red when the power is low.

### 2.3 Basic product display interface

The basic interface of the equipment includes the following three types: all-in-one display interface, single gas display interface, and discount display interface.

The first interface is shown in the figure below, which is an all-in-one gas interface, under which real-time data of all gases can be displayed concisely. When the gas is in the pre-heating period after power-on, the gas will display "--.-", please wait for the preheater to end and display the data. Normal gas is displayed in white. When a gas exceeds the alarm limit, the gas changes to red to indicate that the current gas exceeds the limit and alarms.



In the all-in-one gas interface, short press the "right turn page/confirm button", automatically jump to the single gas display interface, the single gas display interface will only display a certain gas, but the data shown are more comprehensive.

As shown in the figure, in the center of the screen, the current gas concentration is displayed in a large font, and a red exclamation mark is used to represent the alarm. When the gas exceeds the standard, the red exclamation

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mark will appear, at the same time, the gas changes from a normal white font to a red font. There is an instrument line at the bottom of the center of the screen. The greater the gas concentration, the longer the instrument line. Below are the minimum and maximum concentrations for the measurement period.

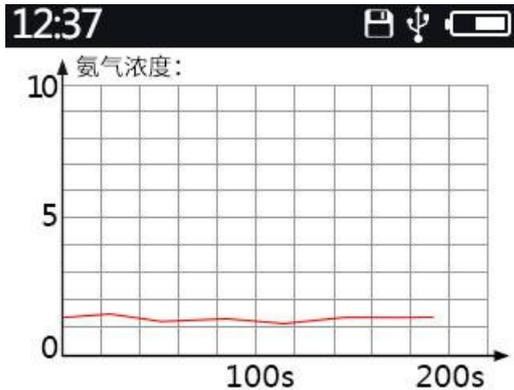


Under the single gas display interface, short press the "left turn page/cancel key" can realize the function of clearing the statistics of the maximum and minimum values, and at the same time, the sound and light alarm can be eliminated in the alarm state.

Under the single gas display interface, press the next gas to display the next gas. When all four gas interfaces are turned over, it will automatically enter the polyline display interface (optional).

As shown in the figure, a coordinate system is formed on the screen, the horizontal axis is time, each grid

is composed of two acquisition intervals, and the vertical axis represents the gas concentration, the red discount is a real-time line chart of the data collected during the last 20 collection intervals.



## 2.4 Product alarm and alarm

When the product detects that the concentration exceeds the alarm limit, the instrument will trigger the alarm state. At this time, the buzzer will emit a "drip" buzzer, and the alarm light will flash regularly, the corresponding excessive number on the screen will change from white to red, and an alarm icon will appear.



In the alarm state, short pressing the "page left/cancel button" will cancel the alarm and turn off the alarm state of the buzzer and alarm light, but the red number and alarm icon on the screen will not disappear. If another gas triggers the alarm again in the alarm state, the buzzer and the alarm light will still indicate the alarm until the alarm is lifted or the alarm is manually eliminated.

## 第 3 章 Product function settings

### 3.1 Set up the basic use of the menu

In any gas display interface, long press the "left turn/cancel key" to enter the function menu. In the function menu, press the "page left/cancel key" to push out the function menu to enter the gas display mode.



In the function menu, short press "turn page left/cancel key" to turn the page to the left or decrease the value, and short press "turn page right/confirm key" to turn the page to the right or increase the value. Long press the "page left/cancel key" to cancel and return to the upper level menu, and long press the "page right/confirm key" to confirm and enter the next level menu.

In the main menu, you can choose to enter the next level sub-menu. The sub-menu is selected in the red state. You can turn up and down to select the menu you want to select, long press the "page right/confirm key" on the parameters to enter the value Editing state. At this time, the sub-menu is in blue, and the value can be added and subtracted by turning the page up and down buttons.



Select the status editing status

### 3.2 System Settings menu

There are six settings under the system settings menu:



"Time setting": used to set the current time. Generally, it does not need to be set. It has been automatically calibrated at the factory.

"Automatic shutdown": used to set how long to automatically shut down without operating the device, the

setting range is 0-15 minutes, and the factory default is set to 0 minutes, that is, it does not automatically shut down.

"Backlight Brightness": Used to set the backlight brightness of the display screen. There are a total of 4 brightness levels, of which 0 is the darkest and 3 is the brightest.

"Backlight sleep": refers to how long to turn off the LED screen without operation, the setting range is 0-15 minutes, and the factory default is 0 minutes, that is, no backlight sleep is running.

"Unit setting": refers to the display unit for setting four gases. According to the situation, you can select ppm, PPB,% VOL,% LEL,mg/m<sup>3</sup> wait for five situations, not each gas can choose five units, please refer to the equipment menu for specific available units.

"Local information": Used to display four situations: Hardware version, software version, factory time, maintenance time, etc.

### 3.3 Alarm setting menu

There are five settings under the alarm setting menu, namely "sound and light alarm", alarm point 1 setting, alarm point 2 setting, alarm point 3 setting and alarm point 4 setting.



Among them, "sound and light alarm" is used to set whether to turn on the sound and light alarm, the degree of alarm sound after turning on the sound and light alarm, set 0 to turn off the sound and light alarm, and 1-5 represents different emergency procedures, the sound of 1 is the most compact, and the sound of 5 is longer.

Among them, "alarm point setting" can set four kinds of gas alarm points (the use of alarm points is determined by the type of gas you buy). Some alarm points have been made by default, please modify your own alarm points as needed. If you do not need alarm settings, you only need to set the alarm point to the maximum range.

### 3.4 Concentration calibration

The concentration calibration function is a more professional function, please do not operate this item for non-professionals. Please refer to the separate instructions for concentration calibration.

### 3.5 Restore factory settings

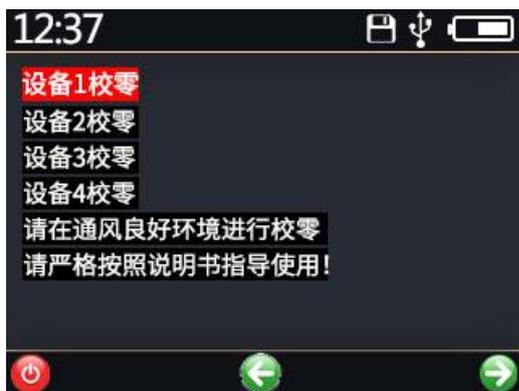
There are two options to restore the factory settings. The factory settings for setting and alarm reply are basic recovery, and other configuration items except the probe coefficient and probe zero point are restored to the factory settings. The probe coefficient is restored to the factory settings mainly to solve the wrong probe recovery factor caused by the wrong concentration calibration.

Neither of the above recovery options will calibrate the probe zero point, so you should manually calibrate the probe zero point after restoring the setting.

### 3.6 Zero point calibration function

Long-term use of the probe or changes in ambient temperature and humidity parameters will cause the zero point of the probe to change. When the zero point of the

equipment is inaccurate, the equipment can be corrected, in a normal natural environment with good ventilation, the equipment will be completed within about 1 minute after selecting the equipment to zero.



### 3.7 Data record parameter settings

There are four items under the Data Recording menu, namely "automatic recording switch", "recording interval setting", "data usage" and "recording data emptying".

"Automatic recording switch": The automatic recording function can be turned on or off. 0 is off and 1 is on.

"Recording interval setting": You can set the recording time interval, you can set the shortest 10 seconds to record once, and the longest 900 seconds to

record once.

"Data usage": You can tell the customer how many pieces of data have been stored and how many pieces of data can be stored.

"Record data emptying": Data that can be stored in a situation. Please note that the emptying process is irreversible, so please operate with caution.

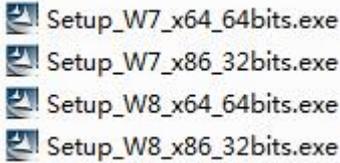
" **network parameter settings**": You can modify the IP address and port for data reporting, as well as the reporting interval. The reporting interval should be equal to or greater than 3 minutes.

## 第 4 章 Record data export

### 4.1 Drive installation

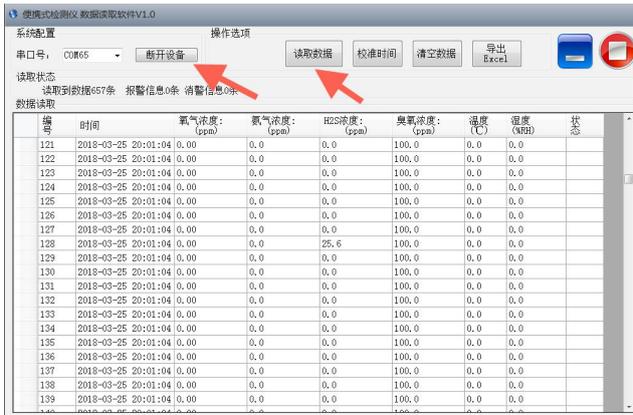
Before using our portable tester to connect to the computer, you need to install the driver. Please download the driver installation package from our official website, and install different drivers according to the requirements after decompression, 32-bit system installation for Win7 and below" Setup\_W7\_x86\_32bits. EXE ", 64-bit system installation" Setup\_W7\_x64\_64bits.exe ". Please install Win8 and above" Setup\_W8\_x64\_64bits.exe "(64-bit system) or please install" Setup\_W8\_x86\_32bits. EXE "(32-

bit system).



## 4.2 Data software usage

First use the USB-Mini data cable provided to connect the device to the computer, in the device status bar after the USB insert icon, open the portable data reading software, select the correct serial number, click to connect the device. After the device is successfully connected, click "Read Data" to read all the data. If you have a large amount of data, it takes a certain amount of time to read.



At the same time, the software can be used to calibrate the time of the device with one key, and the function of clearing data with one key. When the device is connected, click the relevant button to check the time or clear the data with one key.

This software supports exporting data to Excel tables. Please confirm that you have installed Microsoft Excel tools (WPS is not supported), and then you can export the data as a table and store it locally, note that the more data is saved, the longer it takes. Please be patient.

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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	2017-2-6 04:48	0	0	0	0	0	0	0										
2	2017-2-6 04:48	0	0	0	100	0	0	0										
3	2017-2-6 04:48	0	0	0	100	0	0	0										
4	2017-2-6 04:48	0	0	0	100	0	0	0										
5	2017-2-6 04:48	0	0	0	100	0	0	0										
6	2017-2-6 04:48	0	0	0	100	0	0	0										
7	2017-2-6 04:48	0	0	0	100	0	0	0										
8	2017-2-6 04:48	0	0	0	100	0	0	0										
9	2017-2-6 04:48	0	0	0	100	0	0	0										
10	2017-2-6 04:48	0	0	0	100	0	0	0										
11	2017-2-6 04:48	0	0	0	100	0	0	0										
12	2017-2-6 04:48	0	0	0	0	0	0	0										
13	2017-2-6 04:48	0	0	0	0	0	0	0										
14	2017-2-6 04:48	0	0	0	74.4	0	0	0										
15	2017-2-6 04:48	0	0	0	58.4	0	0	0										
16	2017-2-6 04:48	0	0	0	60.8	0	0	0										
17	2017-2-6 04:48	0	0	0	57.6	0	0	0										
18	2017-2-6 04:48	0	0	0	55.4	0	0	0										
19	2017-2-6 04:48	0	0	0	58.4	0	0	0										
20	2017-2-6 04:48	0	0	0	55.4	0	0	0										
21	2017-2-6 04:48	0	0	0	57.6	0	0	0										
22	2017-2-6 04:48	0	0	0	58.4	0	0	0										
23	2017-2-6 04:48	0	0	0	61.6	0	0	0										
24	2017-2-6 04:48	0	0	0	54.4	0	0	0										
25	2017-2-6 04:48	0	0	0	57.6	0	0	0										
26	2017-2-6 04:48	0	0	0	58.4	0	0	0										
27	2017-2-6 04:48	0	0	0	55.4	0	0	0										
28	2017-2-6 04:48	0	0	0	58.4	0	0	0										
29	2017-2-6 04:48	0	0	0	57.6	0	0	0										
30	2017-2-6 04:48	0	0	0	60.8	0	0	0										
31	2017-2-6 04:48	0	0	0	55.2	0	0	0										
32	2017-2-6 04:48	0	0	0	56.4	0	0	0										
33	2017-2-6 04:48	0	0	0	56.4	0	0	0										
34	2017-2-6 04:48	0	0	0	55.2	0	0	0										
35	2017-2-6 04:48	0	0	0	57.6	0	0	0										
36	2018-3-22 20:01	0	0	0	56.4	0	0	0										
37	2018-3-22 20:01	0	0	0	61.6	0	0	0										
38	2018-3-22 20:01	0	0	0	54.4	0	0	0										
39	2018-3-22 20:01	0	0	0	57.6	0	0	0										