CO_2 Controller for Greenhouse

Model #: EST0N-O8

User Manual

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Specifications

CO_2 Sensor	Non-Dispersive Infrared Detector (NDIR)
Measurement Range	0~5,000ppm (default)
Accuracy	±40ppm + 3% of reading @22℃(72℉)
Stability	<2% of full scale over the life of the sensor
Calibration	Self-calibration system
Response Time	<5 minutes for 90% step change at low duct speed
Warm up time	30 seconds (operation)
General items	
Power supply	100VAC~240VAC
Consumption	1.8 W max. ; 1.0 W avg.
LCD display	Display CO2 measurement
Dry contact output	1xdry contact output for CO_2, 5A (100VAC~230VAC) rated switch contact Default CO2 high point setting: 820ppm Default CO2 low point setting: 780ppm
Operation conditions	0℃~50℃; 0~99%RH, non condensing
Storage conditions	10~50℃/ 10~70%RH
IP class / Net weight	IP30/ 280g
Standard Approval	CE-Approval
Version	V.S8-SHT11 _301

Mounting and Connection

- Notice the supply power voltage of the controller: 100VAC~240VAC.
- Place the controller at a desired location and use screws to fix the controller on the wall through the installation holes;
- Power input side connects to power supply while Control equipment side connects to controlled device. (Fig.1)

Fig.1

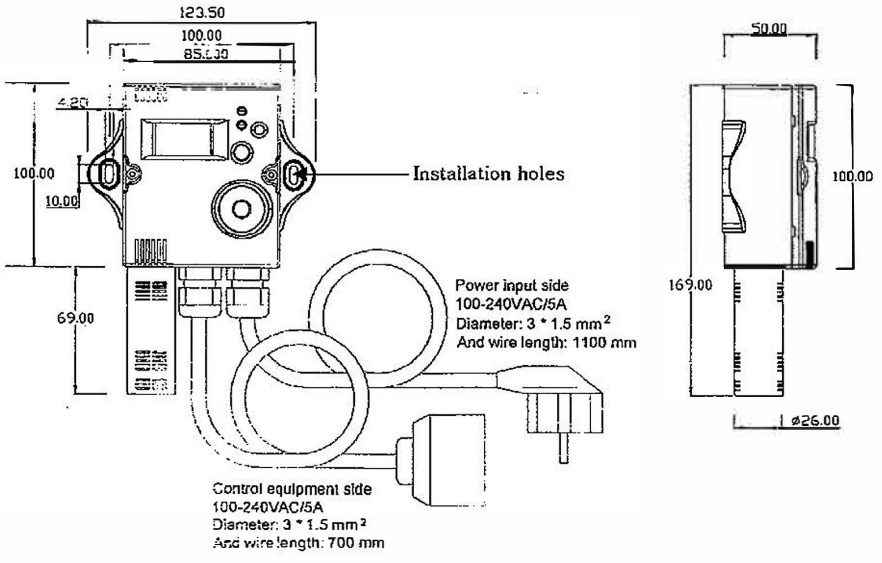
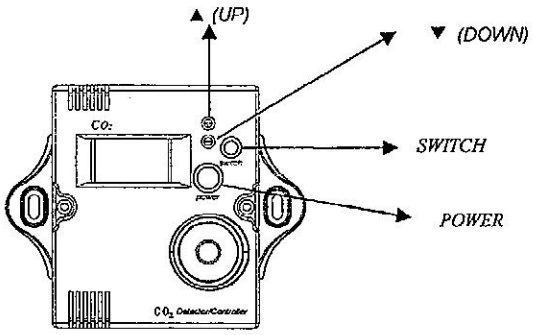


Fig.2



Wall mounting with plug&play type

Probe Length	69.00mm
Probe Diameter	Ø26.00mm
Installation Holes	10.00mm
Power cable	1100.00mm
Cable to device	700.00mm

Fig.3-a LCD Display

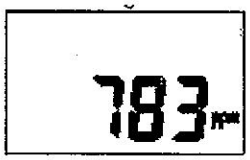


Fig.3-b LCD Display

Instructions

1. Important attention: always cut off the power before open and clean the controller.
2. For button indication, please check fig. 2.
3. Please see fig.3 for LCD screen display. Fig. 3-a is LCD display in normal operation state, while fig.4-b is LCD display in the state of relay control point setting.
4. Press **Power** for about 2 seconds, the controller turns on. After the controller is on, it will count down 30 seconds before it shows CO2 measurement on the LCD like *fig.3-a*.
5. When the controller is in operation state, press **switch** button to switch between low point setting and high point setting with -H or -L icon appearing on the upper line respectively like *fig.3-b*. As -H appearing the high CO2 point can be set and the setting value will flash during setting. As –L appearing the low CO2 point can be set and the setting value will flash during setting. Press ▼ or ▲ button over 2 seconds, the setting value will adjust quickly. After setting, wait for 10 seconds the flash value will stop blinking and the setting value is confirmed.
   Default low point setting of CO2 is 780ppm;
   Default high point setting of CO2 is 820ppm.
6. The day/ night work mode:
   When it's daytime,
   The item –5 is set as 0 in advance setup, then if CO2 measurement < low point setting, relay ON,
   If CO2 measurement> high point setting, relay OFF.
   When it's nighttime, the relay OFF.

Advanced Setup (V.S8_301)

Please read carefully below parameters before set anyone of them.

Hold down switch button for 10 seconds, the interface enters "advanced setup" interface, -XX will appear as a sign, hold down switch button again for 10 seconds, the interface goes back to normal state, it will also go back to normal state after power failure.

Press switch button to select parameter and set up its value by press ▼or ▲.

LCD	Parameter	Range of setup	Default
-1	--------	---------	---
-2	---------	---------	---
-3	CO2 modification	±200 ppm	0
-4	---------	---------	---
-5	Relay control mode	0- Increase CO2 (connect to a generator) 1- Decrease CO2 (connect to a ventilator)	0
-6	Backlit setting	0- ON when relay is on 1- ON when press any button 2- Always ON	0

-7	State of the controller after being put on power or after power failure 0- Turn off 1- Turn on 2- Keep on previous state before power failure		2
-8	Invalid for this model	--------	1
-9	Invalid for this model	---------	19200
-10	Invalid for this model	---------	1
-11	Warming-up time	1~600	30
-12	The maximum limit of CO2 measurement	1~10000ppm	5000
-13	CO2 sensor self-calibration	1-allowed; 2-not allowed	1
-14	The altitude level for using	0~5000 feet	0
-15	CO2 single point(400ppm) calibration	to calibrate the CO2 sensor at 400ppm, "1" means start calibration, "-----" will appear during calibration process; "0" means calibration is finished ***WARNING***: you need to put the controller in a standard CO2 gas environment of 400ppm for the calibration, and the previous CO2 sensor state will NOT be restored after calibration, so please be very cautious to use this function	0
The items below are for testing before leaving factory, do not change them.			
-16	Invalid for this model		0
-17	Invalid for this model		1
-18	invalid for this model		150

Reset: Hold down switch for about 60 seconds until the controller powers off, wait for a while the controller will turns on and goes into advance setup, then it will go back to factory default setting.

Notice: There are 2 jumpers on the PCB boards, which are invalid for this controller.