

CO₂

range: 0-9999PPM

for greenhouse

controller



VDL

User manual



Important

To ensure safety, please read this manual carefully before installation and follow the instructions herein. Store this manual in a secure place for future reference.



WARNING choking hazard.
Accessories contain small parts.

Overview

Thank you for purchasing the CO₂ Controller Digital CO₂ Controller. It is a simple to use, highly accurate digital CO₂ controller. The CO₂ Controller is very precisely measures and controls the carbon dioxide level in the grow room, accurately maintaining your desired PPM level of carbon dioxide. Its large and easy-to-read LCD screen displays exact PPM readings down to 1 PPM resolution.

Package contents

Controller Unit	x1	Sensor Unit Hook	x1
Sensor Unit	x1	User Manual	x1
Cable (15ft)	x1	Screws an Expansion Pipes	x1

Features

1. Large LCD
2. Built-in Day/Night sensor
3. Low Drift NDIR Sensor
4. Chart with variable time Zoom Levels
5. Calibrated the sensor independently

Operating Instructions

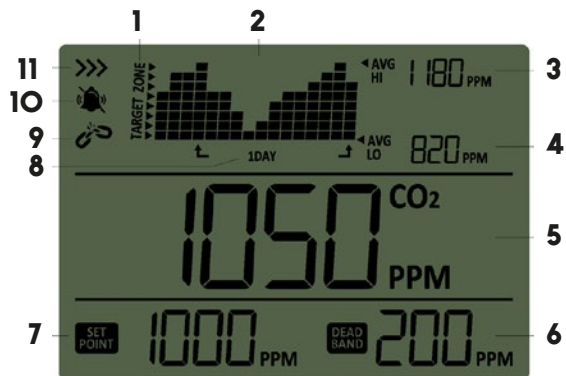
Initial Setup

When first unboxing, plug the piggyback into the power socket. If successfully connected, below 2 things will happen while booting up:

1. Alarm will beep once.
2. LCD will show all icons about 1 second.

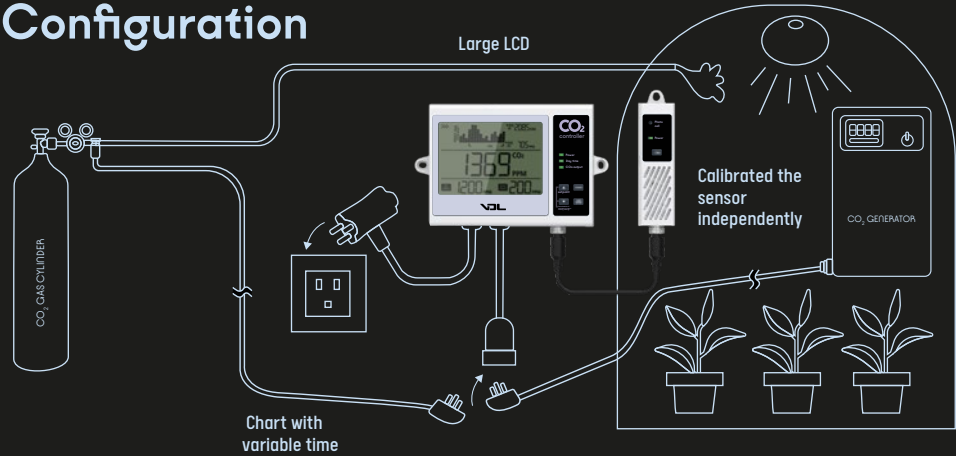
When the Warm-Up is complete (about 15 seconds), your product is ready to use, no additional setup or calibration is needed.

LCD Display



1. Target Zone Indicator
2. CO₂ Trend Chart
3. AVG HI reading of Chart
4. AVG LO reading of Chart
5. CO₂ Reading
6. Dead band setting
7. Set-Point setting - Ideal CO₂ level
8. Zoom Level of Time-Indicates the chart's timespan
9. MAX/MIN value
10. Audible Alarm On/Off
11. Device working Icon

Configuration

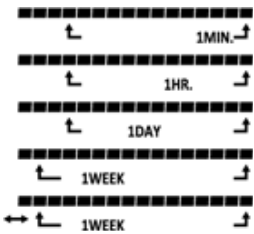


Tread Chart Zoom

Below is a table showing the available Zoom Levels for all CO₂ parameters, as well as the duration of each interval for corresponding Zoom Levels:

The **ZOOM MAX/MIN** button will toggle the available Zoom Levels for each parameter. Note that in addition to the Zoom Levels for each parameter, there is an option that will automatically cycle between the Zoom Levels. This can be achieved by pressing **ZOOM MAX/MIN** until icon appears at the bottom left of the chart.

Zoom Level (Time Span)	Time Per Interval
1MIN. (minute)	5 sec/div
1HR. (hour)	5 m/div
1 day	2 h/div
1 week	0.5 day/div
Auto Cycle Zoom	Cycle



Scale on LCD

AVG HI / AVG LO

At the top right corner of the LCD, there are two numerical indicators: AVG HI and AVG LO. As the Zoom Level is changed, the AVG HI and AVG LO will reflect the average high and average low values on the chart of the selected parameter. At startup, the unit will automatically display values for 1day value.



HD Backlight



Sound Alarm



Built-in Day / Night sensor



Trend Graph



External Sensor



Mode switching



Low Drift NDIR Sensor



Max Min

Auto Detect Day/Night

The built-in photocell sensor can automatically detect whether it is Day or Night. It can override the CO₂ control and shut off the CO₂ generator or regulator by turning of the output power during the night, Conversely, if the photocell detects light and the CO₂ level is low, the device will start the CO₂ generator by turning on output power.









CO₂ Output Control

Output power is on when the CO₂ concentration is below SETPOINT+DEAD-BAND, and off when CO₂ concentration is over SETPOINT-DEADBAND.

For example, if the SETPOINT is 1000ppm, and the DEADBAND is 200ppm, the output power will shut off when CO₂ over 1000+200=1200ppm, and power on when CO₂ below 1000-200=800ppm.

Altitude Compensation

This product built-in high precision pressure sensor, this can automatically com-pensation, the user no need to set the altitude anymore.

Function	Directions
Set Point	Press the  or  button to set the target PPM, each press is 50ppm
Deadband	Press the  button to set the desired DEADBAND setting (the DEADBAND range is 50-500ppm, each press is 50ppm)
MAX/MIN	Press and hold the  button for 3 seconds, to display the CO ₂ MAX/MIN PPM record, press any button or wait about 10 seconds the screen will return to normal display, if you press and hold the  button for 3 seconds, the record will be reset.
Alarm	Press and hold the  button for 3 seconds to turn on or turn off the buzzer.
Restore Factory Setting	Press both of  or  button for 3 seconds to restore factory setting.

Calibration

Take the CO₂ sensor (probe unit) to the outside, use the mobile power supply (5V) and power cords (type-C), connect as below picture, press the CALI button for 3 seconds, the green LED and red LED will flash alternately, waiting about 15 minutes, the calibration will completed, if PASS, the green LED will flash; if FAIL, the red LED will flash, please do it again.

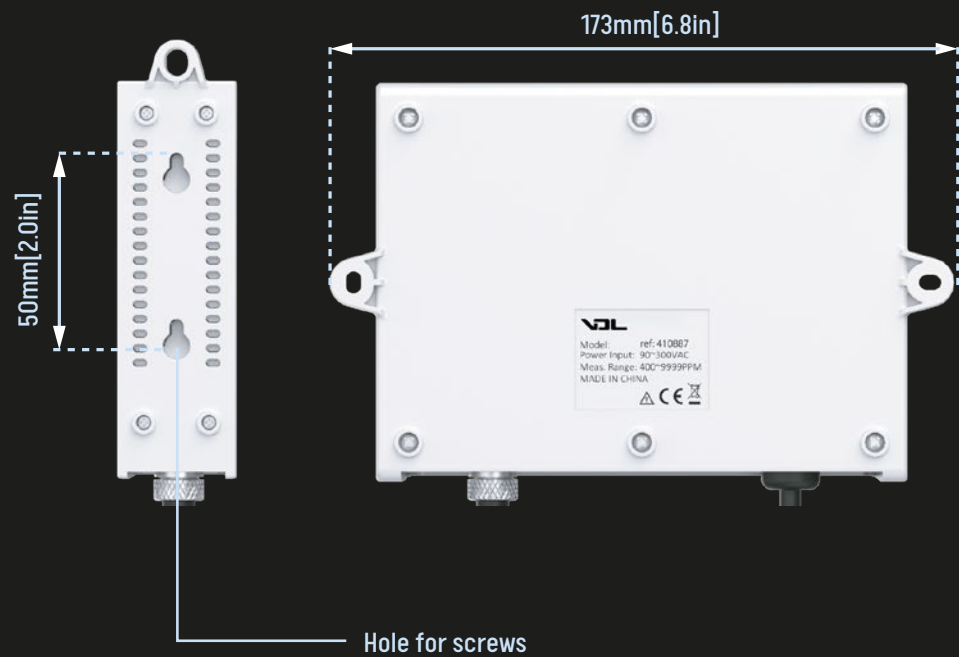


Specifications

Typical test conditions, unless otherwise specified: Ambient Temp =23+/-3°C, RH=30%-70%, Altitude=0-100 meter

Item	Specification
Operating Temperature	32°F to 122°F (0°C to 50°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Operating & Storage RH	0-95%, non-condensing
Power input	AC 100-300 VAC
Piggyback socket Load	54@250VAC
CO2 Measurement	
Measurement Range	0-9999ppm
Accuracy at 0-3000ppm	±50ppm or ±5% of reading, whichever is greater
Accuracy over 3000ppm	±7%
Repeatability	20ppm at 400ppm
Display Resolution	1ppm

Item	Specification
Temp Dependence	±0.1% of reading per °C or ±2ppm per °C, whichever is greater, referenced to 25°C-4°F to 140°F [-20°C to 60°C]
Pressure Dependence	0.13% of reading per mmg (corrected by user's altitude input)
Response Time	<2min
Warm-up Time	<30 sec
Dimension	Sensor Unit: 36*136*27mm
	Control Unit: 188*123*40mm
Weight	750g(included 15ft cable)



Rear view

Using the hook to hang the sensor unit.



Disclaimers

This device is not intended for workplace hazard CO₂ monitoring, nor intended as a definitive monitor for human or animal health institutions, life sustenance, or any medical-related situation.

VDL and the manufacturer assumes no responsibility for any damage or loss suffered by the user or any third party arising through the use of this product or its malfunction.

VDL reserve the right to change the spec without notice.



Made in China

