



## CO<sub>2</sub> Controller for Greenhouse or Similar Application

**Model: F2000IAQ-CO<sub>2</sub>-5003D**

CO<sub>2</sub> + Temperature + Humidity Controller  
with the local Programmable Control

### □ Features

- ◆ Especially designed for agriculture equipments such as greenhouses, food and vegetable storages. Real-time detecting CO<sub>2</sub> level, temperature and humidity with the local programmable control.
- ◆ Wall mounting, LCD display
- ◆ Carbon dioxide sensor, temperature sensor and humidity sensor are internal. The three values can be apart set.
- ◆ Non-Dispersive Infrared Detector (NDIR) CO<sub>2</sub> sensor, more than 10 years lifetime
- ◆ CO<sub>2</sub> range: 0~5000ppm / 0~20000ppm / 0~50000ppm
- ◆ Special ABC Logic with patented Self Calibration Algorithm makes the CO<sub>2</sub> sensor used up to more than 10 years
- ◆ Temperature setting range: 5~45°C  
Humidity setting range: 5~95%RH
- ◆ Provide three relays outputs to control a CO<sub>2</sub> generator, a temperature device and a humidity devise or a ventilator.
- ◆ Special photosensitive sensor detection can make the working mode of the CO<sub>2</sub> generator changeover automatically in day and night.
- ◆ Provide brightness adjustment range to make day/night limit setting by end users.
- ◆ RS-485 communication interface with 15KV antistatic protection makes the controller being connected with PC
- ◆ Multiple functions, high performance, low price, make it praiseworthy.

### □ Application

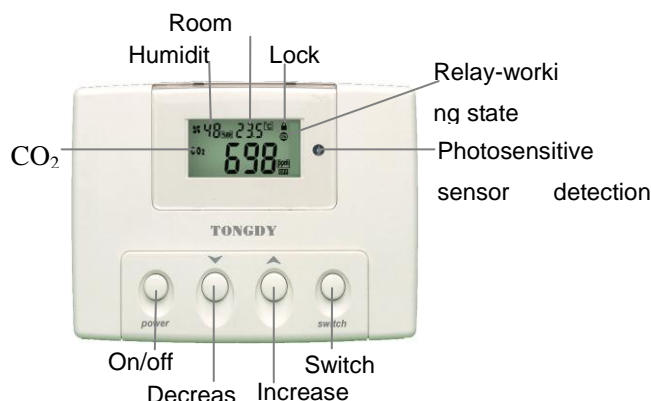
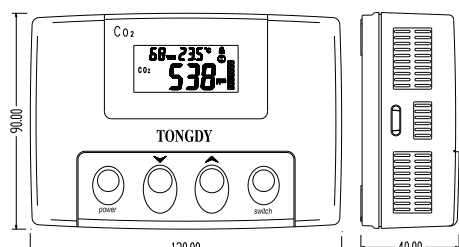
F2000IAQ-CO<sub>2</sub> -3003D multiple controller is used to control CO<sub>2</sub> level, temperature and humidity in order to offer right environment for plants growth or for foods storage.

It provides three dry contact outputs to control a carbon dioxide generator and a ventilator or other temperature/humidity equipments. It can provide RS485 communication with independent address to PC or other control systems.

It will be used below application:

1. Greenhouses, which include vegetable planting houses and flowers planting houses.
2. Modern hydroponics gardens
3. Other relevant field of agriculture
4. Keep food and vegetable on fresh

## Buttons and LCD



## Specifications

Gas detected	Carbon Dioxide (CO <sub>2</sub> )
Sensing element	Non-Dispersive Infrared Detector (NDIR) with more than 10 years lifetime
Temperature sensor	NTC
Humidity sensor	HS series capacitive sensor
Temperature dependence	0.2% FS/°C
Temperature correction	Self compensation
Power supply	100VAC~240VAC or 24VAC, 50/60HZ±10%, selectable in order
Consumption	3.5 W max. ; 2.5 W avg.
Accuracy@25°C (77°F)	±40ppm + 3% of reading (0~5,000ppm) ±75ppm or 10% reading whichever is greater (0~20,000ppm)
Stability	<2% of FS over life of sensor (15 yr typical)
Calibration interval	ABC Logic Self Calibration Algorithm
Non linearity	<1% of FS
Pressure dependence	0.13% of reading per mm Hg
Altitude calibration	Programmable from 0-9,900m in 100m increments
Response Time	<2 minutes for 90% step change
Signal update	Every 2 seconds
Warm up time	24 hours (first time) 10 minutes (operation)
CO <sub>2</sub> measuring range	0~5,000ppm 0~20,000ppm (optional)
CO <sub>2</sub> setting & Display resolution	1ppm
Temperature measuring range	-20~60°C (-4~140°F)
Temperature setting range	5~45°C (41~113°F)
Humidity measuring range	0~99%RH

Humidity setting range	5~95%RH
Output resolution	10Bit
Relay output	Three ways dry contact outputs with programmable selection to control CO <sub>2</sub> , temperature, humidity Rated switching current: 2A(220VAC/30VDC), resistance load
Communication interface	RS-485, 9600/14400/19200(default)/28800 or 38400bps (programmable selection), 15KV antistatic protection, 3 independent base address, max network node 64.
Flow rates	80 ~ 120 cc/min
Operation conditions	0~50°C (32~122°F); 0~95%RH, non condensing
Storage conditions	0~50°C (32~122°F); 0~90%RH
Weight	360g
Dimensions	130mm×90mm×40mm
Installment standard	65mm×65mm or 2"×4" wire box
Wiring standard	Wire section area<1.5mm <sup>2</sup>
Approval Standard	CE-Approval

## Models

Model	Description
F2000IAQ-CO2-5003D -(D)(C)	CO <sub>2</sub> &temperature&humidity detection to control CO <sub>2</sub> generator and temperature & humidity devices, photosensitive sensor detection to control CO <sub>2</sub> generator day/night working mode. RS485 communication interface. Power supply: (D): 100~240VAC (C): 24VAC

## Wiring Diagrams

