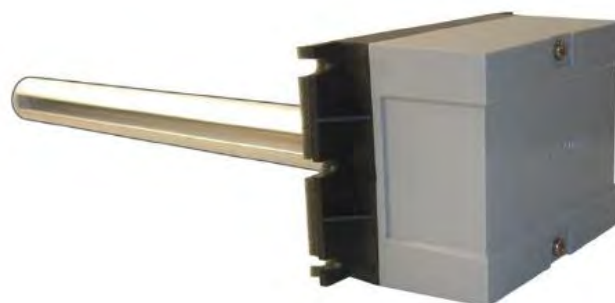


CDS2000A3000C CO₂ GAS DETECTOR

- High sensitivity and good resolution
- High technology adopted by NDIR method
- On/Off relay output for CO₂ limit monitoring
- Two types analog signal (DCV and DCA) output
- Automatic Background Calibration (ABC) algorithm based on long-term evaluation reduces required typical zero-drift check maintenance.



Technical Specification

Gas detected	Carbon dioxide (CO ₂)
Sensing method	NDIR (Non-dispersive infrared)
Detect range	0~2,000ppm
Accuracy	±30ppm ±5% of measured value
Warm-up time	Within 2 minutes
Power supply	24Vac, 24Vdc±20%, 50/60Hz
Sensor life	>10 years
Maintenance interval	Not Required
Analog output	0~10Vdc(default) or 0~20mA (selectable by jumper setting)
Alarm output	SPST relay, normally open, 1A/120Vac, 1A/24Vdc contact rating, activated at greater than 1000ppM, deactivated at less than 900ppM
Response time	Within 120 sec (90% step)
Protection class	IP63
Operating temperature :	0 ~ 50°C
Operating Humidity	0 ~ 95%RH (non condensing)
Storage temperature	-20 ~ 60°C
Storage Humidity	0 ~ 95%RH (non condensing)

APPLICATION

CDS2000A3000C sensor and controller measures the carbon dioxide gas concentration in the ventilated duct. This product is used in ventilation and air conditioning systems to control the amount of fresh outdoor air supplied to maintain acceptable levels of CO₂ in the space.

Dimension

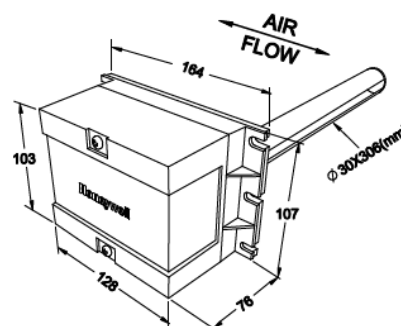


Fig. 1 dimensions (mm).

Model	Display	Analog output	Alarm output
CDS2000A3000C	None	0~10Vdc, 0~20mAdc	Relay

INSTALLATION

1. Confirm the product model number on the product case and check accessory package.
2. Installation procedure

- Remove the protective paper backing from the template and affix to the desired location. BE CERTAIN TO OBSERVE THE AIR FLOW DIRECTION ARROWS.
Duct air must flow directly into insertion tube slot.
- Punch or drill the holes of $\Phi 4.0$ for fixing of M5 screws (5EA included). See figure 2.
- Center punch for the $\Phi 37$ hole with saw or other hole cutting means.
- Create the $\Phi 37$ hole for sampling tube.
- Remove the screws at the front cover to separate it from the base.
- Insert the sampling tube into the duct through the $\Phi 37$ hole and mount the base to the duct with M5 screws.

3. Analog output mode selection

→Initially, output mode is configured as 0~10Vdc

→Voltage output (0~10Vdc): set Jumper(JPI) at the bottom of the PCB to "V-OUT" position (refer to figure 3)

→Current output (0~20mA) : set jumper (JPI) at the bottom of the PCB to "I-OUT" position (refer to figure 3)

4. Reassemble the cover to the base.

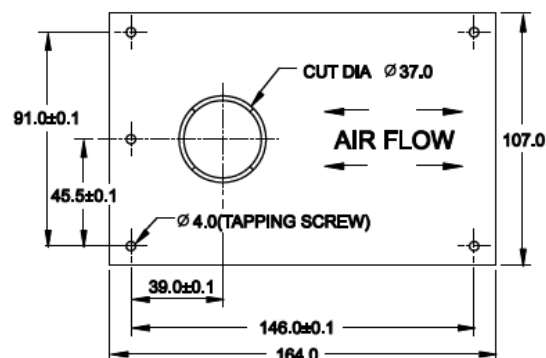


Fig. 2 Mounting Template.

ANALOG OUTPUT SELECTION

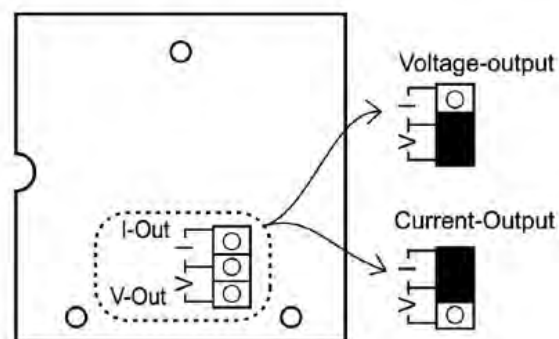
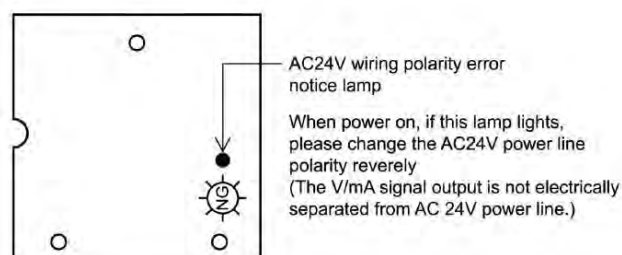


Fig. 3 Analog output selection

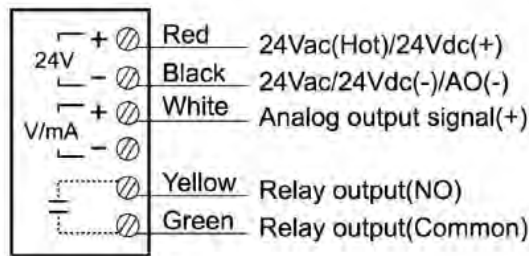
WIRING DIAGRAM

- Connect power and signal output wires to the cable at the right side of device.(refer to figure 4).
Then, verify the lines correctly fixed not to move.
- When installing, power and output wires must keep enough distance with other utility power lines for safety.

Caution on wiring



3-wire configuration



4-wire configuration



Fig. 4 wiring diagram

CAUTION ON USE

- Do not use this device for outdoor use. This product is manufactured only for indoor use.
- Do not use this device for where a building is continuously occupied 24 hours per day, or where there could be significant sources of non-occupant related CO₂ such as greenhouses, breweries and other industrial and food processing applications.
- Do not use this device for medical, life or safety purpose.
- This device must abide by the operating temperature/humidity and the storage temperature/humidity.
- Do not leave or use the device for longtime in a highly-damped place in which humidity is near 95%RH.
- The standard test condition in which the product was tested is 25°C±3°C, 50°C±30%RH. Signal may vary slightly by environment condition.
- Be careful when install and use as vibration/shock/falling can cause a serious damage on the sensor.
- We do not guarantee the performance of the device in case of user installation, disassembling and Inspection. When installing and inspection is necessary, please contact our technicians.
- Sensor using NDIR is influenced by air pressure. It can be used without correction within 300M above the sea level. However, add the output value by +1.0% per 100M height above 300M.
Ex) If the output signal is indicating 600ppm at the height of 500M, correct the output to 630ppm by adding 30(600*0.01*5)ppm.
- Use when it is fixed, but not use while it is in motion.

For more information,

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