

# CO<sub>2</sub> Controller for Greenhouses and Agricultural Fields

Model: F2000IAQ-CO<sub>2</sub>-3003D

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

CE Approval 

## □ 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, 15 years lifetime, CO<sub>2</sub> setting range is selectable: 0~2000ppm / 0~20000ppm / 0~50000ppm
- ◆ Special ABC Logic with patented Self Calibration Algorithm makes the CO<sub>2</sub> sensor used up to 15 years
- ◆ Temperature setting range: 5~45  
Humidity setting range: 5 ~ 95%RH
- ◆ Provide three relays outputs to control a CO<sub>2</sub> generator, a temperature device and a humidity device 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 (option)
- ◆ Multiple functions, high performance, low price, make it praiseworthy.

## □ Application

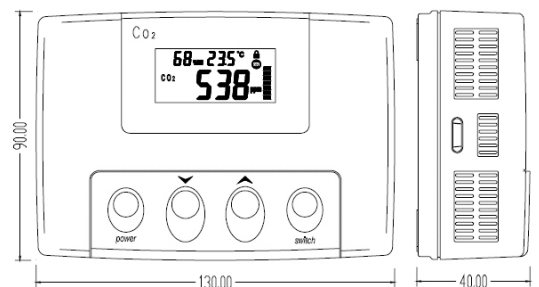
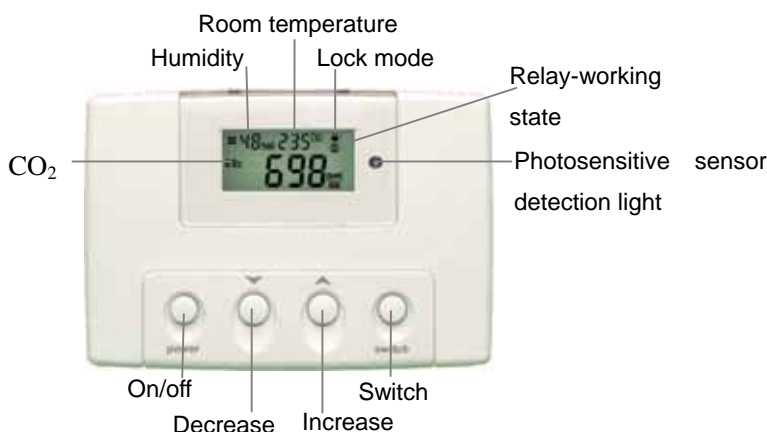
F2000IAQ-CO<sub>2</sub> -3003D multiple controller is used to control CO<sub>2</sub> level, temperature and humidity in order to offer right environment for plants growth or for foods storage.

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)
Temperature sensor	NTC
Humidity sensor	HS series capacitive sensor
Temperature dependence	0.2% FS/
Temperature correction	Self compensation
Power supply	220VAC or 110VAC or 24VAC, 50/60HZ±10%, selectable in order
Consumption	3.5 W max. ; 2.5 W avg.
Accuracy@25 (77 )	±40ppm + 3% of reading
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 ~ 2,000ppm (default) 0 ~ 20,000ppm 0 ~ 50,000ppm
CO <sub>2</sub> setting & Display resolution	1ppm
Temperature measuring range	0 ~ 50 (32 ~ 122 )
Temperature setting range	5 ~ 45 (41 ~ 113 )
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 (32~122 ) ; 0~95%RH, non condensing
Storage conditions	-40~70 (-40~158 )
NDIR life time	15 years
Weight	360g
Dimensions	130mm×90mm×40mm

Installment standard	65mm×65mm or 2"×4" wire box
Interface connections	9 terminals
Wiring standard	Wire section area < 1.5mm <sup>2</sup>
Approval Standard	CE-Approval
Programming and selection	Via internal jumper and external push-buttons

□ Shipping Information

Indiv. Ctn. Dim	135mm×95mm×55mm
Master Ctn. Qty	40
Master Ctn. Dim	44cm(L)×32cm(W)×32cm(H)
Master Ctn. Wt.	15.5 KG

□ Models

Model	Description
F2000IAQ-CO2-3003D -(A)/(B)(C)	Special for green house and other agricultural fields. CO2& temperature& humidity detection to control CO2 generator and ventilation, photosensitive sensor detection to control CO2 generator day/night working mode. Power supply: (A): 200/240VAC (B): 100/120VAC (C): 24VAC
F2000IAQ-CO2-5003D -(A)/(B)(C)	Special for green house and other agricultural fields. CO2&temperature&humidity detection to control CO2 generator and temperature & humidity devices, photosensitive sensor detection to control CO2 generator day/night working mode. RS485 communication interface. Power supply: (A): 200/240VAC (B): 100/120VAC (C): 24VAC

□ Wiring Diagrams

