

All of the normal domestic gases are combustible gas, their LEL (lowest explosion limit) is below 10% of mixture with air.

When a gas leak occurs with a toxic gas, it can render a person unconscious and cause death.

Gas	Basis	Exploding Range	Toxicity
LPG	C_4H_{10} , C_3H_8	1.8%~9.5%	Asphyxiation
Natural Gas	CH_4	5%~15%	Asphyxiation
Coal Gas	H_2 , CO	4%~75%	Poisoning

8.2 LEL Meaning:

LEL is Lowest Explosion Level. That is the lowest concentration of the gas in the air, which will cause an explosion when a means of ignition is available.

8.3 Some examples of a gas leak:

- Children playing with an appliance.
- Appliance not lit properly.
- The flame is accidentally extinguished.
- The gas valve is not shut off correctly.
- The gas supply pipe or hose is damaged.

8.4 Actions to take for a gas leak:

- Follow instructions from your gas supply company.
- Shut off the gas supply valve.
- Open the windows and doors to ventilate the area.
- Check for the source of the leak.
- If you can't stop the gas leak, evacuate the area immediately and call the emergency services from a remote location.
- Don't turn on or off any electrical equipment when the detector is in alarm mode. Do not use your house phone or mobile phone when the detector is in alarm mode.

GK Series Gas Alarm Operation Manual

Precautions:

To avoid personal safety injury, Instrument damage and potential dangerous accident; do not use the gas alarm before reading this manual. Don't open the detachable cover except professional person.

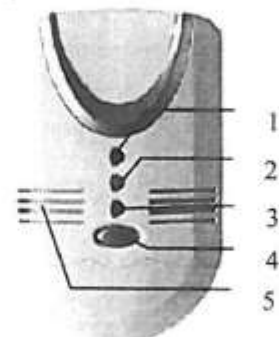
1. Description

The GK gas alarm is a wall mounted alarm designed to detect a concentration of combustible and toxic gases or vapors using high quality air-sensitive components and manufactured with advanced technology. It provides visual and audible signals when the gas concentration reaches the preset range. The device has optional features to operate ventilation fans and gas shut off valves when it goes into alarm mode.

2. Specifications

Model	□GK401	□GK601
Working power	□ AC230V 50Hz □ DC12V	
Power Consumption	≤3.5W	
Environment	Temperature: 0℃~55℃ Humidity: <95%	
Response time	≤30s resume automatically	
Gas Sampling	Diffuse naturally	
Alarm Level	GK401: for natural gas	10%LEL
	GK601: for LPG	10%LEL
Alarming Method	Visual and audible	
Sound level	≥70dB	
Weight	270g	
Dimension	l×b×h,mm:120×80×40	
Optional function	□Gas shut off valve □relay output	

Note: the power and the alarm level can be specified.

3. Functions and Connection details**3.1.1 Functions and indications**

1	ALARM Light (Red)
2	FAULT Light (Yellow)
3	POWER Light (Green)
4	TEST Button: press to test alarm function
5	Air vents

Fig. 1

3.1.2 Terminals

Please take off the plastic cover for terminals before connecting cables, and fix it after connection finished.

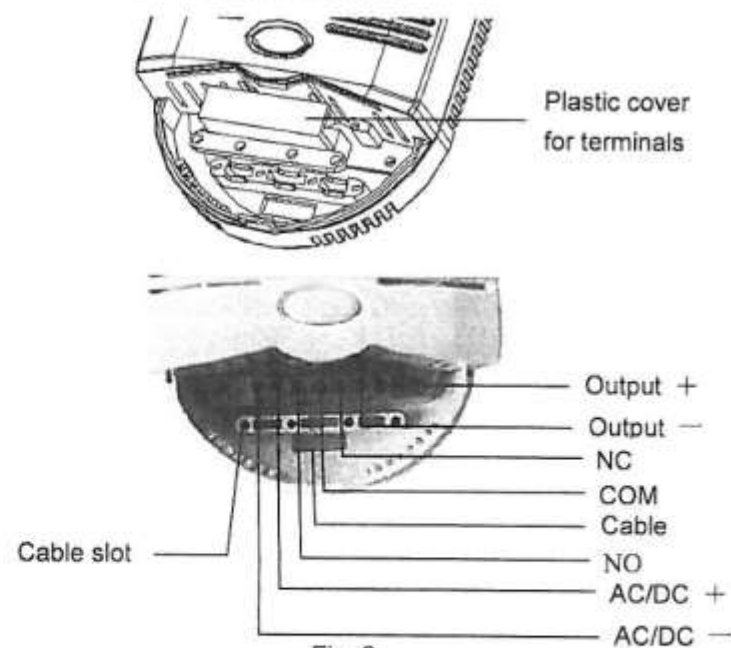


Fig. 2

4. Installation

A licensed electrical contractor must be used for installing the 230v AC Hard Wired model Gas Detector.

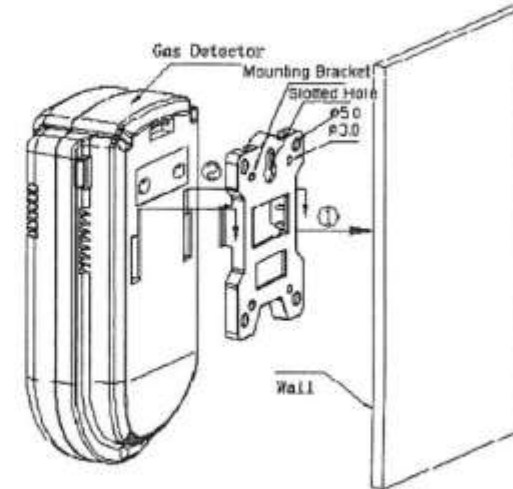
- 4.1 Fix the detector on the wall at a horizontal distance approximately 2~4m from the appliance or gas source.
- 4.2 The vertical location of the detector will be determined by the type of detector as described hereunder –

- ◆ LPG: Fix it within 300mm above the floor.
- ◆ Natural Gas: Fix it within 300mm below the ceiling.
- ◆ The following locations should be avoided:
 - Areas subject to strong ventilation such as open windows, exhaust fans etc.
 - Areas subject to moisture.
 - Areas where the detector is covered or blocked from clear air.
 - Areas involving high temperatures or excessive amounts of smoke.

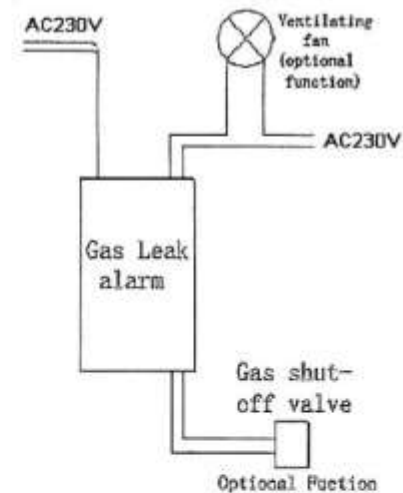
- 4.3 Select an appropriate location paying attention to paragraph 4.1 and 4.2. Screw the mounting bracket onto the wall with M5 or M3 screws through the screw hole (as per the following diagram), then connect the detector to the mounting bracket.

OR

Fix a screw or a nail to the wall and hang the detector over the nail or screw using the slotted hole.



- 4.4 Connection diagram illustrating optional functions such as gas shut off valve or relay output:



5 Operating Instructions:

- 5.1. Plug in type Gas Detector, simply plug in to the power outlet OR if Hard Wired type (your electrician will check for correct operation). The

green POWER light should now be on. The detector assumes non-operating status for three minutes while the sensor warms up. After 3 minutes the detector will begin its detection status.

5.2. If the gas in the environment rises above the preset alarm level, the detector will enter alarm status, the red ALARM light will shine and the detector will emit an audible alarm. If the detector is connected to optional functions, these will also operate. When the device is in alarm status, immediately ensure that the gas supply is turned off and open any doors and windows to ventilate the area. Don't switch on or off any electrical appliance or lights. Do not use your telephone or mobile phone. Follow any instructions that have been given to you from your gas supplier.

5.3. Once the gas concentration drops under the preset alarm level, the detector will stop alarming automatically and any optional functions also stop automatically. The detector now resumes its normal detecting mode.

5.4. If the yellow fault alarm light is on, it shows there is something wrong with the detector and the detector is unable to detect gas. Please contact your local distributor.

5.5. Test Button – Push the test button, the detector will sound an alarm. Test weekly.

6 Troubleshooting Guide

Problems	Possible Causes	Action
Green POWER light is off	Unit may not be plugged in correctly or not receiving power.	Plug in again to check. Check that your power is not disconnected or circuit breaker tripped.
	light broken	Contact your local distributor for advice.
No sound when pushing test button	Circuit fault	Contact your local distributor for advice.

Can't detect the gas	The preheat is not finished	Wait until the preheat is finished
	Circuit fault	Contact your local distributor for advice.
The detector goes into alarm mode after the warm up	Too much gas or smoke in the air. Air possibly polluted with other foreign particles.	Ventilate the area and test again.
	The detector has possibly been in storage for too long.	Warm up for more than 2 hours
	Circuit fault	Contact your local distributor for advice.

7. Notices:

- 7.1** It's possible that the detectors can go into alarm mode when the sensor detects other foreign particles in the air such as smoke, petrol, paint etc.
- 7.2** Please do not use or store the detectors in corrosive environments.
- 7.3** Do not use non calibrated gas to test the detectors, If the gas concentration is too high, it will damage the detectors, It may also be dangerous.
- 7.4** Frequently clean dust or residue build up to ensure that the air vents remain clear of obstructions.
- 7.5** After extended periods of storage, the detector may need up to 24hrs of continuous power supply before it operates correctly.

8. Gas Safety Knowledge

8.1 Types of Gas

Normal domestic gas: LPG: propane and butane;

Coal Gas: hydrogen and carbon monoxide;

Natural Gas: methane;