



Household flammable gas detectors

Product brochure

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1. The gas detector is controlled by MCU and uses high-performance gas-sensitive components. It is stable in operation, simple and convenient in installation, and can detect gas leakage in time. It will send out sound and light alarm signals on the spot and output network alarm signals at the first time, so as to achieve timely rescue and reduction of economic losses. The product is widely used in residences, schools, hotels, warehouses, military and other places. An example of product appearance is shown in Figure 1.

◎ Features

- Ceiling or wall-mounted installation, convenient and easy to use.
- High stability semiconductor gas sensor, digital intelligent program analysis technology.
- With alarm elimination automatic reset and key test function.
- Local alarm (sound and light alarm) and network alarm function.
- Sensitivity is adjustable to adapt to alarm requirement in different environments.
- Local device failure display and network push device failure status.
- Device local self-check and status report.
- With LED status indicator, it can intuitively indicate operation, alarm and fault status.
- With data storage and network re-transmission mechanism to ensure data security.
- With the function of countdown to the expiration date and time synchronization when connected to the Internet.
- Patented design, small and exquisite.



figure 1

◎ Technical parameter

| | |
|---|--|
| Product Model: ED108 | |
| Product Number: PBO108DZ00/01/02/0X/XX | Sensing element: High stability semiconductor gas sensor |
| Product Size: 70mm*70mm*28mm | Component life: 3 years |
| Working Voltage: AC 220V/50Hz (Adaptor) | Detection object: Natural gas (calibrated gas sample is methane CH4 gas) |
| Detector input voltage: DC12V | Alarm concentration: 8%LEL±3%LEL |
| Stand-by current: ≤120mA | Alarm method: On-site/Zigbee3.0 network alarm |
| Alarm current: ≤160mA | Alarm sound pressure: 70~115dB (1m in front)70~115dB (1m in front) |
| communication Protocol: Zigbee 2.4GHz | Installation method: Ceiling or wall mounted |
| Transmission distance: ≤150m | storage environment : -15°C ~ 55°C & ≤95% (no condensation) |
| Product Range: 0~20%LEL | Working environment: -10°C ~ 55°C & ≤95% (no condensation) |

◎ Structure

1. Control output interface: With 1 control output interface, it is used to start the solenoid valve after the detector alarms.
2. Read interface: With the function of detector alarm information record, it can store 256 alarm information, 256 alarm recovery information, 128 fault information, 128 fault recovery information, 64 power-off records, 64 power-on records, and 1 sensor failure information. When the stored record exceeds the record upper limit, the new record will automatically overwrite the old alarm record.

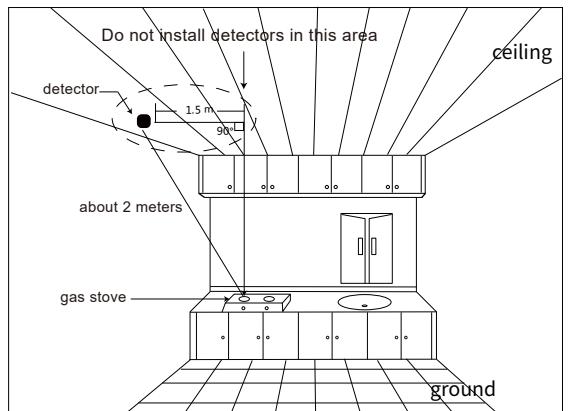


figure 2

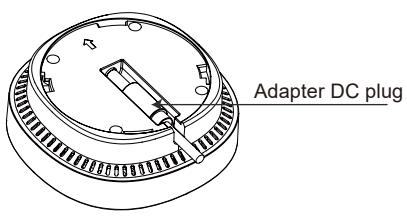


figure 3

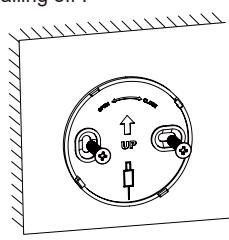


figure 4-1

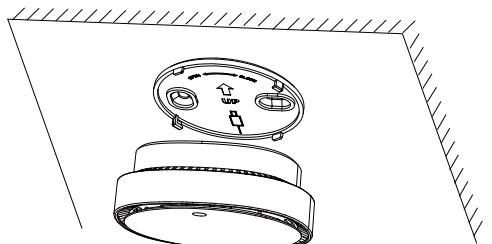


figure 4-2

◎ Installation tips

Refer to the following prohibited locations before installing the detector:

- A. Avoid installing in places where there is a lot of oil smoke, corners, cabinets and other places where the air is not easy to circulate;
- B. Can not be too close to the gas stove, avoid high temperature and high humidity environment, such as places with a lot of water vapor;
- C. Avoid large airflow in the detection area, such as near the exhaust fan;
- D. Avoid installing in direct sunlight or locations with strong electromagnetic interference.

Refer to the following prohibited installation times before installing the detector:

- A. Installation is prohibited when the house has not been painted and renovated, or the house has been renovated and the overall ventilation is less than 5 days. Please follow the schematic diagram recommended in the manual for installation. Try to find the best installation location and ensure that the product is in the effective monitoring range; during decoration, do not remove the product blister cover; open doors and windows to maintain indoor ventilation. If possible, the detector can be temporarily removed, otherwise the effect of the gas released in the room decoration on the detector is destructive and cannot be recovered, which may lead to false alarms or failure of the product.
- B. It is forbidden to install wood furniture in the house, or purchase new wood furniture, when its comprehensive ventilation is less than 3 days;
- C. Use or spray: insecticides (mosquitoes, cockroaches, etc.), air cleaners, glue, hairspray, etc., and installation is prohibited if the overall ventilation is less than 4 hours. Avoid contacting the detector with silicone vapor, formaldehyde, toluene, acetic acid, and hydrogen sulfide. They are mainly produced in home decoration and horizontal materials, such as: adhesives, wall coatings, hairspray, silicone rubber, etc. These can cause sensor poisoning, irrecoverable damage, and cause detector false alarms or failures. High concentrations of alcohol vapor will cause false alarms; and long-term exposure to these gases will cause the detector sensitivity to drift and cannot be recovered.
- D. Before use, the detector can be turned on only after sufficient ventilation time. Otherwise, it may cause false alarms, or cause product false alarms, failures and other problems.

◎ Operation and adjustment

1. Self-check status:

Turn on the power of the detector, the green indicator light flashes, and the detector enters the preheating state, which lasts for 30 seconds in the shortest time and 10 minutes in the longest time; The indicator light is always on, the preheating is over, and the detector enters the normal monitoring working state. If the status does not match the above, it needs to be returned to the factory for processing.

Note: The gas sensor of the detector is not stable at the beginning of power-on. In order to ensure the accurate detection of the detector, it is very important to preheat the gas sensor. During the warm-up period, it is forbidden to perform a gas test on the detector. The detector does not respond to key processing and alarm events.

2. Sensitivity optional:

Open the product shell and adjust the sensitivity through the jump cap, which is divided into three levels of L/M/H (low, normal, and high), the jump cap is inserted with "L" jump cap, it is low sensitivity; plug in "M" Jumping cap, for normal sensitivity (factory default); plug in "H" jumping cap, for high sensitivity.

3. Normal work:

The detector continuously collects, analyzes and judges the air in the use environment. If the gas leakage reaches the alarm concentration of the detector, the buzzer of the detector will emit an alarm sound of "di~di~di~", and the red indicator light will flash quickly and an alarm message will be issued. When an alarm occurs, press the "self-check/silence" button, the detector will enter the silencing state, the buzzer will stop beeping, but the red indicator light still keeps flashing, indicating that there is still an alarm. If the alarm is lifted at this time, the red indicator light will go out and enter the normal monitoring state.

4. Test operation:

When the detector is monitoring normally, short press the "self-test/silence" button, the detector will emit a loud "di~di~di~" alarm tone, and the red and yellow indicator lights will flash rapidly at the same time.

5. Indicator light and buzzer indication information :

| status description | Instructions |
|--|---|
| The green indicator is always on, the red and yellow indicators are off, and the buzzer is silent. | normal work |
| The red indicator light flashes, accompanied by the rapid alarm sound of the buzzer "Di~Di~Di~". | gas leak |
| The green light flashes, the buzzer does not sound. | Detector is warming up |
| The yellow indicator light is always on, and the buzzer beeps for a long time. | Detector failure |
| Yellow indicator light flashes, buzzer does not sound. | Sensor life expired |
| The red and yellow indicator lights are flashing, accompanied by the rapid alarm sound of the buzzer "Di~Di~Di~" | Short press the "self-test/-silence" button |

6. Record reading:

Use the special reading device specified by the national standard, and insert the connecting line on the main board (the cover needs to be opened) to the 4P pin terminal with G\UT\R silk screen printed on it to read all the history currently stored by the detector. Record. The reading device can provide the detector's alarm, self-test status, and information review functions.

7. Solving the internal fault of the detector:

When encountering an internal failure of the detector, please turn off the power first, then reconnect the power, and the detector will enter the self-checking state. If the fault is still not resolved, please contact the dealer in time.

| Item No | fault phenomenon | Cause Analysis | Method of exclusion |
|---------|--------------------------|--|--|
| 1 | Light does not shine | No power or not plugged in | Check the power supply |
| 2 | flashing yellow light | sensor element failure | Replacing the sensor element |
| 3 | Detector false positives | Poor ventilation or gas sensor failure | Ventilation/replacement of gas sensors |

8. Network function operation:

(1) Pair Zigbee gateway:

Open the Tuya APP, select the Zigbee gateway, click to add a sub-device, then, long press the "self-check/silence" button for 5 seconds, the green LED indicator flashes continuously, the device resets, and automatically sends a network access request to the Zigbee gateway. After the Zigbee gateway confirms, You can complete the network access, and prompt the device to add successfully on the APP.

The longest configuration time is 2 minutes. If it times out, it will automatically exit the pairing mode;

(2) Test function:

When the detector is under normal monitoring, short press the "self-check/silence" button, if the network alarm information is received, it means that the communication between the gas and the network platform is normal. The same operation, but does not match the above phenomenon, the test fails. Indicates that the product has not been paired (needs to be paired again) or the network communication has failed.

◎ Product testing

After the gas leak detector is installed, power on, and the test can be performed after the self-test preheating is completed. Press the test button to enter the test mode.

Use a lighter test, the test method is as follows:

Do not use a lighter to directly jet the detector, which will cause damage to the detector. The correct way is: find a transparent plastic bag, fill it with a proper amount of air first, then use a lighter to inject into the bag without ignition for about 5 seconds, stop the injection, shake well, and then put the detector into the plastic bag. The detector should alarm immediately, and the detector should be taken out immediately after the alarm.

◎ routine maintenance

If the product is used for a long time, some dirt will remain on the convection window of the product, which may affect the sensitivity of gas detection. Recommendation: Use for three months (or depending on the pollution), use a brush to mix a small amount of detergent to clean the surrounding of the gas convection window (do not let the cleaning liquid flow into the body), and re-test the product after cleaning.

◎ Alarm handling

1. Close the pipeline valve immediately;
2. Avoid using all items that can generate sparks (such as: answering or making mobile phone calls, turning on lighters, turning on electrical switches);
3. Open doors and windows to allow indoor air to circulate with the outside world;
4. Notify the responsible department and relevant professionals as soon as possible.

◎ Precautions

1. Please follow the usage of the product and use the power supply correctly. After the product is continuously powered on for 24 hours, remove the plastic cover, otherwise the performance of the detector will be affected.
2. The detector cannot have an infinite life, and the recommended effective life is 3 years; it is best to test it once every six months and maintain it regularly.
3. Do not use detergents or solvents to clean the detector. Chemicals will permanently damage or temporarily contaminate the detector. Avoid spraying air fresheners, paints or other aerosols near the detector.
4. The product cannot be tested with high concentration (>100% LEL) gas, which may reduce the sensitivity of the alarm and cause the alarm to not work properly.
5. Gas detector products can increase the safety factor, but cannot guarantee safety 100%. In addition to the correct use of this product, users are also required to increase their safety awareness and vigilance to avoid losses.

◎ Special Note

1. Special attention should be paid to the use environment of this detector:
 - A. Avoid long-term effects of high temperature water vapor and oil fume; if it cannot be avoided, equipment such as exhaust fans and ventilation fans should be installed.
 - B. Avoid long-term use in high temperature environments: places with more water vapor and water droplets.
 - C. Avoid contacting the detector with silicone vapor, formaldehyde, toluene, acetic acid, and hydrogen sulfide. They are mainly produced in home decoration, horizontal installation materials, such as adhesives, wall coatings, hairspray, silicone rubber, etc. These can cause sensor poisoning, irrecoverable damage, and cause detector false alarms or failures. High concentrations of alcohol vapor will cause false alarms; and long-term exposure to these gases will cause the alarm sensitivity to drift and cannot be recovered.
 - D. In case of failure, please do not disassemble the detector for maintenance without permission. Users can notify our company or our local office, and we will deal with it as soon as possible.
2. The company is not responsible for the warranty in one of the following situations:
 - A. Failure to install and use the product in accordance with the requirements of this manual will cause damage to the product.
 - B. Damage caused by high grid voltage or self-opening of the case.
 - C. Damage caused by damp, falling, bumping, pressing and smashing.
 - D. Man-made damage caused by improper use of other reasons.

◎ packing list

Detector 1; Adapter: 1; Mounting bracket: 1; 3M glue: 1; Instruction Manual: 1 ; Certificate: 1; Screw Pack: 1 Pack

FCC Warning Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- - Reorient or relocate the receiving antenna.
- - Increase the separation between the equipment and receiver.
- - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- - Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance of 20cm the radiator your body. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.