BH-90E

Portable Gas Detector

210 mm

66mm

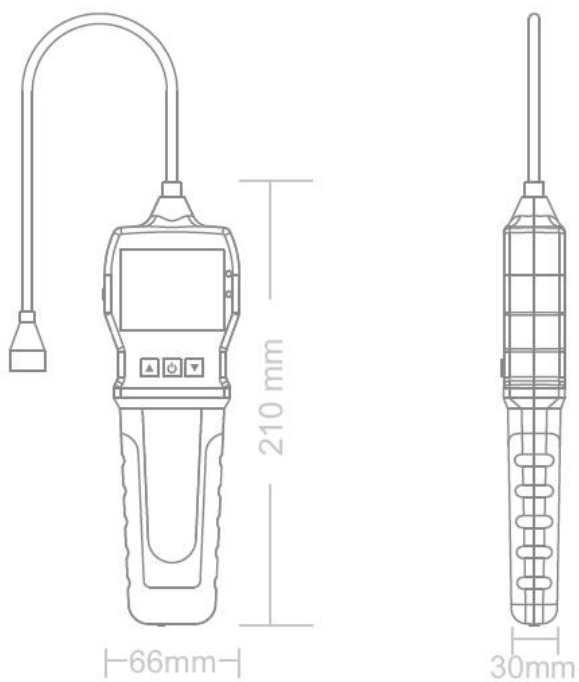30mm

Operation Manual

⚠️Please read this manual carefully before using this product and keep it for future reference, any deviation from the instructions may compromise the safety, quality and performance of this instrument.
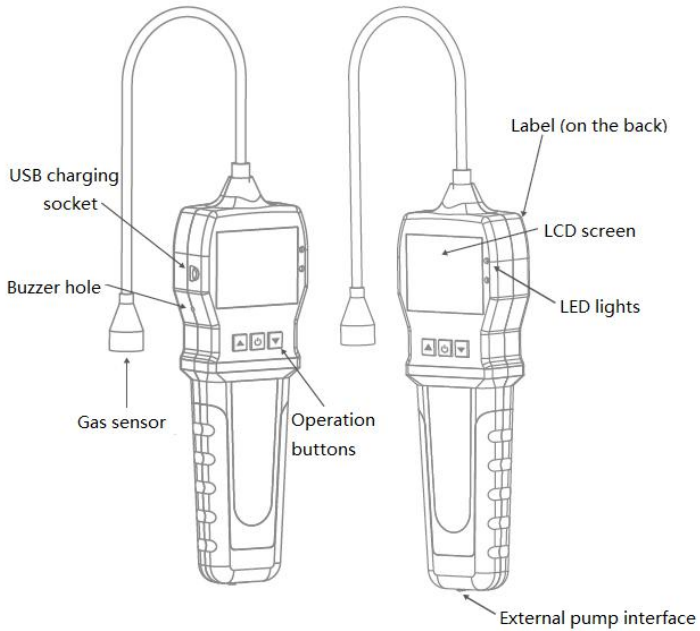
1. Introduction

BH-90E portable gas detector (hereinafter called detector) is a new type of gas leak detector that adopts LSI technique and meets international smart technology standards. With imported high quality semi-conductor sensor and embedded microcontroller, it detects gas leakage with high sensitivity and strong adaptive ability. Being waterproof, dustproof, explosion-proof, and easy to use with high reliability, the detector is widely used in oil, coal, municipal construction, chemical engineering, environmental protection, metallurgy, refining, gas transmission and distribution, biochemistry, agriculture, pharmaceutical industries.

Mail features and functions:

- MCU control, low consumption
- High resolution STN LCD
- Housing made of high strength engineering plastics and compound anti-slip rubber
- Detection range (low alarm point, high alarm point) adjustable
- Low battery alert, intrinsically safe design
- 3 alarm types: sound (mute mode also available), light and vibration
- Gas calibration completed by the factory
- Zero adjustment and data logging

2. Configuration & Structure

2.1 Configuration

2.2 Structure: the main shell, circuit boards, batteries, display, sensors, chargers.

3. Technical Specifications

Target gas	Combustible gas
Range	0-10,000ppm (µmol/mol)
Sampling method	Natural diffusion
Alarm point	Default: Low alarm: 500ppm; High alarm: 2000ppm. Support personalized setting.
Alarm types	Audible buzzer alarm; Visual LED light alarm; Vibration alarm

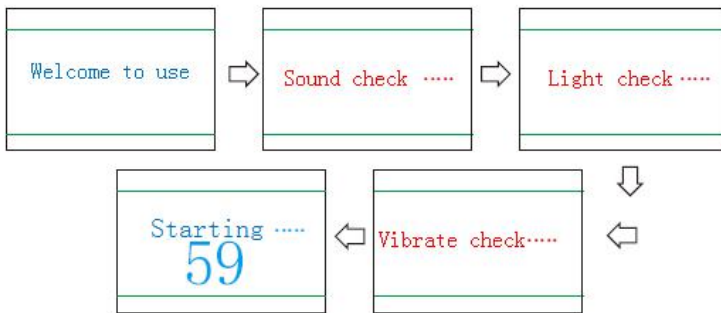| Warm-up time	60S
Response time	<30s
Protection level	IP65
Explosion-proof grade	Exib IIB T3 Gb
Sensor type	Imported FIGARO sensor
Sensor life	2 years
Power supply	Rechargeable lithium battery, DC3.7V 1800mAH
Charging time	6h-8h
Continuous working hours	No less than 8 hours (normal working environment)
Working condition	Temperature: -10～40℃ Humidity: ≤95% RH with no condensation.
Storage condition	Temperature: -20～50℃ Humidity: ≤85% RH, avoid caustic gases or substances.
Weight	Approx. 300g (excluding accessories)
Dimension	Approx. 210mm(L)×66mm(W)×30mm(H)
Packing list	Detector, Carrying case, Charger, USB cable, Warranty card, Thank-you card.

4. Operation Instruction

4.1 Device on/off

Press the ⏻ button and then release it to turn on the detector. Press the

same ⏻ button to turn it off in any case.

Every time the device is turned on, it will undergo a self-check process

(see below).
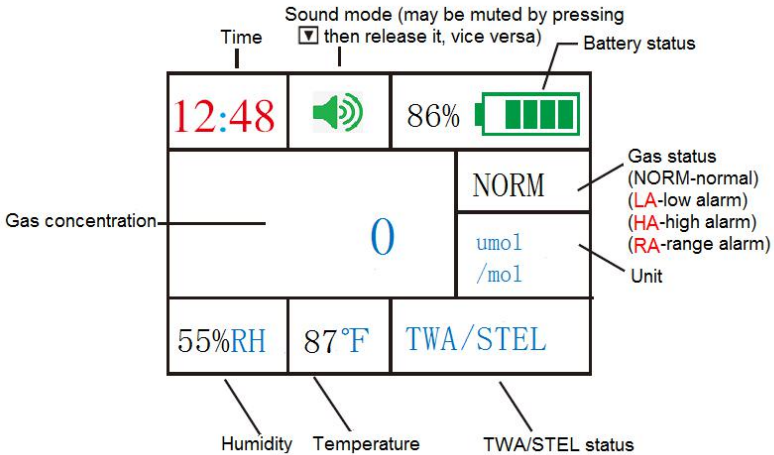
4.2 Self check

Welcome to use → Sound check ····· → Light check ·····

Starting ·····
59
← Vibrate check·····

After self-check is done, the device enters into detection interface (see below).

4.3   Detection interface

4.3.1 Overview

Time — Sound mode (may be muted by pressing ▼ then release it, vice versa) — Battery status

12:48   🔊   86% ▮▮▮▮

Gas concentration —

0

NORM

umol
/mol

Gas status
(NORM-normal)
(LA-low alarm)
(HA-high alarm)
(RA-range alarm)

Unit

55%RH   87℉   TWA/STEL

Humidity   Temperature   TWA/STEL status

4.3.2 Parametric query

On the detection interface, you may press ▲ to see all parameters.

Date: 2018.06.25
Time: 15:45
LA :   500   ppm
HA : 2000   ppm
RA : 10000   ppm
BAT : 3.96V   86%

ADV :0278
Volt:0.22 V
TWA :7000 R:0000
STEL:3000 R:0000
BL :5MIN

4.3.3 Alarm types

● Low alarm: Red LED light + "LA" on detection interface+ slow beeping + vibration

● High alarm: Red LED light + "HA" on detection interface + fast beeping + vibration

● Range alarm: Red LED light + "RA" on detection interface + fast beeping + vibration

For personalized setting or alarm records review/deletion purpose, press ⏻ on detection interface, then it will enter the function menu (see below).

4.4 Function menu

4.4.1 Overview

MENU	
➡	1. Gas Zero	⟶ Zero adjustment
	2. Gas Calib	⟶ Gas calibration
	3. LA Set	⟶ Set low alarm point
	4. HA Set	⟶ Set high alarm point
	5. Unit set	⟶ Set unit(umol/mol or ppm)

MENU	
	6. Set Time	⟶ Set time(year, month, date, hour, minute)
	7. Default	⟶ Restore factory settings
	8. AL Record	⟶ Check/delete alarm records
	9. ESC	⟶ Exit menu, back to detection interface
➡	10. Turn off	⟶ Turn off the detector

4.4.2 Press ▼ or ▲ to choose a specific function, then press ⏻ to enter.

⚠ Attention!

● About **Gas Calib**: Gas calibration is already completed by the factory,

personal change may affect its normal use. If for any specific use you need to use this function, please contact the seller to get the password first.
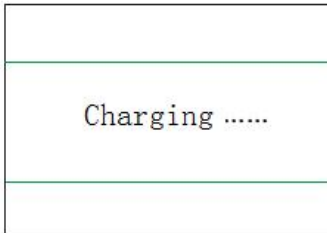
● About **Default**: You may need to restore factory setting in case of wrong operation or gas calibration error. Please contact the seller to get the password first if it's needed.

When you see low battery alert or when the detector can't turn on because battery voltage is too low, please charge the detector in time (see below).

4.5 Charging

First, make sure the detector is off, then connect the charger to the 220V AC power source: the detector will turn on automatically, the screen will indicate "Charging". When screen displays "Full!", it means charging is completed.

Charging ……	Full!

WARNING!!!

● It's impossible to turn on the detector when it's off and being charged.

- Do not charge the detector at leak detection site, to avoid fire or explosions caused by sparks introduced from plugging and unplugging the charger.
- Do not charge the detector when it's on, which may affect charging speed.

5. NOTICES

5.1 Prevent the detector from falling down from high places or strenuous vibration.

5.2 Please don't use sensor tip to touch other objects directly or block sensor tip.

5.3 When there is interferential high-concentration gas, detector may not work normally.

5.4 The detector will only detect gas concentration from the detection interface. So, for example, when you are on the function menu, it will not detect.

5.5 The detector should not be stored or used where there are caustic gases (such as CL2), or under other rigorous circumstances (including excessive high and low temperature, high humidity, electromagnetic field and strong sunlight).

5.6 After long-term use, if there is dust on detector surface, please clean it lightly with clean soft cloth, instead of caustic solvents or hard things.

5.7 For any operation or fault not stipulated in this manual, please contact the seller.

6. Troubleshooting

Possible fault	Reasons	Solution
Unable to turn on the detector	Battery voltage too low	Charge in time
Did not indicate 0	Sensor fluctuating	Zero adjustment required
Indication inaccurate	Not calibrated over long time	Gas calibration required
	Sensor fault	Contact the seller
Time inaccurate	Battery run out completely	Charge first then reset the time
	Drift in oscillator parameters	Reset the time
RA alarm in clear air	Sensor fault	Contact the seller

7. Customer Support

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