

## Home Combustible Gas Detector

### SD6101 Series



Version: V1.8

Read the instructions before use



#### I. Product Overview

The SD6101 series household combustible gas detectors (hereinafter referred to as "detectors") are safety devices designed for residential use. These devices continuously monitor indoor combustible gas levels. When the gas concentration reaches or exceeds the preset alarm threshold, they trigger audible and visual alarms while activating electromagnetic valves to cut off the gas supply. This mechanism effectively prevents hazardous incidents such as explosions, fires, poisoning, and suffocation caused by gas leaks or incomplete combustion.

1、 Key Features: High sensitivity, strong anti-interference and anti-humidity/heat resistance; Audio-visual alarm with automatic output; Automatic reminder when sensor lifespan expires; Built-in alarm history recording function; Easy installation and operation.

2、 scope of application  
residential indoor use

#### 3、 service environment

- temperature :  $-10^{\circ}\text{C}\sim+55^{\circ}\text{C}$
- Relative humidity:  $\leq 93\%\text{RH}$
- Ambient atmospheric pressure:  $86\text{KPa}\sim 106\text{KPa}$

#### 4、 storage environment

- temperature :  $-25^{\circ}\text{C}\sim+55^{\circ}\text{C}$

#### II. Technical Features

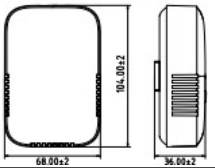
1、 Implementation standard: GB15322.2-2019 "Flammable Gas Detectors-Part 2: Household Flammable Gas Detectors"

#### 2、 main parameter

- Detection principle: Semiconductor type
- Measured gas: Methane (natural gas) or propane (liquefied gas)
- Alarm setting value (see product nameplate for details): 10% LEL or other
- Measurement range (see product nameplate for details): 0-25% LEL or other note: Lower explosive limit (LEL) is the minimum explosive concentration of flammable gas or vapor in air.
- Alarm method: Audio-visual alarm

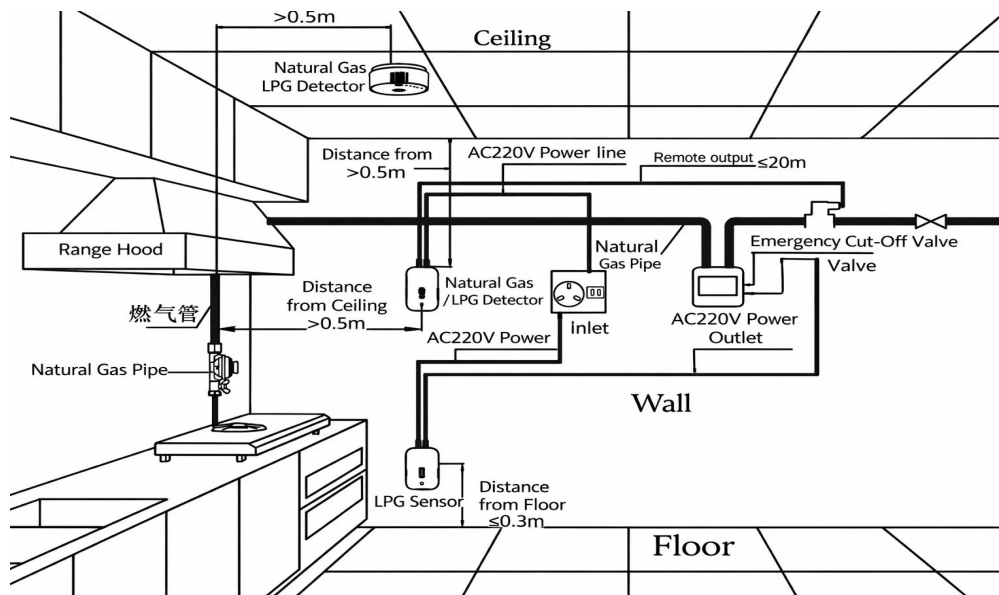
- Power supply:  $\text{AC}220\text{V}\pm 15\%$  (50Hz)
- Power:  $<3\text{W}$
- Response time ( $T_{90}$ ):  $\leq 30\text{s}$
- Sensor lifespan: five years (typical value)
- Sensor storage life: one year
- Installation method: Wall-mounted
- Linked output (default): A set of 12V pulse outputs (electromagnetic valve)

#### III. PRODUCT STRUCTURE

Model
SD6101 series

Product size
104x68x36mm
Product weight
Approximately 105 grams

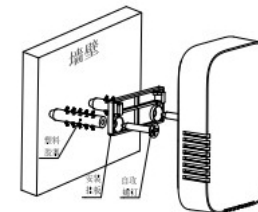
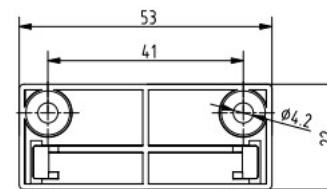
#### IV. Installation and Commissioning

##### 1、 Installation diagram



#### Installation Guide

##### SD6101 series



##### 2、 matters need attention

- The detector should be installed in a place where indoor gas and steam are easy to gather.
- Refer to the schematic diagram above for detector installation. When the target gas is lighter than air, install it above the emission source; when heavier, install it below. The mounting plate must be securely and flatly fixed in the indicated direction.
- Do not install the detector in areas with high air flow such as exhaust fans, windows, or doors. Avoid direct exposure to heat sources like gas stoves or exhaust hoods, as well as steam and cooking fumes.
- There should be no barrier between the detector and gas-using equipment, and it should not be installed in wall cabinets or cabinets.
- Do not install in places where power is cut off at night;
- In newly renovated rooms, detectors should be installed after the completion of painting, welding, and other work, and ventilation should be maintained after installation.
- Do not clean the detector with alcohol, and avoid using insecticides directly on the probe.  
The meter ejects to avoid affecting the sensor performance.
- Do not smoke near the detector;

- When the detector alerts the sensor's lifespan has expired, replace it promptly.
- To ensure the accuracy of detector detection, it should be stored properly in strict accordance with the storage environment requirements after leaving the factory. To guarantee product quality, it is recommended that the storage time should not exceed 6 months.

#### pay attention to

To ensure the product's protection level meets design requirements, the mounting panel must be used correctly.

Before installation and wiring, disconnect the power supply first. Do not operate while powered on to avoid electric shock!

### V. Usage, Operation Instructions, and Related Information

1、Key instructions: Under normal conditions, press the "self-test" key to perform audio and light self-test, and link to output;

- Press the "Self-Check" button in alarm mode to silence the alarm.
- Press the 'Self-Check' button to silence the fault.

### 2、indicator description

The indicator light displays different colors based on the status, as shown in the table below.

Operative mode	Indicator light color status	Buzzer
Whack	Green flashing	Noiseless
Fault condition	Yellow Heliostasis	Intermittent barking
Alarm status	Red Constant	Prolonged barking
Life expired	Yellow flashing	Noiseless
Power-on self-test status	The system performs a boot self-test with the indicator light flashing cyclically. After 10 seconds, it enters normal operation mode.	Upon completion of self-check, emit a sound and enter normal working state
Manual self-check status	Press the self-test button, the indicator light will flash continuously for 10 seconds. During this process, the linked output will activate. After completing the self-test, the system will enter normal operation. Operative mode	Continuous barking during manual self-check

### 3、Direction for Use



Before energizing, verify that the power supply and connection lines are functioning properly.

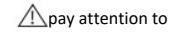
When powered on, the detector performs a self-test. After the indicator light flashes continuously for about 10 seconds, the buzzer emits a single sound, marking the device's entry into normal operation.

The detector does not alarm during self-test!



Before calibration, ensure the detector is in a clean air environment and powered on for at least 30 minutes. Press the self-test button to activate manual self-test mode. Hold the button until the normal (green) and lifespan (yellow) indicators alternate, signaling the device has entered calibration mode.

The device is placed in the calibration state, and the target gas is introduced into the device at a flow rate of 0.3~0.5 m/s (or the device is placed in the target gas calibration environment). After the alarm indicator light flashes rapidly for 60 seconds, press the self-test button again. If the alarm indicator light remains on and the buzzer sounds, the gas calibration is completed.



pay attention to

1、Product testing and verification should be conducted in clean air with power-on aging maintained for at least 48 hours prior to testing.

2、For equipment with over 12 months of service time, it must undergo electrical aging for at least 72 hours in a clean air environment, followed by re-calibration before conducting testing or verification procedures.

3、The installation, commissioning, and calibration of detectors shall be performed by trained professionals. To ensure measurement accuracy, calibration shall be conducted annually, with semi-annual calibration required in special environments.

### 4、history

Record type	Maximum storage records
Detector alarm record	200
Detector alarm recovery record	200
Detector fault record	100
Detector fault recovery record	100
Detector power down record	50
Detector power on record	50
Gas Sensor Failure Record	1

### 5、Network Interface Type and Parameters

This product features a 2.54mm pitch four-pin single-row pinout for its IoT interface, with the data interface specifications detailed in the table below.

Order number	1	2	3	4
Label/PCB screen printing	GND/G	Up/U	TXD/T	RXD/R
Explain	Reference level	Interface work Power output	Send data end	Receiving data terminal

### 6、Type and Parameter of Output Signal of Networking Interface

This product's IoT interface outputs TTL negative logic serial communication signals (for detailed signal level specifications, refer to Appendix A of GB15322.2-2019).

### VI. Fault Information

Fault phenomenon	Analysis of causes	Elimination method
The detector indicator light is not on.	Power connection is incorrect	Check if the detector's power supply or power cable connection is functioning properly.
The yellow indicator light is always on	Sensor failure	Replace the detector
The yellow indicator light is flashing.	Sensor lifespan expired	Replace the detector

### VII. Unboxing and Inspection

- Complete set of accessories: Product manual (1 copy), Product certification (1 copy), Installation mounting plate (1 piece), Installation screw accessories (1 set)
- Unboxing inspection: The product has no scratches on the exterior, the label is intact and clear, and all accessories are complete.

### VIII. Quality Assurance

All products from Sichuan Hilde Technology Co., Ltd. (hereinafter referred to as Hilde) undergo rigorous quality inspection prior to shipment, ensuring full compliance with applicable national and industry standards.

Sichuan Hilde Technology Co., Ltd. guarantees that all purchasers of Hilde products will receive free repairs for any quality issues within one year of purchase. This free repair service does not apply to products damaged or defective under the following circumstances:

- Negligence, accidents, disasters, improper installation/usage;
- Unauthorized disassembly or modification of the product;
- Human damage, force majeure.

### IX. Contact Us

Company Address: China (Sichuan) Pilot Free Trade Zone, Chengdu Shuangliu District, Southwest Airport Economic Development Zone, No.2666 Konggang 4th Road, Haolang Science and Technology Park, Zone 7, 502

Consultation hotline: 400-626-0102 (Sales & After-sales)

Phone: 028-81511655

Postal code: 610200

Website: www.sc-shield.com

E-mail: sales@sc-shield.com



### Warranty card

Model		Identification of product	
Client		Contact number	
Customer address			
Date of purchase			

### Maintenance record

--