YT-95H Suction Series Gas Detector Instruction Manual

Foreword

Welcome to use our instruments and hope that this manual will bring you convenience when you use the instrument. If you find any unclear, erroneous or too lengthy in this manual, please contact our agent or after-sales service department.

Please read this operation manual carefully before you perform any operation on this instrument, and keep the manual in a safe place so that you can check it in time for help.

Our company is committed to continuous improvement of product performance, and reserves the right to improve any content in the manual without prior notice.

The color and style of the products and products itself are subject to the actual purchase.

Before use

Anyone must read this manual before using, maintaining, and servicing the product.

The operation of the product can only meet the design requirements if it is used, maintained and overhauled according to the manufacturer's instructions.

The user should know how to set the instrument parameters and understand the meaning of the test data obtained.

Precautions

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

It is strictly forbidden to open the cover operation on site with power.

It is strictly forbidden to replace the sensor with power.

Installation, commissioning, setup, etc. must be performed by a professional.

Gas calibration inspections should be carried out on a regular basis, and sensors that exceed the effective service life and faults should be replaced in time.

It is strictly forbidden to input a gas shock sensor that is higher than the measured range gas concentration.

Prevent the instrument from falling from a height or being subjected to severe shocks.

It is strictly forbidden to expose the instrument to high concentrations of corrosive gas for a long time to prevent damage to the sensor.

It is strictly forbidden to use in high temperature and high humidity environment. If the humidity of the environment is large, a filter dehumidification device must be added.

Users are not allowed to start repairing or replacing parts without authorization.

Man-made damage is not covered by the warranty.

It is not allowed to replace the components or structures that affect the explosion-proof performance at will, so as not to affect the explosion-proof performance.

The password used for this instrument must be obtained from the dealer or manufacturer.

Caveat

Static electricity safety: Wipe only with a damp cloth.

For safety reasons, this product can only be operated and serviced by qualified personnel. This manual must be fully read and understood before operation and maintenance.

 Since the instrument is a bit heavy, please install at least 2 people when working, pay attention to it and handle it carefully. Failure to do so may result in bodily injury.

 When carrying the instrument, be sure to wear gloves as this may result in injury.

 During the installation process, be careful not to let the wire head or other debris enter the channel port on the left side of the instrument, otherwise it may cause fire, malfunction or malfunction.

 The memory card must be plugged in or unplugged without power. If operated with power and there is any problems on the instrument or memory card, which is out of the range of warranty.

Product description

YT-95H suction gas detector is a fixed instrument used in complex working environments such as organic exhaust gas, petrochemical, flue gas pipeline and university laboratory. The powerful built-in pump suction, the perfect combination of the new atmospheric shape, and its built-in pumping sampling method makes the instrument detection faster and more accurate. We are committed to provide users with the most reliable, accurate and safe gas detection solutions.

Instrument characteristics

Adopt 2.4-inch high-definition color screen, 120 degree angle of view
Built-in micro-sampling pump, pump flow is stable at 800mL/min
4-20mA current signal, RS485 digital signal, 1 set of relay signal output
Infrared remote control function and button function
Large capacity and fast storage, storage space can be customized
Support multiple gas display units to switch freely, the concentration value is automatically converted by the system
GPRS wireless transmission function, SMS reminder service (optional)
Can be equipped with 2 sets of relay signals (optional)
Built-in module to upload data to EPA platform or other public platform, transmitting signals without distance limitation (optional)
Pretreatment system to achieve harsh environment detection such as high temperature, high humidity and high dust (optional)

Specification

Size	（H x W x D）320*230*110mm
Weight	3000g
Detected principle	Electrochemistry, Catalytic combustion, Infrared Ray,etc
Measure range	0～1、5、10、20、50、100、1000 PPM
Resolution	0.01PPM，0.1PPM（according to the measure range）
Precision	≤±5%F.S （Higher measure range can be customized）
Pump flow rate	Flow rate range：0-800 ml/Min
Display Screen	2.4-inch color display, resolution 320*240 resolution
Display contents	Gas molecular formula, concentration, unit, pump status, etc.
Alarm	buzzer, alarm status prompt on the display
Data logging	Independent SD memory card, automatic measurement of measurement data, customizable recording interval
Communication and data download	It can be directly connected to the computer via USB to quickly download the TXT file for storing data; with the PC software to download, store, analyze and print the data.
Power supply	12-36V DC
Wireless network	Built-in module to upload data to the network platform, regardless of distance (optional)

Network frequency	2.4G high frequency
Installation method	Wall-mounted, pipe-flow type (optional)
Language	Chinese / English
Humidity	0～95%RH (no condensation) (optional filtration device can be equipped if in hyperhumidic ares)
Temperature	-20℃～+50℃ （optional filter can be equipped if over temperature）
Explosion-proof	Ex d IIC T6
Protection degree	IP65
Certificate	measuring instrument license, explosion-proof certificate, CE,ISO9001

Attachment configuration list

1. Standard accessories:
(1) One YT-95H suction gas detector
(2) One Infrared remote controller
(3) One manual
(4) Certificate, warranty card
(5) Instrument case

2. Optional accessories:
(1) Power adapter
(2) Switching power supply
(3) Controller
(4) High temperature probe
(5) Pretreatment system

Instrument description

The front of the instrument is the display area and the operation area, and the back is the duckbill buckle (take it with you). As shown below:

Air inlet: measuring gas input
Display: display gas concentration and various parameters
Exhaust port: measuring gas discharge port (can be connected to hose)
Key Description:
The instrument is equipped with a remote control and has 11 buttons. As shown in FIG:

Key	Short press	Long press*①
MENU	Enter in menu	
Mute button	Turn off the voice	
PUMP		Turn off the pump*②
BACK	Back/Cancel	
OK	Confirm	
UP（↑）	Move up	
Down（↓）	Move down	
Left（←）	Left shift	Enter the basic information interface *③
Right（→）	Right shift	
Plus（＋）	Plus	
Minus（-）	Minus	

Note:①long button function is limited to the instrument when the interface is detected.

②In the detection interface, press and hold the PUMP button for 3 seconds to turn the pump on/off.

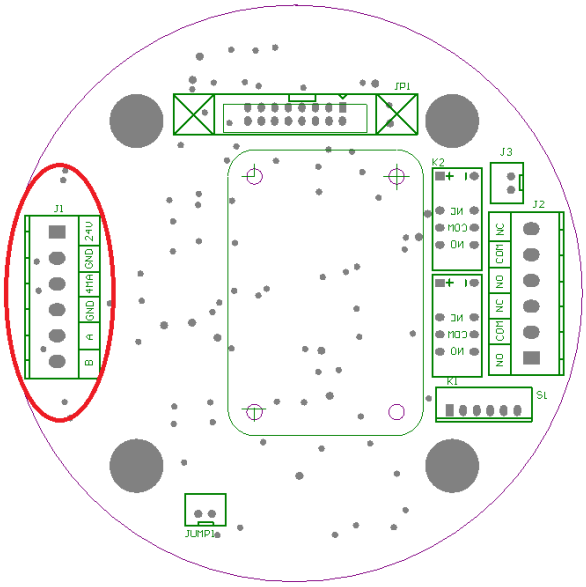
③In the detection interface, press and hold the left button for 3 seconds to enter the basic information interface. After 5 seconds, the left button returns to the detection interface after no action.

④In the detection interface, press and hold the left button for 3 seconds to enter the basic information interface, and return to the detection interface without operation within 5 seconds.

Except for the zero calibration interface and the target calibration interface, if there is no operation within 25 seconds, it will return to the detection interface.

1. MENU button: Enter the menu (in the detection interface).
2. Mute button: Turn off the instrument alarm sound (in the detection interface).
3. PUMP button: Turn off the pump (in the detection interface).
4. BACK button: cancel the operation (set the parameter); return to the previous menu or the detection interface.
5. OK button: Confirm the operation (set the parameter); enter the next level menu.
6. Up button: Move the cursor up.
7. Down button: Move the cursor down.
8. Left button: Move the cursor to the left; select to modify the data position.
9. Right click: Move the cursor to the right; select to modify the data position.
10. Add key: The value increases.
11. Minus key: the value is reduced.

Wire drawing

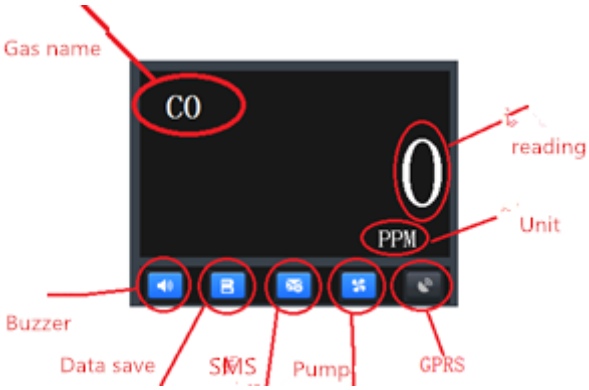


The instrument is placed in the front, on the left side of J1 terminal, the interface is 24V, GND, 4MA, GND, A (RS485A), B (RS485B) from top to bottom.

4~20mA with RS485 type (6-core cable)	Red line（24V）	Power input（12 V-24V）
	Black line（GND）	power ground
	Yellow line（connected to 4MA）	4~20mA output
	Orange line（connected to A）	RS485A
	Blue line（connected to B）	RS485B
	Brown line	Idle

Display screen

The following information is displayed on the display:



Reading: Gas concentration measured by the instrument
Gas Name: The type of gas measured by the instrument
Gas unit: The current unit of measurement of the gas (as shown in Figure PPM, %VOL, %LEL, etc.)
Buzzer: Indicates whether the buzzer is turned on or off (blue is on, gray is off)
Data Storage: Indicates whether the data storage is turned on or off (blue is on, gray is off)
SMS function: Indicates whether the SMS function is enabled or disabled (blue is on, gray is off)
Air pump: Indicates whether the air pump is turned on or off (blue is on, gray is off)
GPRS: Indicates whether the GPRS function is turned on or off (blue is on, gray is off)

Instructions

Instrument startup

1. In the off state, check whether the power cord on the left side of the instrument is intact and free from foreign matter.
2. Plug the power cord connector into the jack.

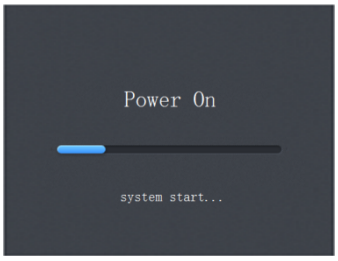


Figure 1

Figure 2

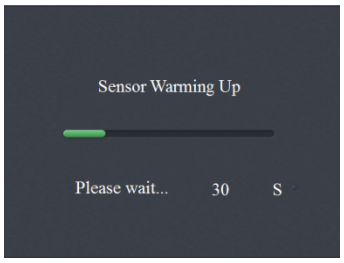


Figure 3

When the instrument is turned on, it initially displays “Power On” and Yuante's logo (as shown in Figure 1, Figure 2). (If it cannot be displayed normally, the instrument may be faulty. Please contact Yuante technical support at that time), then enter the sensor. Warm-up (self-test), if the self-test (including search sensor, memory data read) fails, please read the troubleshooting section of this guide to find a solution.

After the startup is completed, the test readings and various function icons will be displayed on the screen.

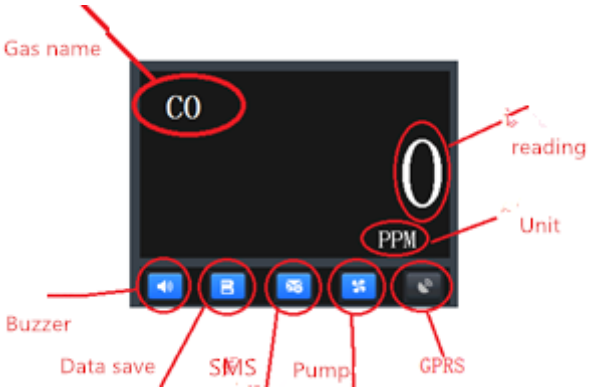
Figure 4

Instrument off

In the normal measurement state or when there is power, unplug the power cord connector or disconnect the main switch.

1. Gas detection

When the instrument is started, the detector enters the gas detection interface.



In the detection interface, the gas name is displayed in the upper left corner of the upper black area; the gas reading is displayed in the middle; the gas unit is displayed in the lower left corner.

The black area below is the buzzer, data save, SMS function, air pump and GPRS status icons from left to right. The icon is blue for valid or on, otherwise the icon is gray for invalid or closed.

2. Alarm status

When the instrument detects that any gas concentration exceeds or falls below the set alarm value, the instrument will start an alarm, the buzzer will continuously “bi-bi” sound, the frequency is 1HZ; at the same time, the concentration data of the alarm gas channel in the display screen will change the color, yellow indicates that the channel is low (Figure 5), and red indicates that the channel is high (Figure 6).

When the sensor part of the instrument is lost, damaged or improperly installed, an alarm is activated (Figure 6B).

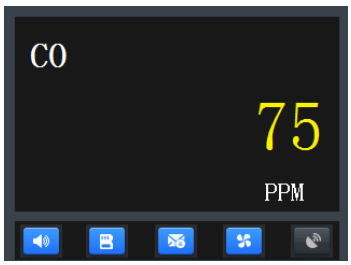


Figure 5

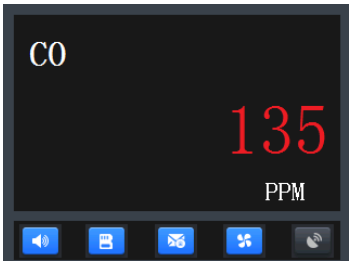


Figure 6

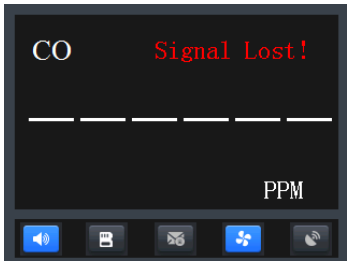


Figure 6B

3. Menu operation

To enter some sensitive operations, you need to enter your password. You need to ask your dealer or manufacturer.。

3.1 Main menu interface operation

Press the “MENU” button on the gas detection interface, the instrument will immediately enter the main menu interface (Figure 8); press the “BACK” button in the main menu interface to return to the gas detection interface.

Figure 7

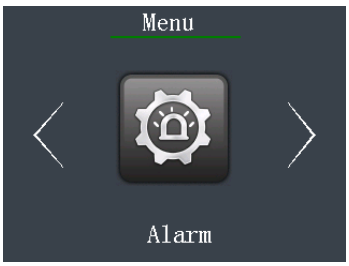


Figure 8

3.2 Alarm setting

In the main menu interface, use the “←” and “→” keys to move the cursor to select the “Alarm Settings” option (as shown in Figure 9), and then press the “OK” button to enter the “Alarm Settings” submenu. (Figure 10); press the “BACK” button in the submenu interface to return to the main menu interface.

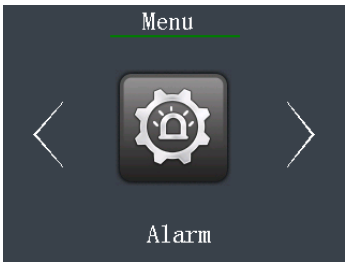


Figure 9

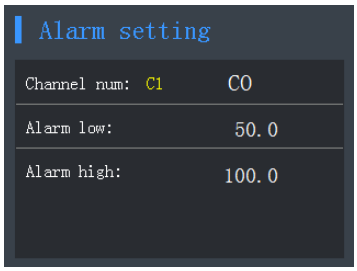


Figure 10

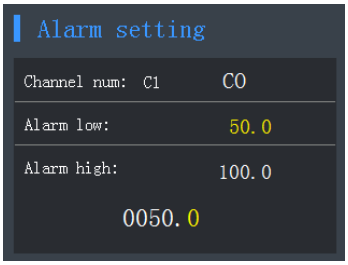


Figure 11

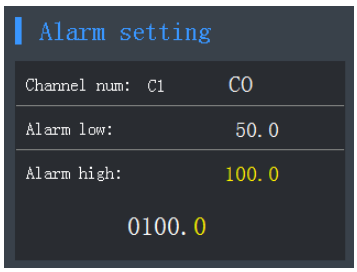


Figure 12

In the "Alarm Point Settings" menu (Figure 10), use the "←", "→" keys to select the desired modification channel, "↑", "↓" keys to select the modified option, press the "OK" button Skip to the value modification.

Use the “←” and “→” keys to move the cursor to select the pre-modified number, “+” and “−” keys to modify the selected number, and press the “OK” button to complete the setting (Figure 11, Figure 12). .

In the “Alarm Settings” menu, you can return to the previous menu at any time by pressing the “BACK” button. In the "Alarm Point Settings" menu (Figure 10), use the "←", "→" keys to select

the desired modification channel, " ↑ ", " ↓ " keys to select the modified option, press the "OK" button Skip to the value modification.

Use the "←" and "→" keys to move the cursor to select the pre-modified number, "+" and "−" keys to modify the selected number, and press the "OK" button to complete the setting (Figure 11, Figure 12). .

In the "Alarm Settings" menu, you can return to the previous menu at any time by pressing the "BACK" button.

3.3 Zero calibration

In the main menu interface, use the "←" and "→" two direction keys to move the cursor to select the "Zero Calibration" option (as shown in Figure 13), and then press the "OK" button to enter the "Zero Calibration" submenu (As shown in Figure 14), press the "BACK" button in the submenu interface to return to the main menu interface.

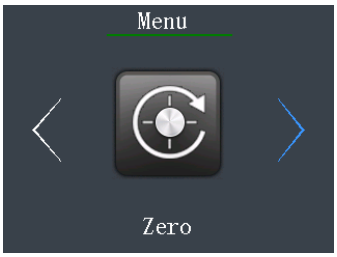


Figure 13

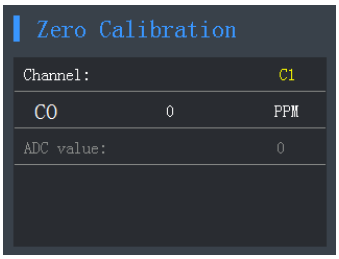


Figure 14

After entering the "Zero Calibration" menu (as shown in Figure 14), use the "←" and "→" keys to select the gas channel. After selecting the channel, press the "OK" button to complete the calibration.

In the "Zero Calibration" menu, you can return to the previous menu at any time by pressing the "BACK" button.

Note：

1. The gas originally present in the air (such as carbon dioxide, oxygen, nitrogen), the instrument for the carbon dioxide, zero calibration is 450PPM, the instrument shows that the calibration is successful; for oxygen and nitrogen, the zero calibration cannot be performed in the air, the instrument shows that the calibration failed.
2. When performing this option operation function, please pass the instrument into pure nitrogen gas or pure air for 3-5 minutes, until the value displayed by the instrument is stable, otherwise the display data will be inaccurate.

3.4 Target calibration

In the main menu interface, use the "←" and "→" 2 direction keys to move the cursor to select the "Target Calibration" option (as shown in Figure 15), and then press the "OK" button to enter the "Target Calibration" submenu (eg Figure 17); Press the "BACK" button in the submenu interface to return to the main menu interface.

Figure 15

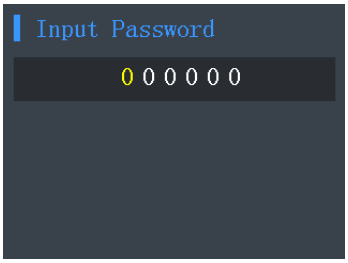


Figure 16

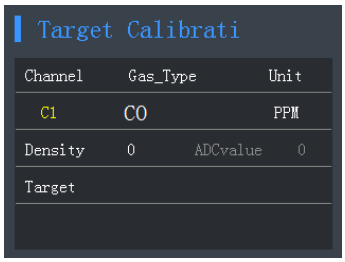


Figure 17

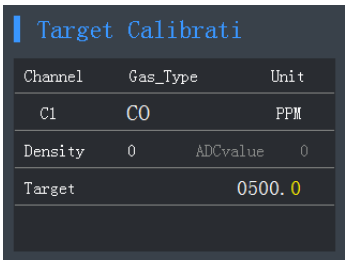


Figure 18

First enter the password (as shown in Figure 16), use the "←", "→" keys to move the cursor to select the pre-modified number, "✚", "━" to modify the selected number, press the "OK" button Go to "Target Calibration".

After entering the “Target Calibration” interface (as shown in Figure 17), use the “←” and “→” keys to select the channel, press the “OK” button to enter the target parameter setting, and use the “←” and “→” keys to move the cursor to select the preset. The modified number, “✚” and “━” keys modify the selected number, and press the “OK” button to complete the setting.

When performing target point calibration, first select the gas channel of the target calibration point, and then pass the standard gas of the target gas to the instrument at a flow rate of 400 ml/min or more, and modify the "target parameter" as the standard gas concentration value. Wait for 1-3 minutes according to different gases. After the value displayed by the instrument is stable, press the “OK” button to complete the target calibration operation of this channel.

In the "Target Calibration" submenu, you can return to the previous menu at any time by pressing the "BACK" button.

⚠Note：When performing this operation function, be sure to connect the pipe of the standard gas firstly, and the value displayed by the instrument is stable. Then calibration can be performed, otherwise the display data will be inaccurate.，

3.5 Communication setting

In the main menu interface, use the “←”, “→” two direction keys to move the cursor to select the “Communication setting” option (as shown in Figure 19), and then press the “OK” button to enter the “Mode Settings” submenu (As shown in Figure 20), press the “BACK” button in the submenu interface to return to the main menu interface.

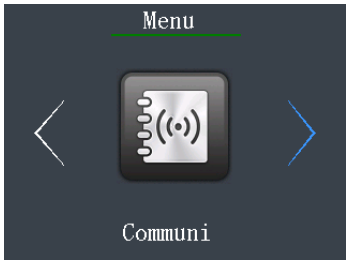


Figure 19

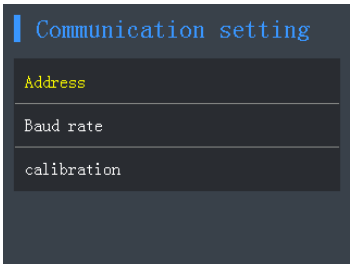


Figure 20

There are three options in the “Communication setting” menu, namely “Address”, “Baud Rate” and “Calibration”. Use the “↑” and “↓” keys to select the setting options and press the “OK” button to enter the corresponding options.

3.5.1 Address

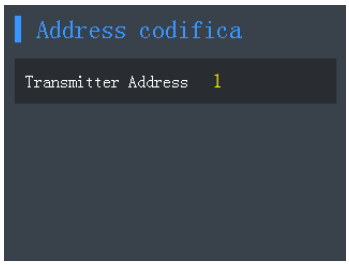


Figure 21

After entering the “Address” interface (as shown in Figure 21), please press the “+” and “-” keys to modify the address value and press the “OK” button to complete the setting.

3.5.2 Baud Rate

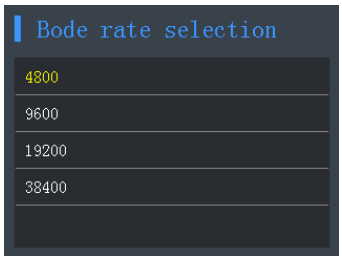


Figure 22

fter entering the “Baud Rate” interface (as shown in Figure 22), use the “↑” and “↓” keys to select the setting options, and press the “OK” button to complete the setting.

3.5.3 Calibration

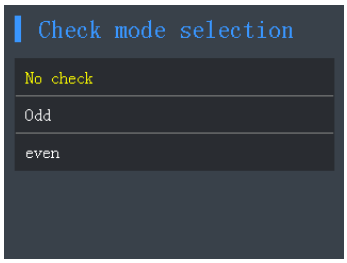


Figure 23

After entering the “Check Mode” interface (as shown in Figure 23), use the “↑” and “↓” keys to select the setting options, and press the “OK” button to complete the setting.

In the “Communication setting” menu, you can return to the previous menu at any time by pressing the “BACK” button.

3.6 Reset

In the main menu interface, use the “←” and “→” two direction keys to move the cursor to select the “Reset” option (as shown in Figure 24), and then press the “OK” button to enter the “Reset” submenu (As shown in Figure 26), press the “BACK” button in the submenu interface to return to the main menu interface.

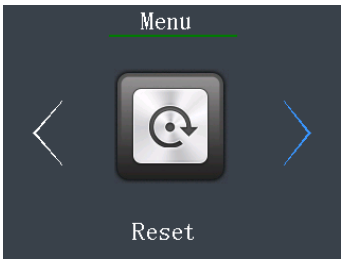


Figure 24

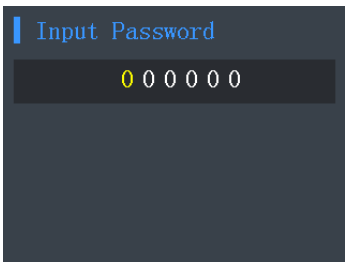


Figure 25

First enter the password (as shown in Figure 25), use the "←", "→" keys to move the cursor to select the pre-modified number, "+", "_" keys to modify the selected number, press the "OK" button Go to "Restore factory".

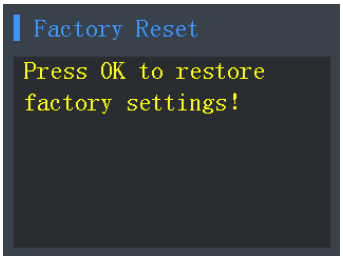


Figure 26

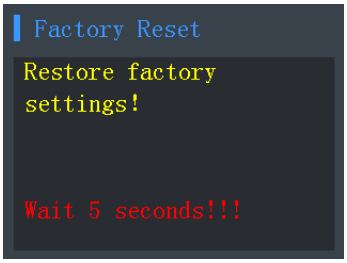


Figure 27

After entering (as shown in Figure 26), press the "OK" button to set the factory to resume, then wait 5 seconds before performing other operations.

In the “Reset” menu, you can return to the previous menu at any time by pressing the “BACK” button.

3.7 System settings

In the main menu interface, use the “←” and “→” 2 direction keys to move the cursor to select the “System Settings” option (as shown in Figure 26), and then press the “OK” button to enter the “System Settings” submenu (As shown in Figure 27), press the “BACK” button in the submenu interface to return to the main menu interface.

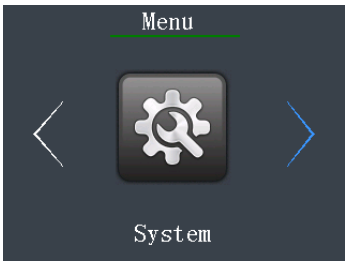


Figure 26

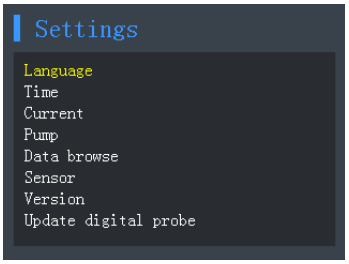


Figure 27

There are 8 options in the “System Settings” menu. Use the “↑” and “↓” keys to select the

setting options. Press the “OK” button to enter the corresponding options.

3.7.1 Language

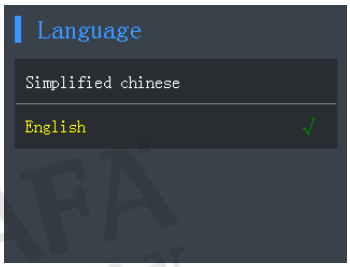


Figure 28

There are 2 options in the “Language Selection” menu (as shown in Figure 28), which are “Simplified Chinese” and “English” options. Use “↑” and “↓” keys to switch between two options. After selecting, press Click the "OK" button to complete the setup.

In the "Language Selection" menu, you can return to the previous menu at any time by pressing the "BACK" button.

3.7.2 Timer setting

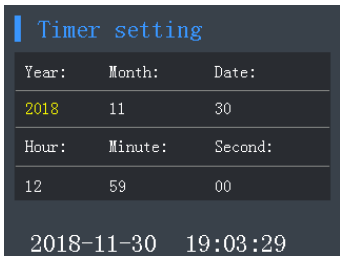


Figure 29

There are six options in the Timer Settings menu, which are the Year, Month, Day, Hours, Minutes, and Seconds options. Use the “↑” and “↓” keys to select one of the options. Use the “+” and “_” keys to modify the pre-selected values. After modifying the relevant values, press the “OK” button to complete the settings (Figure 29). .

In the “Timer Settings” menu, you can return to the previous menu at any time by pressing the “BACK” button.

3.7.3 Current settings

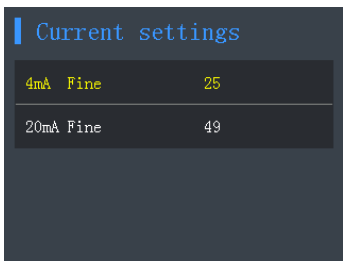


Figure 30

The “Current Settings” menu has two options, “4mA Fine ” and “20mA Fine ”. Use the “↑” and “↓” keys to switch between the two options. Use the “+” and “-” keys to modify the relevant values, and press the “OK” button to complete the settings (Figure 30).

In the “Current Settings” menu, you can return to the previous menu at any time by pressing the “BACK” button.

3.7.4 Pump setting

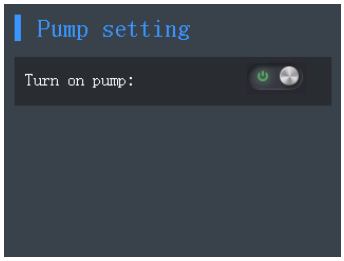


Figure 31

There is only one option in the Pump Settings menu (Figure 31).

“pump power” controls the opening and closing of the internal air pump of the instrument. Use the “←” and “→” keys to set the air pump on and off.

Turn the pump on and off to operate on this interface, or press and hold the “PUMP” button for 3 seconds on the detection interface.

In the “Pump Settings” menu, you can return to the previous menu at any time by pressing the “BACK” button.

Default factory pump setting: pump power is on.

3.7.4 History data

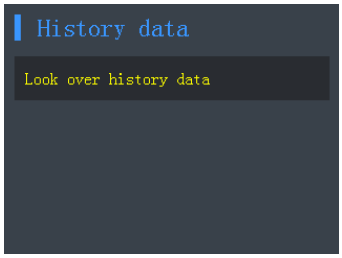


Figure 32

There is only one option in the history data menu（Figure 32），That is, "look over Historical Data. Press the "OK" button to enter this option.

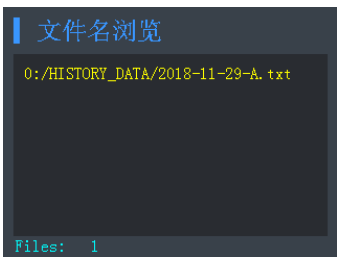


Figure 33 Figure 34

Go to the "look up History Data" menu (Figure 33). You can see the data log file saved in the instrument (this file is in TXT format). This file is named after the date of the save. If there are multiple days of saved records, there will be multiple log files. The lower left corner is displayed as the number of files currently stored.

Use the “↑” and “↓” keys to select the log file you want to view, press “OK” to enter the file browsing history data, and the instrument will display the first record in the log file (Figure 34).

Browsing data Use the “←” and “→” keys to switch between displaying the previous and subsequent records in this file. The lower left corner shows the current number of records and the number of stored records.

In the “Data View” menu, you can return to the previous menu at any time by pressing the “BACK” button.

Tips! Deleted files will not be recovered! It is recommended to delete it after backing up to the computer!

3.7.5 Sensor message

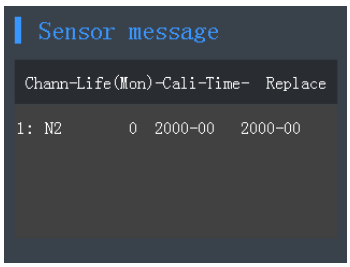


Figure 35

The gas type for each gas channel, the service life, the factory gas calibration date, and the next recommended calibration date are displayed.

In the “Sensor message” menu, you can return to the previous menu at any time by pressing the “BACK” button.

3.7.6 Version message

Figure 36

The relevant indicators of the instrument are displayed: program version, production date.

In the "Product Information" submenu, there is the company's official website QR code. For more information, please scan it.

In the "Version Information" menu, you can return to the previous menu at any time by pressing the "BACK" button.

3.7.7 Update digital probe

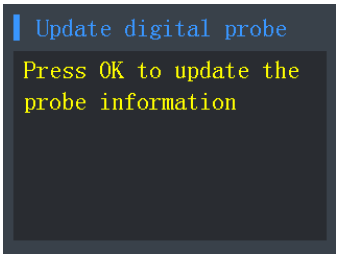


Figure 37

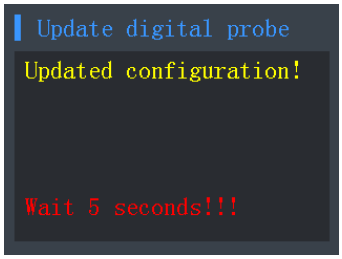


Figure 38

After entering, press the “OK” button to set the factory to resume, then wait 5 seconds before performing other operations.

In the “Update Digital Probe” menu, you can return to the previous menu at any time by pressing the “BACK” button.

3.8 Storage setting

In the main menu interface, use the “←” and “→” two direction keys to move the cursor to select the “storage setting” option (as shown in Figure 39), and then press the “OK” button to enter the “storage settings” submenu (As shown in Figure 40); press the “BACK” button in the submenu interface to return to the main menu interface.

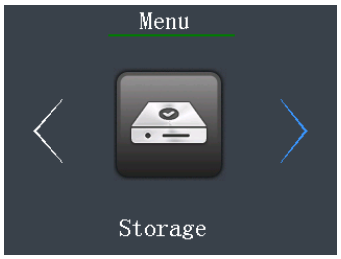


Figure 39

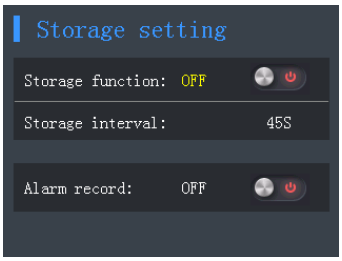


Figure 40

There are three options in the “Storage Settings” menu (Figure 40), which are the “ Storage Function”, “Storage Interval” and “Alarm record” options.

The “ storage function” option indicates whether the instrument needs to enable the historical data storage function; the “storage interval” option indicates the time interval between each set of historical data stored by the instrument; the “alarm record” option indicates whether the instrument needs to enable the alarm data storage function.

On the " Storage Function" and "Alarm record" options, use the "←", "→" keys to turn the data storage function on and off.

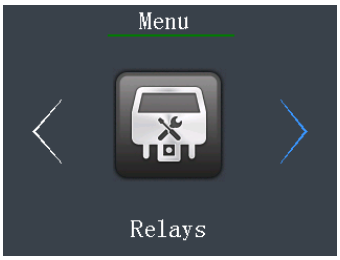
On the “Storage Interval” option, please use the “+” and “_” keys to select the storage time interval. After modifying the relevant values, if there is no other operation, press the “BACK” button to complete the setting. The optional time interval is: 5s, 10s, 15s, 20s, 30s, 45s, 60s, 90s, 120s, 600s, 900s.

In the “Storage Settings” menu, you can return to the previous menu at any time by pressing the “BACK” button.

Note: The storage function starts to be stored in the detection interface.

3.9 Relay settings

In the main menu interface, use the “←” and “→” 2 direction keys to move the cursor to select the “Relay Settings” option (as shown in Figure 46), and then press the “OK” button to enter the “Relay Settings” submenu (As shown in Figure 46), press the “BACK” button in the submenu interface to return to the main menu interface.



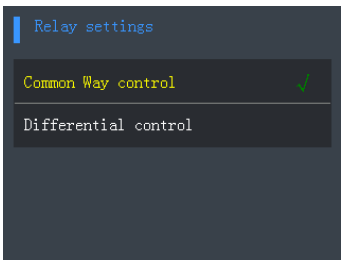


Figure 45 Figure 46

There are 2 options in the “Relay Settings” menu (as shown in Figure 46), which are the “Common way control” and “Differential control” options. Use the “↑” and “↓” keys to switch between the two options. After selecting, press the "OK" button again to complete the setup.

In the “Relay Settings” menu, you can return to the previous menu at any time by pressing the “BACK” button.

Common faults and solutions

Fault phenomenon	Possible cause of failure	Solution
No reaction to the detection gas	circuit failure	Please contact the dealer or manufacturer for repair
Inaccurate display	Sensor over the period of use	Please contact the dealer or manufacturer for repair
	Long-term uncalibrated	Please calibrate in time
Time display error	Strong electromagnetic interference	Reset time
Zero calibration is not available	Excessive sensor drift	Calibrate or replace the sensor in time
	Overrange use	Please contact the dealer or manufacturer for repair
When the instrument is normally tested,display full scale	Sensor failure	Please contact the dealer or manufacturer for repair
Self-test failed	Sensor could not be found	1、Restart the instrument 2、Please contact the dealer or manufacturer for repair
	Memory read failed	Please contact the dealer or manufacturer for repair
SMS function is not available	SIM card can't send SMS	1、Please confirm whether the purchased instrument has SMS function 2、Please recharge your card 3、Please contact the dealer or manufacturer for repair