

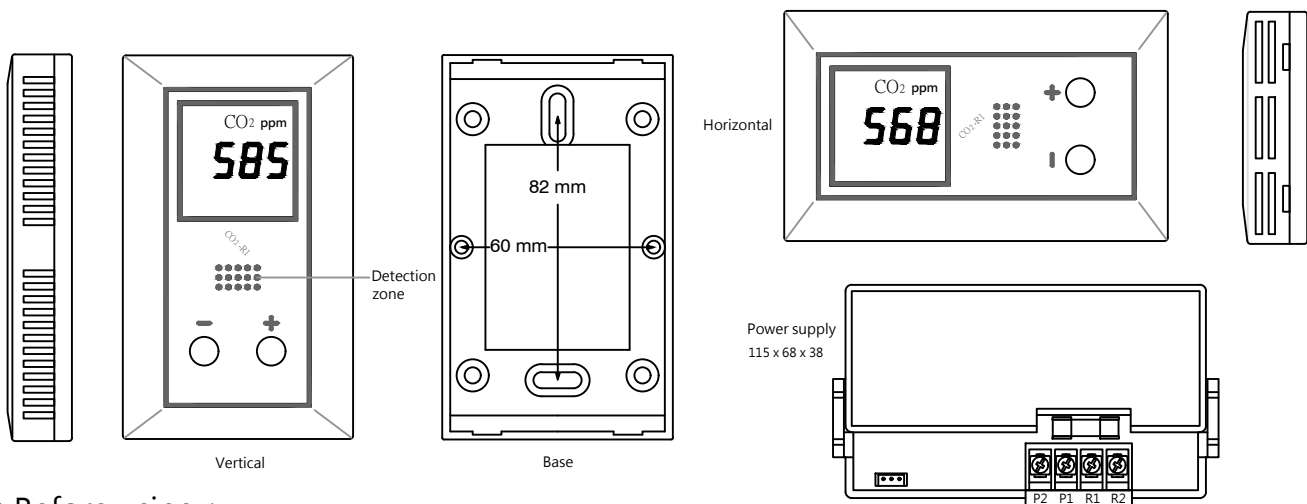
CO2-R1 LCD Carbon Dioxide Sensor

● FEATURES :

- LCD display screen.
- Standard American gauge.
- Stability and accurate output provided by NDIR sensing.
- Provide relay contact and analog voltage linear output.
- Outfit RS-485 port operated by the MODBUS RTU open protocol.
- Optional speed output can control frequency conversion AHU or ERV.
- Suitable for clean room/library/manufacturing/smart building and other applications.



● DIMENSIONS : L 120 x W 72 x H 20 mm



● Before using :

- ★ Please keep clean, if dust or insects invade the body, it will directly affect the accuracy and service life.
- ★ Better to install sensor within 120 cm. Please avoid direct sunlight and don't close to heat radiation sources.
- ★ Do not stick to or press the detection zone on the sensor, otherwise it may be inaccurate or cause damage.
- ★ When the first power-on, the screen will displays "PrEP", wait for 3~5 minutes to establish normal working state.
- ★ Due to the influence of ventilation equipment and the environment, there is no guarantee that the CO₂ concentration on site and the set value can be exactly the same after using the product.

● OPERATING INSTRUCTIONS :

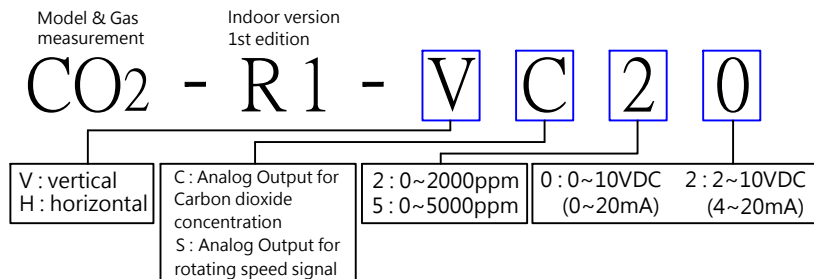
▶ CO2 concentration setting value

- ▶ Press + to increase the setting value by 10 ppm; press - to decrease the setting value by 10 ppm.
- ▶ When the CO₂ concentration exceeds the set value + the differential value for more than 60 seconds, the R1 and R2 contacts on the power supply are turned on, and the ventilation equipment that reduces the concentration is turned on; otherwise, when the concentration is lower than the set value When the value + differential value, the R1 and R2 contacts are cut off, and the ventilation equipment is closed and stops operating.
- ▶ The analog output (A-OUT) is output linearly proportional to the concentration; if it is set to speed control, it can directly drive the EC fan motor to adjust the indoor CO₂ concentration.

▶ Lock & unlock

- ▶ First press any button to enter the setting screen, and then hold the + & - buttons till "LOC" shows than the key was locked.
- ▶ Press + & - button till "ULOC" shows than the key was unlocked and returned to the operable state.

● How to order :



● Wiring diagram : *** Please unplug or insulate the unused connection connector to avoid accidental contact and short circuit.**

① DC power supply and control contact output(Necessary) :

Wire : 0.5mm² × 3C line of communication

- The black, orange, and yellow wires on the back of the CO₂ sensor body are connected to the power supply with 3-color wire plug terminal.

② Analog Output : Wire : 0.75mm² × 2C Shielded wire

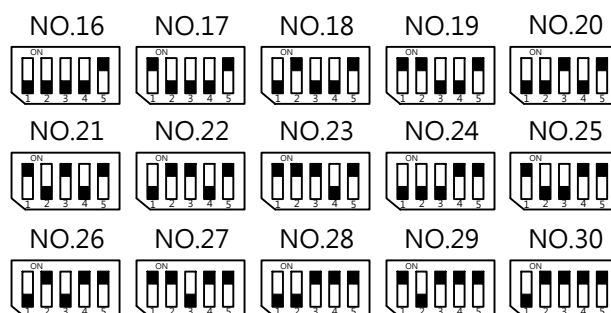
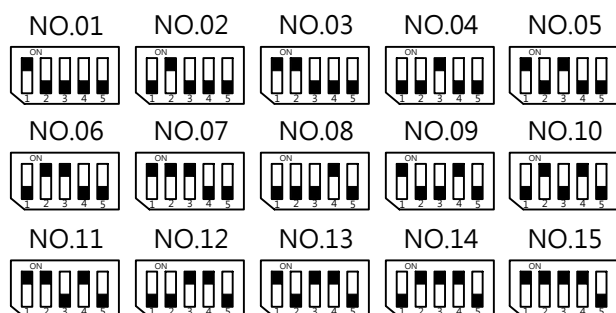
- Black wire GND 0V, green wire 0(2)~10VDC, brown wire 0(4)~20mA.
- Connect the green wire(+) & black wire(-) for the voltage signal 0(2)~10VDC.
- Connect the brown wire(+) & black wire(-) for the current signal output 0(4)~20mA.

③ Communication Interface(RS-485) :

2 sets of UL2464 AWG22(0.5mm²)x2C Twisted-pair & Shielded wire

- Red wire A+, white wire B-. 2 pairs of wires connected to become 1 pair inside the circuit board.
- The RS-485 cable must be used UL2464 AWG22 x2C Twisted-pair & Shielded wire according with "one-in & one-out" rule connecting with all of the devices, Never set any branch in the halfway.
- When multiple devices are connected, front or end of the connection must connect one terminating resistor (120Ω), please ask for it from the original purchaser.

④ IP ADDRESS SETTINGS :



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- Please contact the dealer or contact our company for the latest version of the communication information.
- The IP address setting must not be repeated. No need to set if RS-485 network communication function is not used.

● Technical Specifications :

Input power	DC 12V (Supplied by external power supply)	Relay contact output	SPST 10A / 220VAC
Gas measurement	Carbon dioxide (CO ₂)	Differential value	Default value 50 ppm ; 0~150 ppm adjustable
Display type	LCD display screen	Delay time	Default value 60 seconds ; 0~600 seconds adjustable
Measurement method	NDIR	Analog Output	0(2)~10VDC ; 0(4)~20mA
Installing dimension	American gauge Straight / horizontal	Analog Output type	Carbon dioxide concentration or rotating speed signal
Measuring range	0~2000 ppm (Original) / 0~5000 ppm (Max)	Protocol type	RS485 Serial communication (Max. 1200m)
Measuring accuracy	±50 ppm + 3% measured value (Can be calibrated)	RS485 protocol	Modbus RTU 9600 bps N,8,1
Sensor Output	PWM / DAC / UART	Environment	Temperature : 0 ~ 50 °C ; Humidity : 0~90%(non condensing)
Sampling time	Once a second	Sensor lifetime	More than 5 years (No improper use or environmental factors)

* The specifications maybe changed without notice. 2022.01 V1.0