



Ammonia Detector

LB-10AMD

Index

Sr. No	Title	Page no
1.	Safety Measures	2
2.	Introduction	4
3.	Features	4
4.	Specifications	5
5.	Applications	5
6.	Instrument Introduction	6
7.	Operations	8
8.	Maintenance	15

1. Safety Measures

All persons who have been or will be responsible for using or maintaining this device should read this manual carefully. Like any complex device, this device will only perform as designed if used and maintained according to the manufacturer's instructions.

Otherwise, the device will not work according to the design requirements, and those who rely on this device to provide safety protection may suffer serious personal injury or death. If the device is not used and maintained per the instructions in this manual. For your safety and the safety of others, kindly strictly follow the instructions.

Note:

- It is strictly forbidden to shock the sensor with gas exceeding the measurement range.
- It is strictly forbidden to expose the detector to a highly corrosive environment.
- It is strictly forbidden to use the detector in a high-temperature and highly humid environment.
- It is strictly forbidden to disassemble, repair, or replace parts without authorization.
- Before entering the danger zone, the user should discharge static electricity first.
- The window of the sensor must be kept clean.
- The detector must be calibrated and checked regularly.
- Calibration and maintenance are carried out by qualified professionals.
- Expired and faulty detectors should be replaced in time.
- Before using the detector to enter the workplace, ensure it is a calibrated instrument.

Alarm

Alarm type: Display reminder, light reminder, sound reminder, vibration reminder.



Low Battery: The battery icon flashes an alarm.

When the battery flickers, users must leave the workplace and replace the detector with a new one.



Low Alarm: ALARM icon display, Low icon flashes, light flashes 2 times per second, sound prompt 3 times per second, vibration prompt 1 time per second.



High Alarm: ALARM icon display, HIGH icon flashing, light flashing 4 times per second, sound alarm 4 times per second, Vibration prompt 1 time per second.

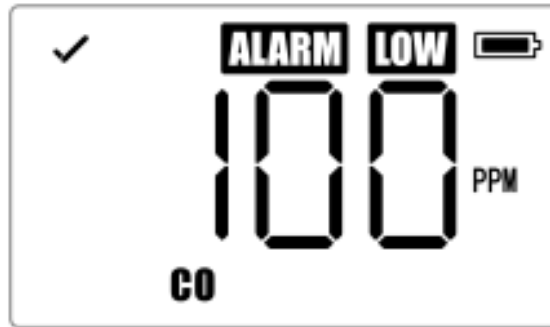


Figure-1



Figure-2

Toxic Harmful Substances

Parts	Harmful Materials					
	Pb	Gg	Cd	CrVI	PBB	PBDE
Housing	0	0	0	0	0	0
PCB component	X	0	0	0	0	0
Sensor	X	0	0	0	0	0

2. Introduction

Ammonia Detector LB-10AMD is a compact and handheld unit. Features electrochemical working principle with diffusion sampling method. Self-test function and automatic logging of up to 10 sets. IP68 protection class with sturdy and light weight structure makes it ideal to use under harsh environment.

3. Features

1. A compact and light weight ammonia detector
2. Electrochemical working principle for fast response
3. Diffusion sampling method with 1 ppm resolution
4. Self-test function ensures safety and reliability
5. Automatic logging of 10 sets for easy record keeping
6. IP68 protection class with safe circuit design
7. Sturdy and light weight structure, long service life
8. Low power consumption and long standby time
9. Require no maintenance and easy-to-use
10. Can be used under harsh environment

4. Specifications

Model No	LB-10AMD
Gas type	NH ₃
Measuring principle	Electrochemical
Sampling method	Diffusion
Detection range	0 to 100 ppm
Resolution	1 ppm
Accuracy	≤±3% FS or ±10%
Measuring unit	PPM, mg/m ³ , %VOL, μ mol/mol
Response time	≤30 s
Alarm type	Audio and visual
Working conditions	-20 to 55°C, 0 to 95% RH
Working air pressure	86 to 106 kPa
Power supply	3.6 V rechargeable battery
Dimension (L×W×H)	90×60×33 mm
Packaging dimension (L×W×H)	330×330×230 mm
Weight	125 g
Gross weight	0.5 kg

5. Applications

Ammonia detector is used across metallurgy, power plant, farms, mines, chemical, scientific research, medical, pharmaceutical, environmental protection and other fields.

6. Instrument Introduction

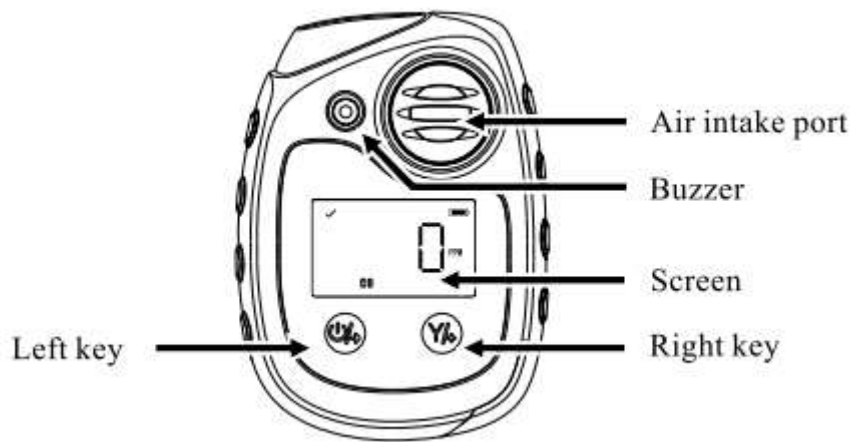


Figure-3 Front View

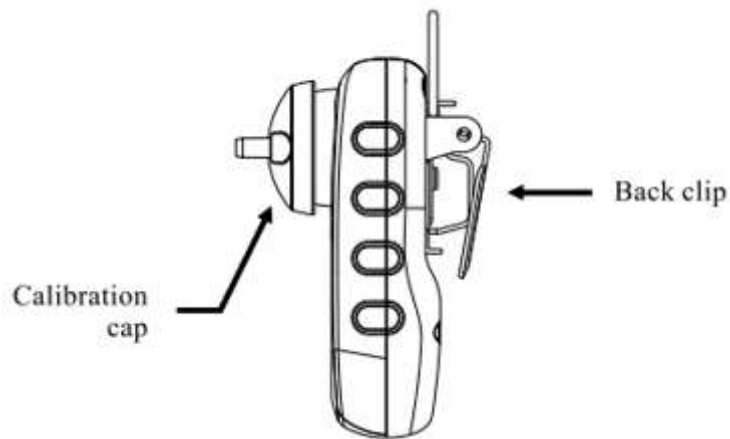


Figure-4 Side View

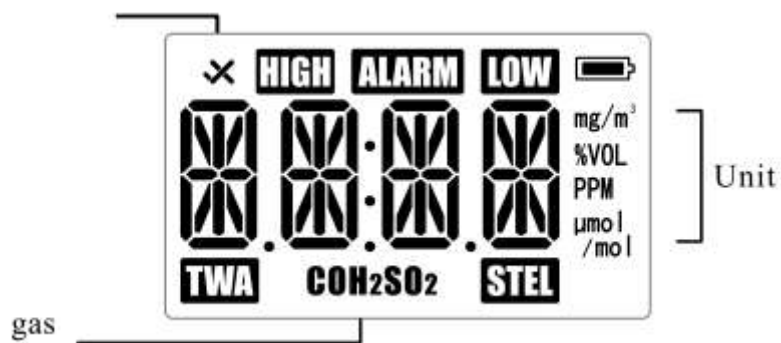




Figure-5 Self-Test Succeeded Self-Test Failed

Ammonia Detector LB-10AMD

	The battery display and battery slot are empty, and the battery starts to flicker, KINDLY replace the device.
	Times 00:00, reading 0.1,1000.
ZERO	Zero Calibration is only displayed on the zero-calibration interface.
SPAN	Span Calibration, only in the factory reset (RST) Interface.
RST	RST (reset), only in the factory reset (RST) interface.
OK	OK, confirm the operation (Password or span calibration).
EXIT	EXIT, exit the operation (return to the upper-level interface).
HIGH	HIGH, if there is a high alarm on the detection interface, the HIGH symbol flashes, and ALARM is on, otherwise, it goes out.
LOW	LOW, if there is a low alarm on the detection interface, the LOW symbol flashes and ALARM is on. Otherwise, it goes out.
STEL	STEL, if there is a high-report event on the detection interface. The STEL symbol flashes, and ALARM is on. Otherwise, it goes out.
TWA	TWA, if there is a high-report event on the detection interface. The TWA symbol flashes, and ALARM is on. Otherwise, it goes out.
ALARM	Alarm, Alert reminder.

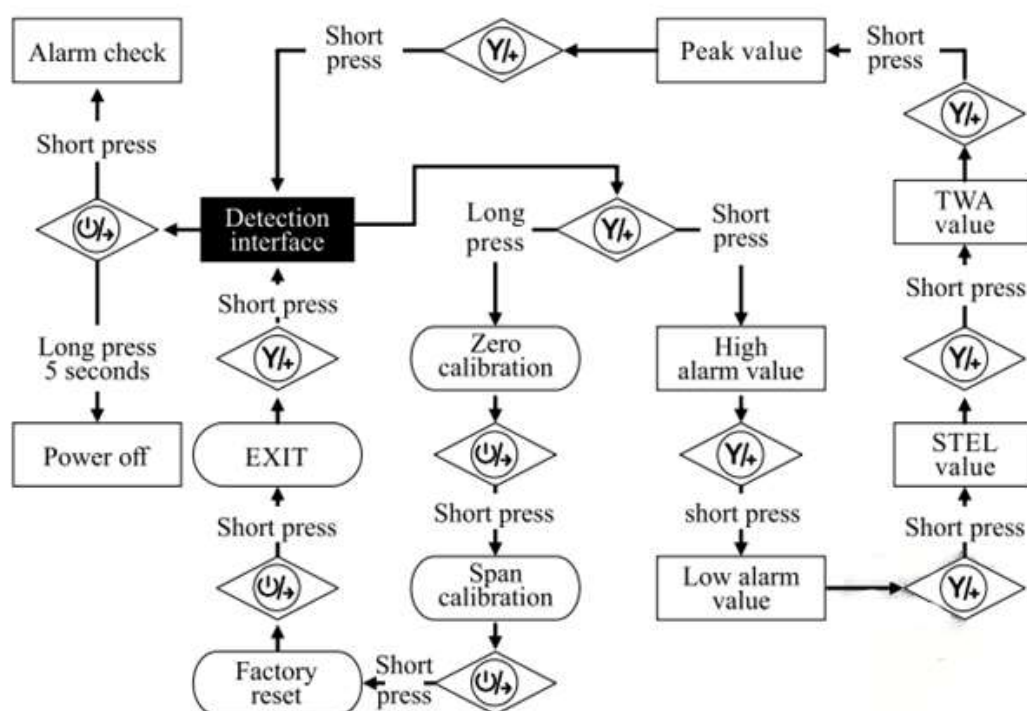
7. Operations

7.1 Key Functions and Operations


Key	Operate	Power	Power On		
			Detection Interface	Verify/Password/Menu/Parameter Setting	In countdown
	long press	3s, turn on	5s, turn off		
	Short press		Self-test	Switch	Abort operation
	Long press		Password verification	Back to the detection interface	
	Short press		View information	Execute/Enter Options	

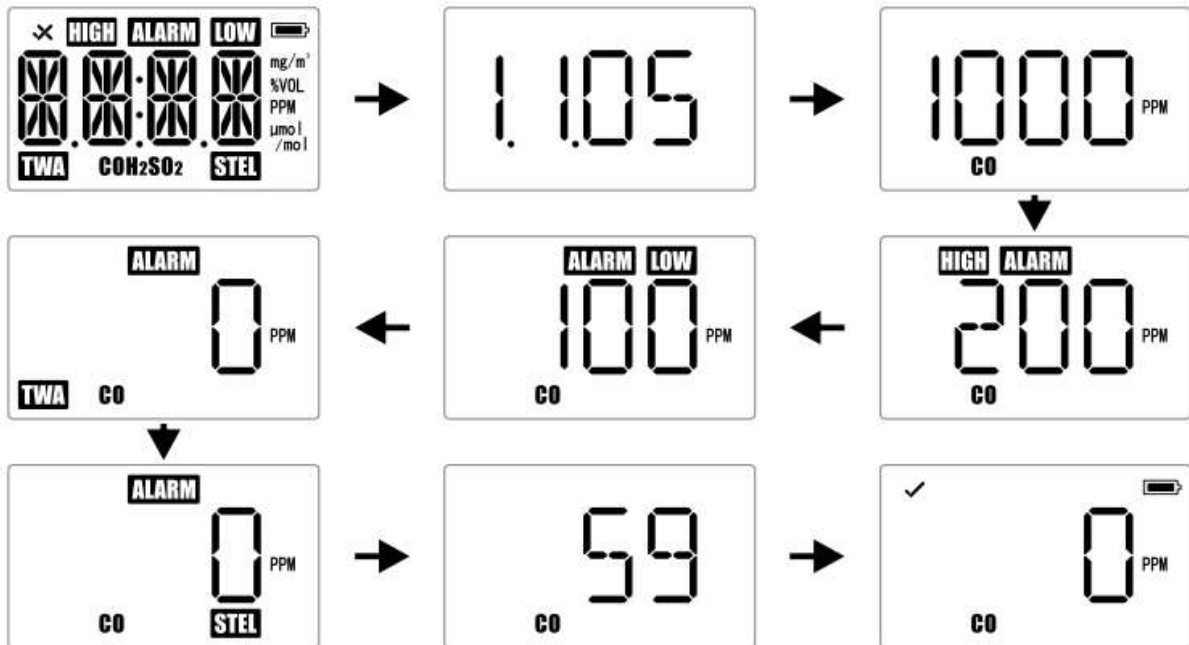
- OK, confirm the operation (password or Span calibration).
- EXIT, exit the operation (return to the upper-level interface).
- Menu operation sequence: ZERO—>SPAN—>RST—>EXIT.
- Setting the order of Span calibration parameters: Parameter—>OK-EXIT



Menu Frame





7.2 Power ON/OFF

- Power on the long press  key for 3 seconds. Display screen code segment, version, range, high alarm value, low alarm value, TWA value, STEL value, warm-up countdown, and enter the detection interface.



- **Serial number view:** Long press and hold  the Key before the warming-up
- The countdown ends; Short press the  key, scroll the display, and enter the detection interface after the warming-up is completed.
- The firmware version is subject to the actual product.
- When the "BUMP DUE" or "CAL DUE" alarm prompt is displayed during startup, the user needs to pause the use and perform the bump test or calibration again.

Long press the right button to  release the alarm and enter the detection interface.

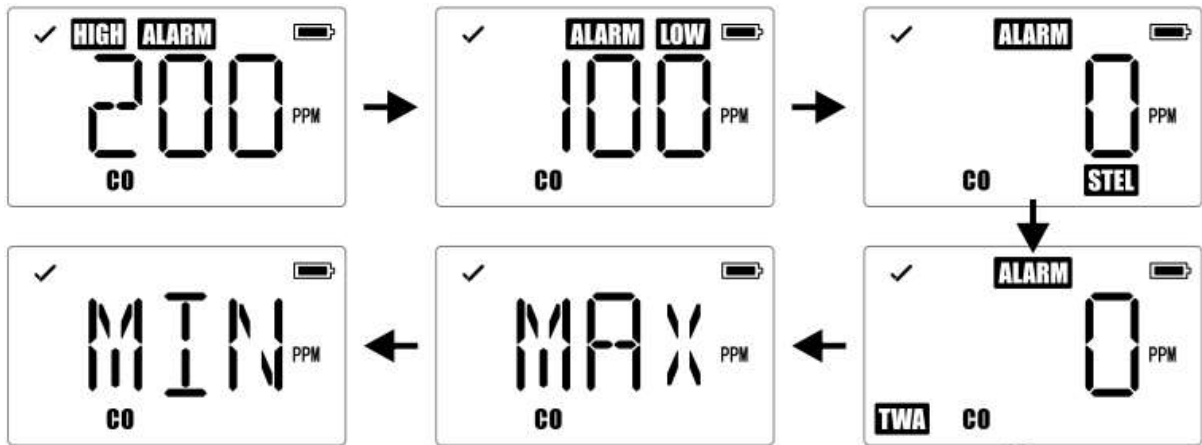
Power off: Long press  key 5 seconds in detection interface.




7.3 Information View

In the detection interface, short press  key, Cycle display (Press  key to the detection interface).

High alarm value—>low alarm value oSTEL—>TWA—>Peak value—>Detection interface.










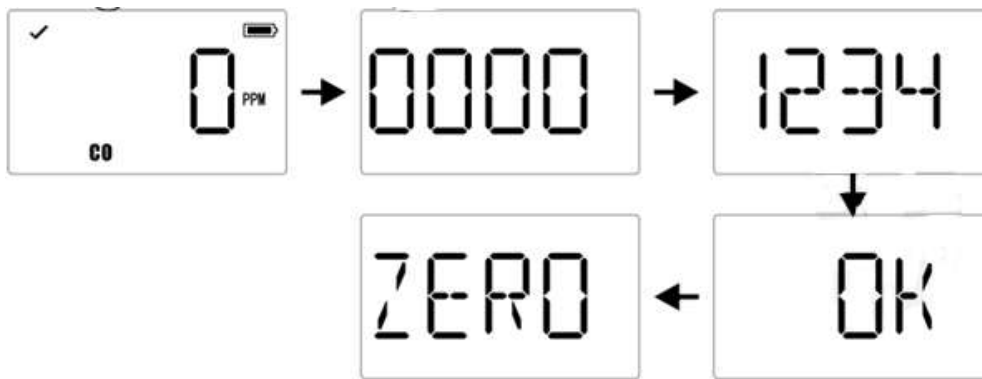
Peak value (Max value) interface, in this interface, a short press  key to clear the peak value record.

7.4 Alarm Check

In the detection interface, the short press  key, status light, vibrator, buzzer and will be automatically activated, and the alarm will be responded to once in the turn.

7.5 Verify Password

In the detection interface, a long press  key to enter the password verification. Short press  key to increase the number of flashing digits, and short press key  to switch positions. Input 1234, short press  key to switch to **OK**, Short press  key to confirm. Switch to the "EXIT" short-press  key or long-press  to return to the detection interface.



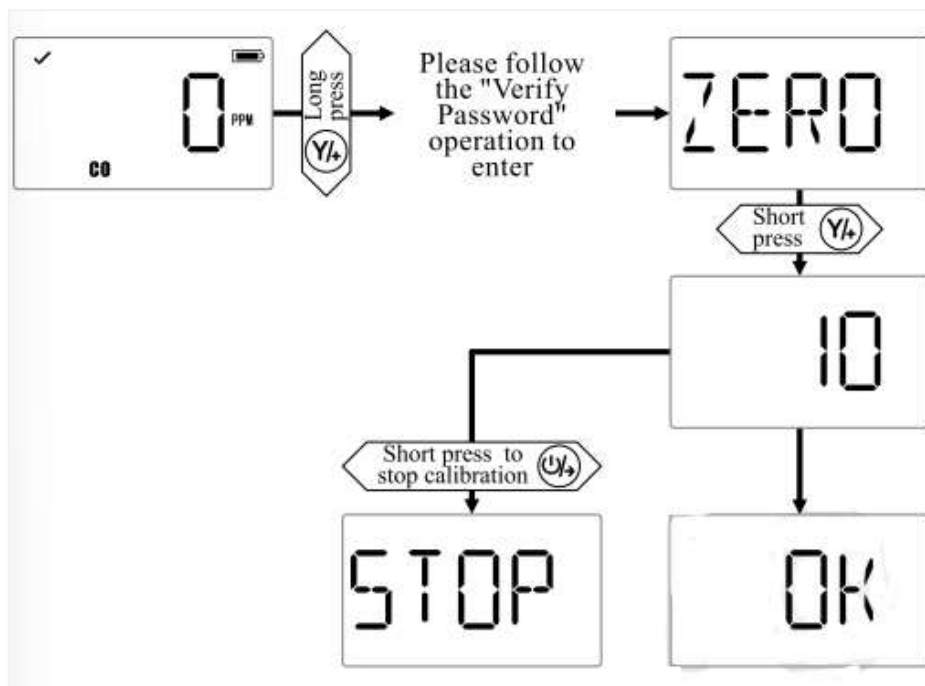
7.6 Zero Calibration

During zero calibration, you must use standard calibration gas or place the instrument in clean air for 3 to 5 minutes, and calibrate after the value of the detection interface is stable



The standard gas is clean air or pure nitrogen (pure nitrogen is selected for the oxygen detector).

- The zero calibration must be before the span calibration.
- *The calibration default value of the oxygen sensor in a pure air environment is 20.93%Vol.
- As shown in the figure, a short press Y/ key to start calibration, and the countdown will be displayed, and a short press Y/ key to stop the calibration. If the calibration is successful, OK is displayed.
- Return to the detection interface: When not counting down, long press Y/ key to return to the detection interface.



7.7 Span Calibration

Do not perform target calibration without calibration gas.

Long press Y/+ key in the detection interface, after the password is correct,

Short press Y/+ key to switch to **SPAN** and short press Y/+ key to enter the span calibration interface.

As shown in the connection diagram on the right, connect the standard gas of known concentration at 400m1/min to the calibration cap through a Teflon tube. After reading that the detection interface is stable, enter the span calibration

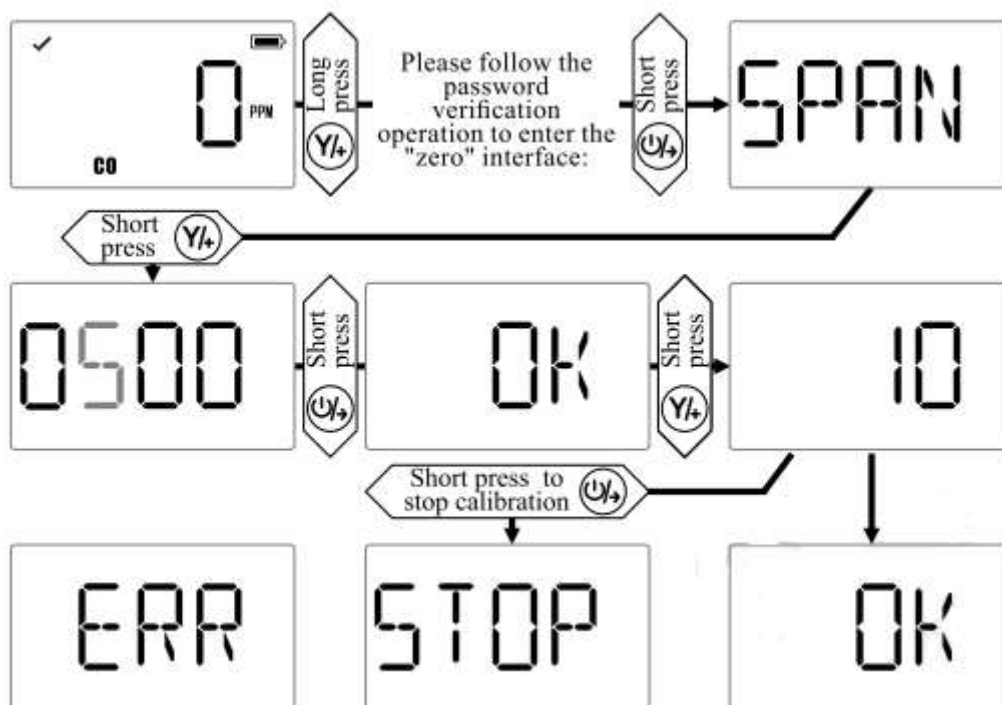
interface and modify the value (standard gas concentration used). The Y/+ key switches the position (flashing), and Y/+ key corrects the value. As shown in the

figure below, confirm the value, short press Y/+ key, switch to **OK**, and press Y/+

to start the calibration. The calibration countdown appears short press Y/+ Key. to stop Calibration. If the calibration is successful, it will display **OK**, and if it fails, it will display **ERR**.



Return to the detection interface: When not counting down, long-press press key to return to the detection interface.



7.8 Standard Gas Connection View

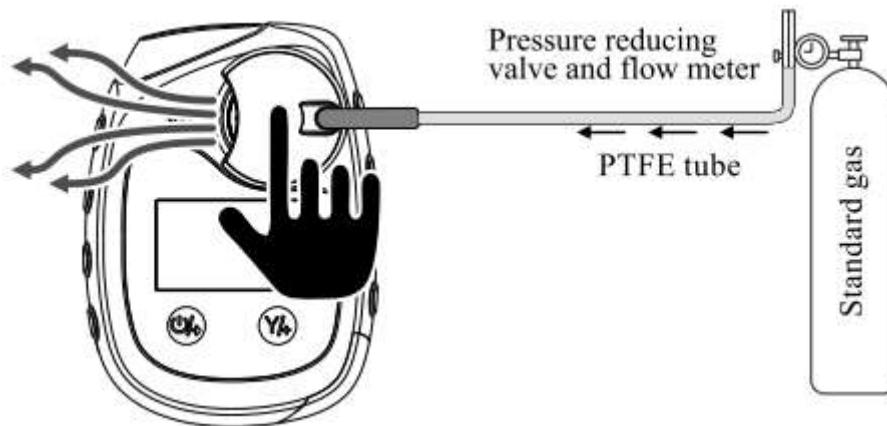


Figure-6

Note: When installing the calibration cap, kindly press and flatten it so that it is closely connected to the detector to avoid affecting the accuracy during calibration.

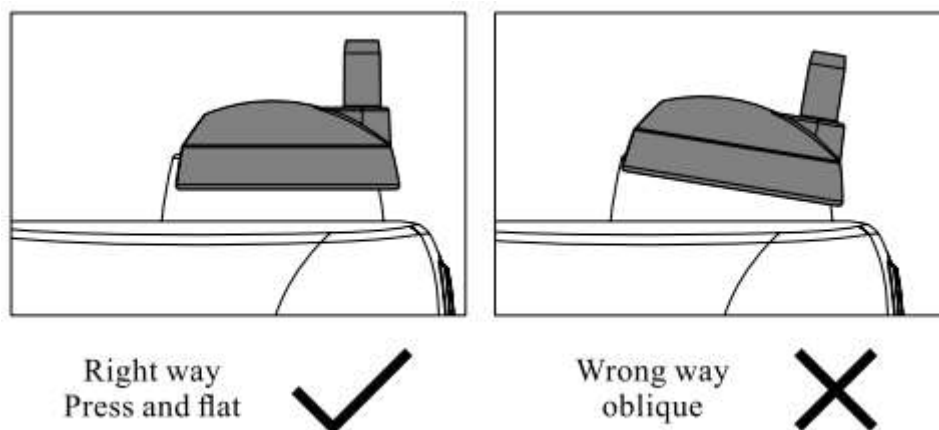


Figure-7

7.9 Restore the factory

Restoring will overwrite the user calibration data (zero calibration and span calibration) with the factory parameters. Kindly operate with caution. After the detector has been used for a long time, the sensor will be aged, and the test results may be inaccurate after restoring to the factory setting! If this happens, Kindly re-calibrate with calibration gas.

Ammonia Detector LB-10AMD

Operation: long press Y/ Key in the detection interface, after verifying the password, press U/ key shortly twice to switch to the RST interface short press Y/ key, the interface starts a 20-second countdown (short press U/ key before the countdown is completed, cancel the reset, and return to the function directory). When the countdown is completed, **the OK** is displayed. Back to the detection interface: in non-calibration (countdown), can long press Y/ key to back to the detection interface directly.

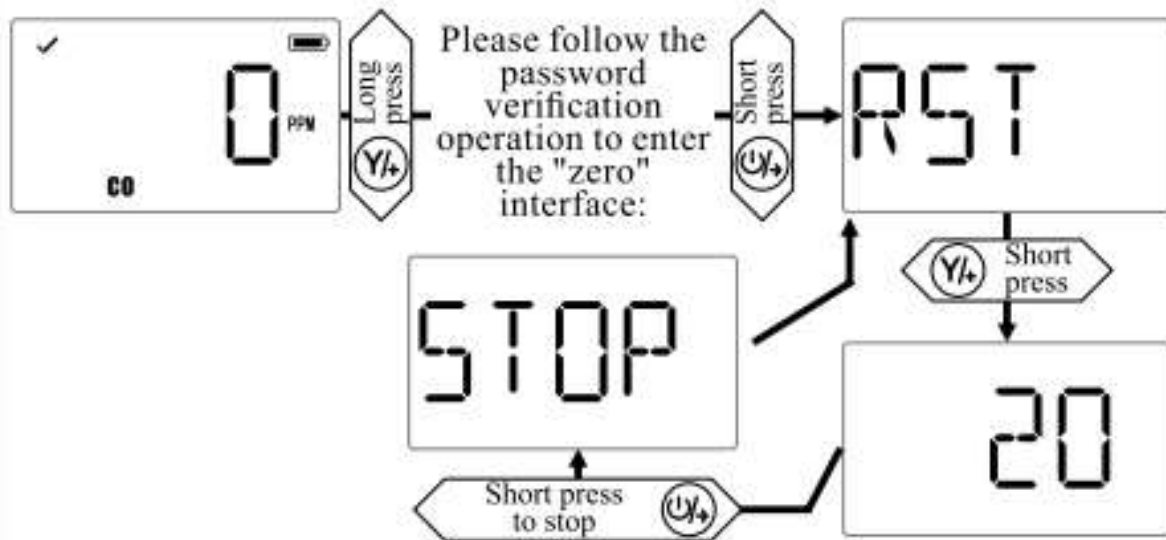


Figure-8

8. Maintenance

- Ensure that the air holes of the sensor and the holes of the buzzer are free from dirt and blockage. check and clean them regularly.
- The battery used in this instrument is not a rechargeable lithium battery, kindly do not disassemble and charge it without authorization.
- **Regular Calibration**
Purpose: To ensure accurate readings, calibrate the ammonia detector regularly using a known concentration of ammonia gas. Follow the manufacturer's instructions for calibration frequency.
- Regularly check the battery charge level (if applicable) and replace the battery when it gets low. For devices powered by external power sources, check the connections and ensure a stable power supply.
- Regularly check the expiry date of the calibration gas and replace it when necessary. Ensure gas cylinders are securely stored and handled according to safety protocols.



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