



## Carbon Dioxide Monitor and Controller

**Model: F2000IAQ-CO2**

**CE Approval**

### □ Features

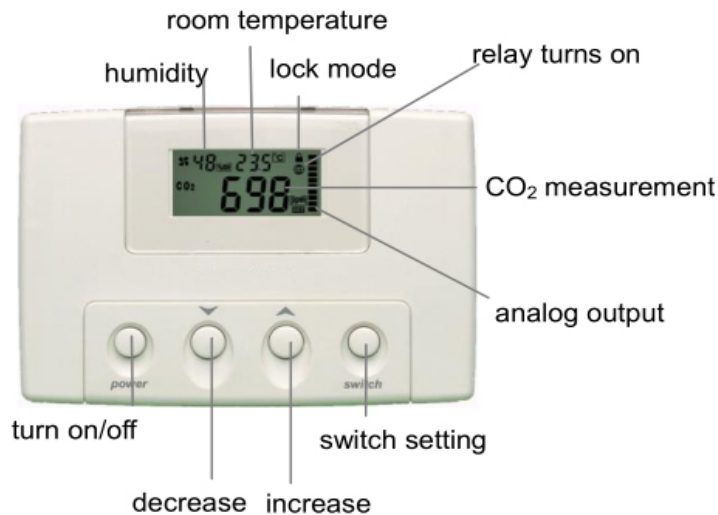
- ◆ Multiple functions and high performance with low prices
- ◆ Wall mounting type and duct type selectable
- ◆ LCD display detecting both CO<sub>2</sub> level and temperature, also relative humidity (optional)
- ◆ NDIR infrared CO<sub>2</sub> module inside with special ABC Logic Self Calibration System. It makes the CO<sub>2</sub> measurement more accurate and more reliable in use.
- ◆ 15 years lifetime of CO<sub>2</sub> sensor
- ◆ Microprocessor control, quick response, high precision
- ◆ Provide up to three 0~10VDC outputs or relay dry contact outputs, or up to three mix outputs.
- ◆ The analog output with two alternatives: linearized over full range output or PID control output
- ◆ Different control mode for delays can be selected by user's application, for example for ventilation or for greenhouse or other applications.
- ◆ CO<sub>2</sub> range:0~5,000ppm or 0~20,000ppm;
- ◆ Modbus RS-485 communication interface optional, 15KV antistatic protection, independent base address setting
- ◆ CE-Approval

### □ Application

F2000IAQ-CO<sub>2</sub> monitor/controller is used to monitoring and control room CO<sub>2</sub> level, as well as room temperature and humidity, provide one or two or three 0~10VDC analog outputs and up to three dry contact outputs . F2000IAQ-CO<sub>2</sub> can be as a programmable logical controller to control CO<sub>2</sub> level, temperature or humidity, and also as a transmitter DDC/PLC controller or other automation systems. It provides a RS485 communication interface with an independent address to PC or other control systems.

- ◆ Hotel, exhibition hall, hospital, shop, restaurant, air port, train station, theater and other public places
- ◆ House, villa, office, meeting room, classroom and other places
- ◆ Greenhouse, mushroom, grown room and other agricultural applications
- ◆ All ventilation systems

### □ Buttons and LCD



### □ Specifications

Gas detected	Carbon Dioxide (CO <sub>2</sub> )
CO2 Sensor	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	24VAC/VDC, or 100~240VAC, 60HZ, selectable with the order
Consumption	3.5 W max. ; 2.5 W avg.
Accuracy@25°C (77°F)	±40ppm + 3% of reading (0~5000ppm) ±75ppm or 10% reading whichever is greater (0~20,000ppm or 0~50,000ppm)
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	2 hours (first time) 2 minutes (operation)

CO <sub>2</sub> measuring range	0~5,000ppm 0~20,000ppm or 0~50,000ppm optional
CO <sub>2</sub> setting & Display resolution	1ppm
Temperature measuring/ setting range	0~50°C (32~122°F)/ 5~45°C (41~113°F)
Humidity measuring/setting range	0~99%RH/ 5~95%RH non condensation
Analog output	0~10VDC linearized output or PID control output, selectable by end users
Output resolution	10Bit
Relay output	One or two dry contact outputs with programmable selection to control CO <sub>2</sub> , temperature, humidity Rated switching current: 2A(220VAC/30VDC), resistance load
Communication interface	Modbus RS-485, 9600/14400/19200(default)/28800 or 38400bps (programmable selection), 15KV antistatic protection, 3 independent base address
Operation conditions	0~50°C (32~122°F); 0~95%RH,
Storage conditions	0~50°C (32~122°F); 5~90%RH non condensing
Weight	360g
Dimensions	130mm×90mm×40mm
Installment standard	65mm×65mm or 2"×4" wire box
Interface connections	Maxi. 9 terminals
Wiring standard	wire section area<1.5mm <sup>2</sup>
Approval Standard	CE-Approval
Programming and selection	Via internal jumpers and push-buttons on the panel

□ **Models Guide**

## F2000IAQ-CO2- X<sub>1</sub> X<sub>2</sub> Y<sub>1</sub> Y<sub>2</sub>- RH- Z

### X<sub>1</sub> (the product type)

- 3- CO<sub>2</sub> and temperature detection
- 5- CO<sub>2</sub> and temperature detection with Modbus RS-485 communication

### X<sub>2</sub> (display type)

- 0-LCD display
- 2-Backlit LCD display

### Y<sub>1</sub> (Analog output)

- 0-no analog output
- 1- 1 X 0 – 10 VDC output
- 2- 2 X 0 – 10 VDC outputs
- 3- 3 X 0 – 10 VDC outputs

**Y<sub>2</sub> (Dry contact output)**

- 0- no dry contact output
- 1- 1 relay dry contact output
- 2- 2 relay dry contact outputs
- 3- 3 relay dry contact outputs

**RH (Humidity detection and display)**

No RH option indicates no humidity detection and display

**Z (power supply)**

- C- 24VAC/VDC
- D- 100~240VAC (just for IAQ-CO<sub>2</sub>-300Y<sub>2</sub>/500Y<sub>2</sub>)

Example: F2000IAQ-CO<sub>2</sub>-3011 indicates that it can detect CO<sub>2</sub> and temperature with one analog output and one relay dry contact output. F2000AQ-CO<sub>2</sub>-5002-RH indicates that it can detect CO<sub>2</sub> and temperature and humidity with two relays dry contact outputs, and Modbus RS485 communication

**□ Mounting and Wiring Diagram**

