

CO Gas Detector Introduction (GD250 Series)

Product Bulletin

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Subject: Remind information on CO Gas Detector for Room application

Distribution List: E&ES

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Dear all,

Please find attached a release bulletin about the CO Gas Detector products, **GD250W3E/4E**.

Best regards,

Sang Hyun Park

Approved by:

Kim, KiPyo

Regional General Manager (Korea)

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CO Gas Detector



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1. Summary

GD250W4NB is IAQ(Indoor Air Quality) sensor, which has been designed to detect carbon monoxide gas in the air. This model has high accuracy at low concentration, so it is optimized for parking lot, tunnel and under ground places. Also, the advantage of this model is compact size and easy installation.

2. Product Information

Features

- High sensitivity and selectivity to carbon monoxide
- Two types analog signal (DCV and DCA) output (Selectable)
- Compact size (70 mm×122 mm×32 mm)

3. Specification

- Gas detected : Carbon monoxide (CO)
- Sensor type : Electrochemical
- Detect range : 0~250ppm
- Accuracy : 1) $\pm 5\%$ FS for 0~100ppm
2) $\pm 10\%$ FS for 100~250ppm
- Power supply : 24Vac 50/60Hz, 24Vdc, +/- 20%
- Output signal : 2~10Vdc (default) or 4~20mA (selectable by jumper)
- Coverage area : 465 ~900 m² (recommend)
- Response time : Within 30 seconds to 90% of final value
- Wiring : 3 or 4 wire compatible
- Operating temperature : 0 ~ 50°C
- Operating Humidity : 10 ~ 95%RH (no condensing)
- Storage temperature : -20 ~ 60°C
- Storage Humidity : 10 ~ 95%RH (no condensing)
- Sensor life expectancy : 6 years

Model	Gas Detected	Sensing Range	Wiring
GD250W4NB	Carbon monoxide	0 ~ 250 ppm	3/4 wire

4. Dimension

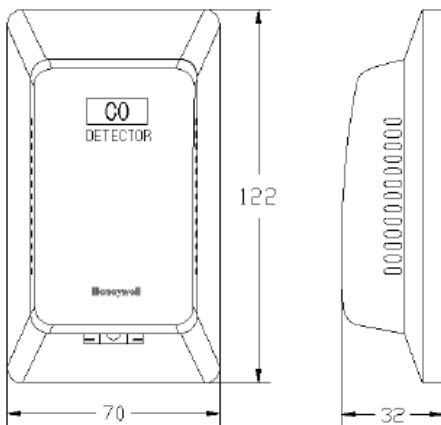


Fig. 1. dimensions (in mm)

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5. Installation

1. Determine the output signal type.
 - For DC voltage output(2~10VDC), connect Jumper(J1) to 'V-OUT' which is located in center of the PCB.
 - For current output (4~20 mA), connect Jumper to 'I-OUT' which is located in center of the PCB.
 - ※ Default is DC voltage output(2~10VDC).
2. Installation procedure
 - ① Push the bottom of the cover to separate from the base.
 - ② Connect the input and output lines to the terminal block. Then, verify the lines correctly fixed to the terminal.
 - ③ Fix the base by using the screw nails. Do not fix the base upside down.
(Be cautious PCB assembly not to be damaged.)
 - ④ Reassemble the cover.
3. Mount approximately 150 cm (5 feet) above floor.
4. Do not use as a life safety device.
5. When the product has wet by dew, use the product after completely dry up.
6. Install the input and output lines far away from other system-input lines.
7. Do not use this product for portable.

6. Assembly

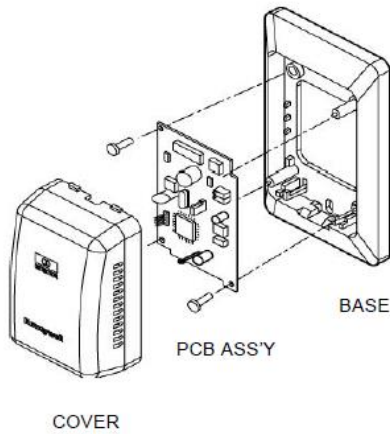
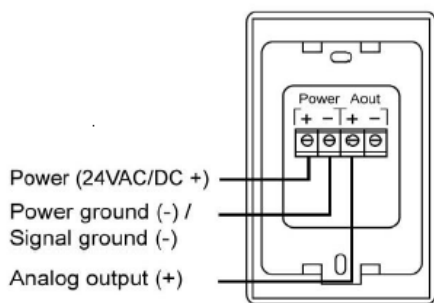


Fig. 2. assembly structure

7. Wiring diagram

3-line wiring



4-line wiring

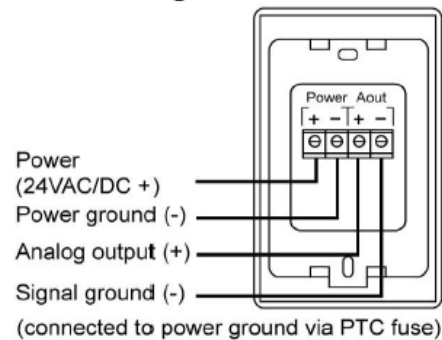


Fig. 3. wiring diagram

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Jumper setting method to determine the output signal type

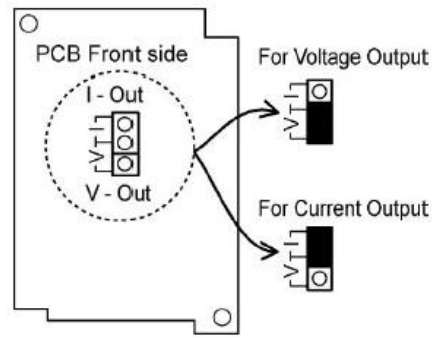
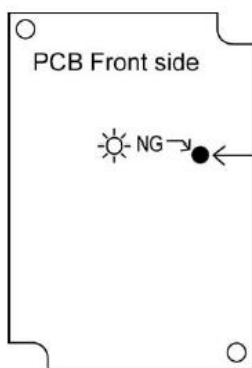


Fig. 4. jumper setting

Caution on wiring



AC24V wiring polarity error notice lamp

When power on, if this lamp lights, please change the AC24V power line polarity reversely.
(The V/mA signal output is not electrically separated from AC 24V power line.)

8. Caution on Use

- The standard test condition is 25 °C, 50%RH. Sensitivity will be decreased when the sensor is located in extreme dry condition or places.
- Avoid exposure where silicone adhesives, hair grooming materials or silicone rubber/putty may be present.
- Avoid exposure to alkaline metals, especially salt-water spray.
- Avoid exposure to highly corrosive materials such as H₂S, SO₂, Cl₂, HCl, etc.
- Sensor drift may occur due to soaking or splashing the sensor with water.
- If water freezes on the sensing surface, the sensing material would crack, altering characteristics.
- If water condenses on the sensor's surface and remains for an extended period, sensor characteristics may drift.
- Sensor performance may be affected if exposed to high density of gas for a long period, regardless of the powering condition.
- When stored without powering for a long period, the sensor should be stored in a sealed bag containing clean air, do not use silica gel.
- Regardless of powering condition, if the sensor is exposed in extreme conditions such as very high humidity, extreme temperatures, or high contamination levels for a long period, sensor performance will be adversely affected.
- Avoid excessive vibration or strong shock that may cause the sensor or lead wires to break.