F161 range of 0～100%LEL Combustible Gas Detectors

Manual

——— Please read this manual carefully when install or use this product ———

General Introduction

F161 range of 0～100% LEL standalone combustible gas detector (hereinafter referred to as the detector) has a high quality screen printing thick film metal oxide semiconductors gas sensors (long-life, sensor is unaffected even shocked by high concentration gas), used for monitoring the leakage of combustible gases in the places of household , factories, hotels, apartments, etc.

Features

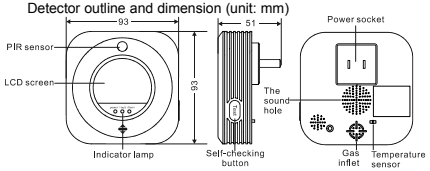
This product is using the semiconductor gas sensor and the Cortex-M3 MCU with excellent performance , the detector is stable, long-life span, easy to install. In the aspect of interaction, using LCD screen provides a calendar, detector surrounding temperature display. If gas leaks, it provides concentration real-time display and the display interface changes along with the concentration accordingly so that it can create a more friendly and comfortable alarm prompt. It also has real human voice prompt alarm function, the voice content will be vary with the leaked gas density, so that you can process the leakage accident more safe, convenient and rapid. Additionally, through the low power consumption digital intelligent pyroelectric infrared (hereinafter referred to as the PIR) sensor to realize the human detection and then control the LCD display, which makes the detector more intelligent and energy saving.

Technical Specifications

1. Working Voltage: AC 110/220 V
2. Power Consumption: Normal monitoring ≤3W; Power on and alarm status≤6W
3. Operating Temperature: 0℃～55℃
4. Relative Humidity: ≤95%, non condensation
5. Applicable Gas: Methane (Natural gas)
6. Alarm Setting Value: 5%LEL
7. The Whole Measuring Range: 0%LEL～15%LEL
8. Alarm Volume: 70dB～115dB
9. Response Time: ≤30S, self-recovery
10. Working Life: ≥5 years (in clean air)
11. Weight: Around 130g
12. Outline Dimension: 93mm×93mm×51mm (refer to the image below), housing material: plastic
13. Installation Method: Wall-mounted

Outline structure and connection method

1. Detector outline and dimension (unit: mm)



2. Detector connection method

The detector does not need the other connection, only need to plug in the AC 110/220V power source to work, which is simple and convenient.

Instructions for use and installation

1. Instructions for use and installation

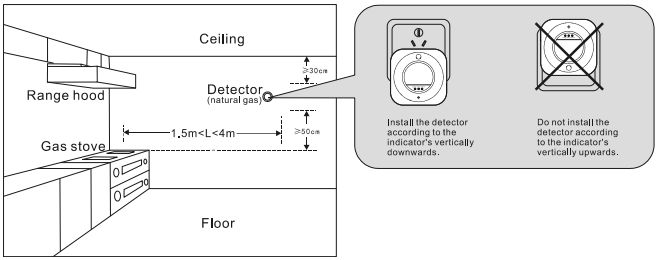
- Power on: Please confirm if the decoration of the use place is completely finished (Please pay attention to that do not put the detector in the decoration environment, otherwise the sensor may be damaged); After decoration is finished, plug the detector in AC 110/220V power socket, then appear voice prompt “welcome to use the products of Fanhai Sanjiang” and the LCD displays the boot interface.
- Preheat status: The detector enters into preheat status after power on. At this stage, the indicator lamp blinks and the preheat status lasts for about 20 minutes.
- Normal working: After preheat status finished, detector enters into normal working status; At this stage, power indicator lamp is always on and LCD screen displays working interface.
- Fault: Once a sensor failure is detected by detector (such as short circuit, open circuit etc.), the fault indicating lamp is always on and makes a sound “dididi” periodically. (per period/ one minute approximately).
- Alarm: Once the gas density reaches to the setting alarm value, the detector will be triggered alarm prompt. The alarm lamp is always on during this stage and will enter into three stages below along with the increasing leakage of gas density.
  1) Note! Gas leaking, please check!
  2) Warning! Gas leak is detected, open doors and windows, keep ventilated, check with qualified people, disperse as soon as possible!
  3) Danger! Gas leaking seriously, don’t fire, don’t turn on or off light, please send alarm and disperse as soon as possible!
- Alarm recovery: When the gas density reduces to the setting alarm value, the detector will be recovered to the normal working status.
- Self-checking: Press the “TEST” button shortly. The detector enters into self-checking status; At this stage, the related voice, light, LCD will be checked. The detector enters into normal working status after self-checking finished.
- Energy-saving control：The detector configured with infrared sensor to further control the start and stop of LCD. If the infrared sensor did not detect any moving objects for a long time (around 3 minutes), the LCD will stop displaying. If a moving object is detected by infrared sensor, LCD screen will open to display and extend the display time. The detector does not make energy-saving control when it alarms.

2. Installation location description

Installation position of detector (as shown below) should be decided by the analysis on the basis of the actual situation of the locations of the use of gas and stove. But it should comply with the following principles:

1) The detector should be installed in the same room with the stove;
2) The detector is mounted at a horizontal distance 1.5 meters to 4 meters of gas stove or gas source;
3) Vertical height of detector: the installation from the combustion air or an oven (above) the vertical distance is larger than or equal to 0.5 meters, from the ceiling of 0.3 meters place (because the proportion of the gas is lighter than air);

4) Schematic diagram of installation shows below:



5) In order to prevent the occurrence of the detector failure, please do not install the detector in the following positions:
   a. The places which are directly influenced by exhaust, fumes, steam, etc;
   b. Close to the air inlet, exhaust fan, door and window etc. with a large air flow place;
   c. Near the bathroom, the water vapor, the hot water room and the place with power outage at night;
   d. Anti-explosion place;
   e. Where the temperature is below 0 degrees celsius or above 55 or outdoor.

Clock setting

1. Long press “TEST” button (around 3 seconds), enter into clock (24 hours display) calibration status. The first two digits of the year can not be set, only the last two digits can be set. In other words, the minimum year starts from 2000. The third digit of the year changes to green colour and increases “1” as a cycle automatically. Please short press “self-checking” button until the third digit of the year changes to the default value and then it will be saved. Next the interface will jump to the fourth digit of the year.
2. The fourth digit of the year: it changes to green colour and increase “1” as a cycle automatically. Please short press “self-checking” button until the fourth digit of the year changes to the default value and then it will be saved. Next the interface will jump to the first digit of the month.
3. Similarly, according to above steps, you can finish the setting of first and second digits of a month, a day, an hour and a minute. They will be saved and jump to the confirmation interface.
4. Set the confirmation interface: At confirmation interface, the year, month, day, hour will change to green colour. If the time is correct, long press “self-checking” button (around 3 seconds) and the setting will be saved and then quit clock calibration. If the time is incorrect, short press “self-checking” button and reset from the third digit of a year.
5. The system will quit clock setting on condition that not operate for about 30 seconds and the operation will be invalid.

Failure analysis and troubleshooting

Item	Fault phenomenon	Fault causes	Troubleshooting methods	Remarks
1	No voice prompt when power-on, fault, alarm, self-checking	Buzzer or internal hardware circuit is damaged	Need to return to factory for repairing	
2	Alarm or give fault message during preheating process	The sensor is not stable and need to preheat	Wait and confirm if it still alarms or gives fault message after preheating process	If it still alarms or gives fault message after preheating process, it needs to return to factory for repairing
3	The corresponding lamp is not on when power-on, fault, alarm, self-checking	The lamp or internal hardware circuit is damaged	Need to return to factory for repairing	
4	LCD is always blank screen and can not be awakened by infrared sensor	hardware circuit is damaged	Need to return to factory for repairing	
5	Abnormal display of a blurred screen and broken screen for LCD	LCD exists exception	Need to return to factory for repairing	

Repair and Maintenance

In case of failure, please do not remove the detector without permission, the user can notify our company or local office of our company, we will serve you as soon as possible.

Do’s and Don’t

1. This product shall not be stored or used in the environment containing corrosive gases (such as chlorine, etc.);
2. Do not put the detector in the decoration environment. Please install the detector in place until completely finish the renovation;
3. Please do not use the non calibration concentration of the gas to test the product since ultra-high concentration of gas, not only affect the lifetime of the detector but also endanger human’s health;
4. Long term without the power of the detector need to power recovery more than 5 hours to normal application;
5. For your safety, please contact the dealer / provider / manufacturer to inspect regularly once a year according to the provisions of the gas sampling and concentration; Never use test tools with very high pressure (such as lighter, lighter supplementary gas) to do a test to avoid damaging sensor’s molecules membrane by over-pressure.

Special announcement

1. Please replace it timely when the product of the sensor exceeds the service life (5 years).
2. Our company does not undertake any responsibility for the warranty when one of the following circumstances occurs:
   1) Failure to install and use the product not in accordance with the requirements of this specification;
   2) Damage due to excessive power grid voltage or opening the housing without permission;
   3) Damage due to the use under drench, strong external force or in the environment where is not in conformity with the specification of environmental temperature or humidity, high dust;
   4) Any other damages caused by improper use.

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