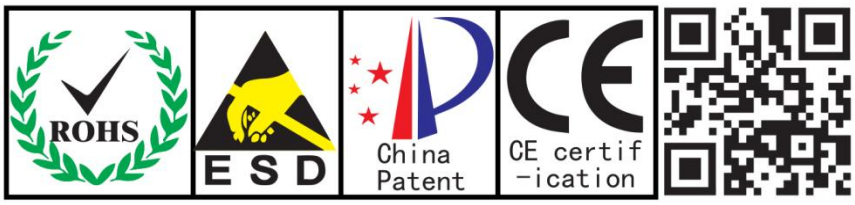
# Gas CO Sensor Specification

# XKC-G22-CO-V

## Content





## 1st. Overview

The sensor is a fuel cell type sensor. Carbon monoxide and oxygen undergo a corresponding redox reaction on the working electrode and the counter electrode and release charges to form a current. The generated current is proportional to the carbon monoxide concentration and follows Faraday's law. The magnitude of the current can be measured. Determine the concentration of carbon monoxide. Excellent repeatability and stability。

## 2. Technical Parameters

1. Performance parameters

| project name | parameter |
|---|---|
| Input voltage | DC 5V~24V |
| load current | <100mA |
| Quiescent Current | <10 mA |
| detect gas | carbon monoxide (CO) |
| Repeatability | ＜2% Output value |
| Maximum load | 1000ppm |
| Threshold | 20ppm |
| Response time | (T90) <15S |
| Zero output (in clean air) | <±2ppm (equivalent CO) |
| Sampling method | Diffusion |
| output method | High and low level |

2. Working conditions

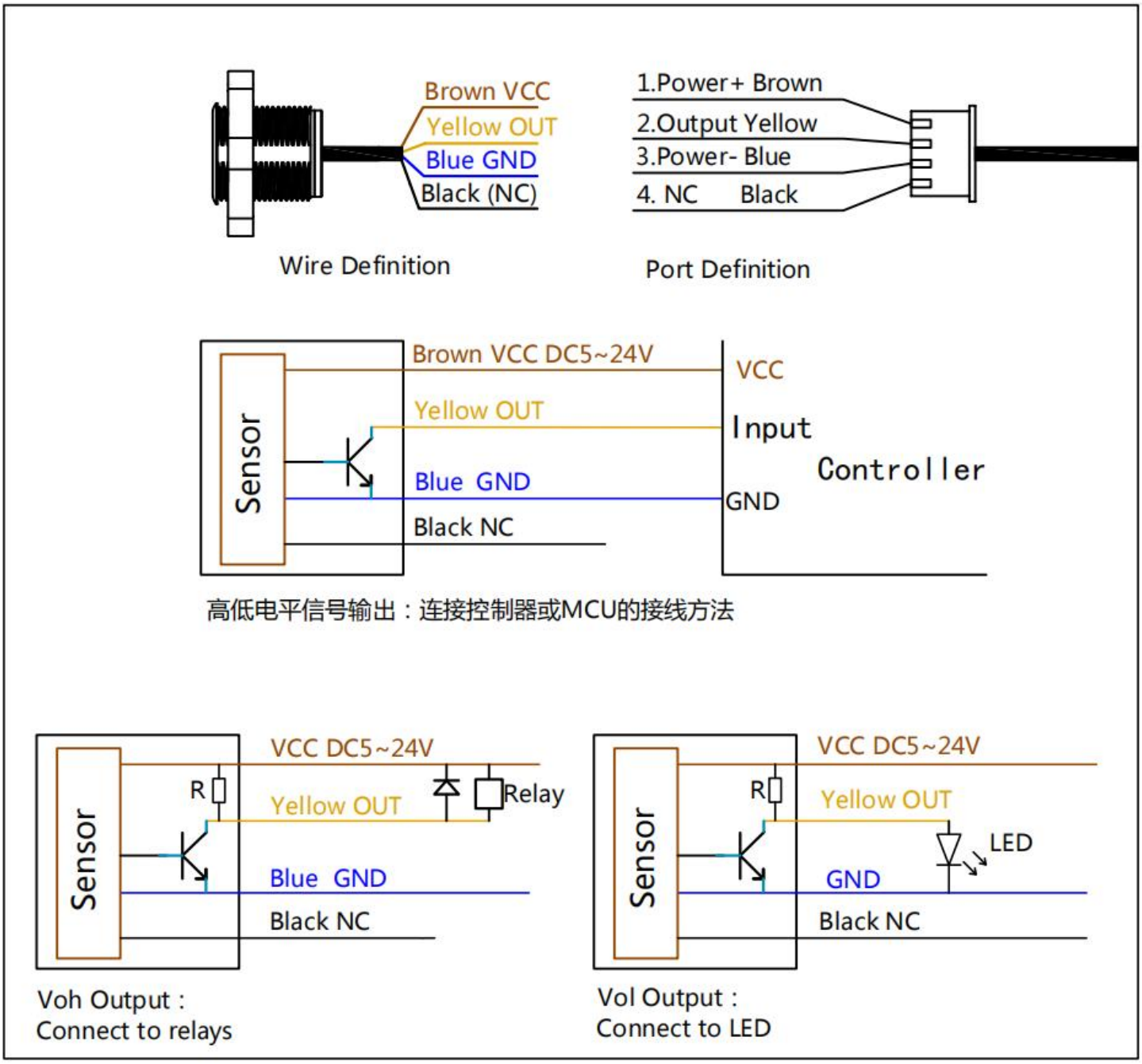
| project name | | parameter |
|---|---|---|
| pressure range | | 1±0.1 standard atmospheric pressure |
| Expected service life | | 8 years (in air) |
| Recommended storage environment | | +10℃～ + 30℃ |
| range of working temperature | continue working | -10℃～ + 50℃ |
| | intermittent work | -10℃～ + 55℃ |
| Operating humidity range | | 15%RH～ 90%RH（No condensation） |

3. Physical properties

| project name | parameter |
|---|---|
| size | L*W*H = 30.35 * 47.4 * 47.4MM |
| line length | 50cm (±10MM) (batch can be customized) |
| Shell material | Black PC V0 fireproof material |
| Safety standard certification | CE |

## 3. Wiring Principle

Simplified schematic diagram of V output wiring principle




V output drives small relays (coil current≤100mA) working principle:

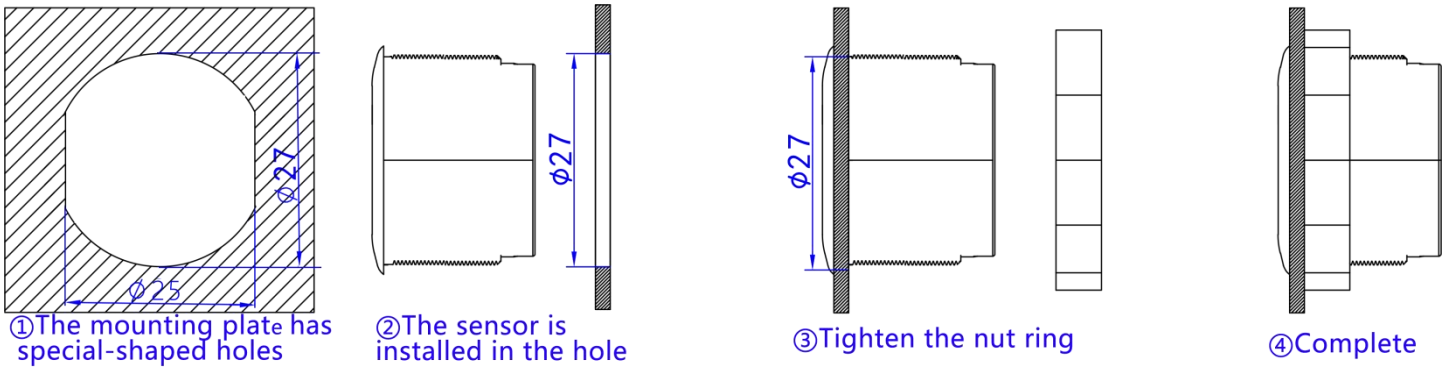
(1) When CO(g) is sensed, the transistor is turned off, and the relays turned off;

(2) When CO(g) is not sensed, the transistor is turned on, and the relays turn on;

## 4. Instructions method

Method 1.

Tighten with nut ring。



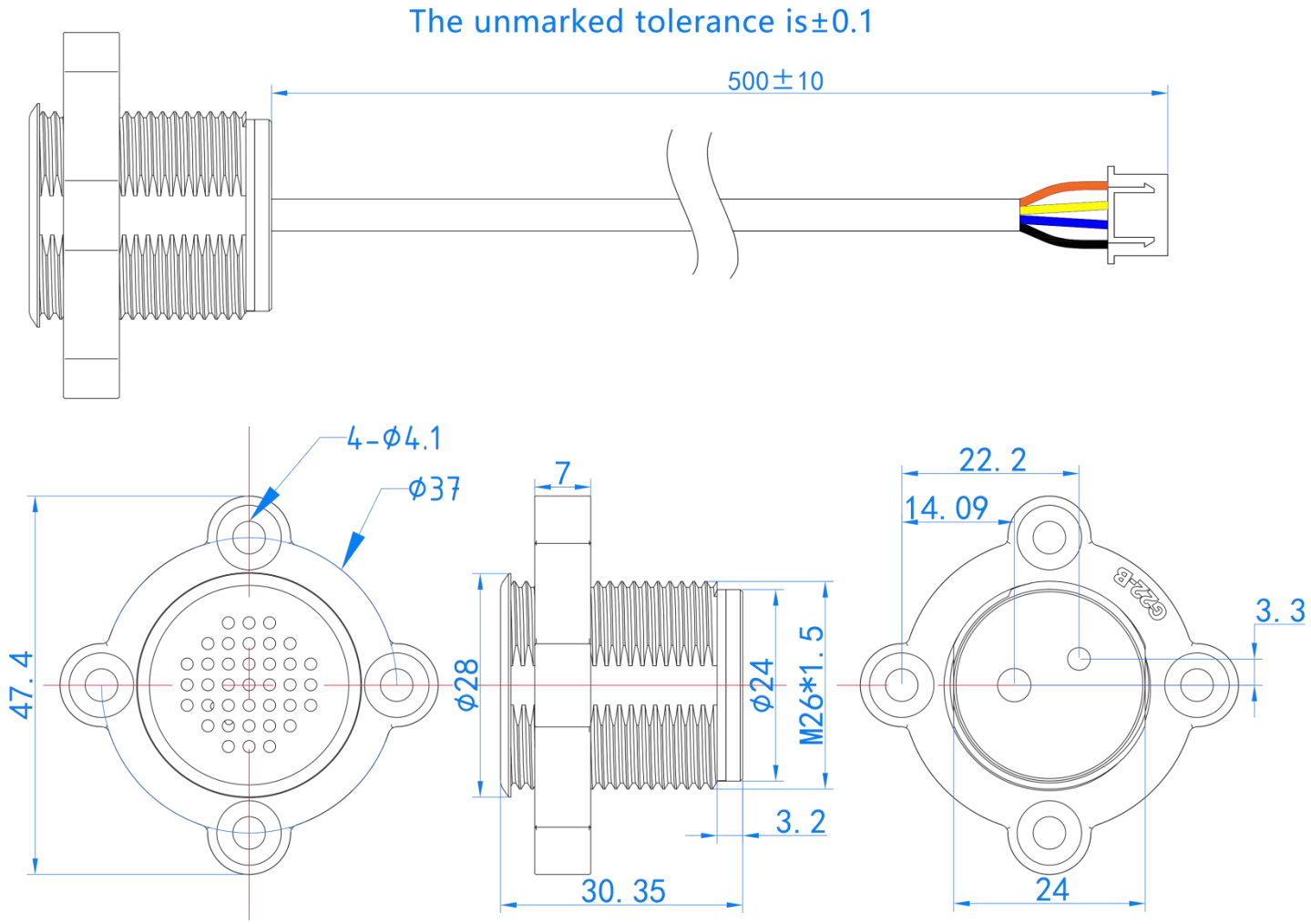

Method 2.

Draw the mounting holes on the panel where the sensor needs to be installed, and place the bolts in the mounting holes of the sensor to tighten to achieve front or rear fixation.

## 5. Installation method

When the sensor is powered on and working normally, when the sensor senses that the CO reaches the alarm concentration, the indicator light is on and the output is high; when the CO does not reach the alarm concentration, the indicator is off and the output is low.

## 6. Dimensions



## 7. Matters needing attention

The aging time before use shall not be less than 48 hours;

It is recommended that the air inlet hole of the sensor be installed vertically downwards or horizontally;

The tube pin connector provided by the manufacturer should be used during installation, and it is forbidden to directly weld the tube pin;

The equipment using this sensor should be confirmed to be in normal state before use (portable instrument) and during use (fixed point detector);

Prolonged use in an over-range and high-concentration gas environment will cause damage to the sensor;

Tube pins are prohibited from being broken and bent;

The sensor should not be subjected to excessive shock or vibration;

Do not disassemble the sensor at will, disassembling the sensor will cause the leakage of electrolyte and cause harmful consequences;

Do not use if the casing is damaged and will leak.

Avoid contact with organic solvents (including silicone rubber and other adhesives), paints, pharmaceuticals, fuel oils and high-concentration gases;

All electrochemical sensors cannot be completely encapsulated with resin materials, nor can they be immersed in an oxygen-free environment, otherwise the performance of the sensor will be damaged;

It is forbidden to encapsulate the sensor with hot melt adhesive or sealant whose curing temperature is higher than 80℃;

All electrochemical sensors should not be used or stored in environments containing corrosive gases, which can damage the sensor;

The sensor intake channel must not be blocked and polluted;

When the sensor is not in use, the two poles need to be short-circuited to prevent pole polarization.

## 8. Specification version

| Version | Release date |
|---|---|
| V11 | June 15, 2022 |
| V20 | October 13, 2022 |
| V21 | October 25, 2022 |