

CDC-PPM
Carbon Dioxide Controller



Installation
&
User Operation Manual

 **DANGER**

Risk of Electric Shock!

This system operates on 120V and can cause electric shock resulting in injury or death.

Read all warnings and instructions before operating this equipment.



 **WARNING**

The controller enclosure, sensors and accessories are not rated for water contact.

DO NOT expose to direct, spray, splashing, misting or other water contact!

 **WARNING**

Read these requirements, installation and operating instructions very carefully. Failure to follow the instructions could result in a controller malfunction. A malfunction could result in serious equipment damage, property damage, bodily injury or death.

Installation Instructions

Mounting the Controller:

Your controller can be mounted to any wall using the four holes in the mounting flanges. The controller must be mounted **upright** on a vertical wall to ensure maximum controller life.

Keep in mind the maximum allowable temperature and humidity when selecting a location to mount the controller. Make sure the controller, sensors, and other controller accessories are not in a splash, drip or other water contact location.

 **NOTICE**

DO NOT place controller near digital ballasts or other high current devices that emit large amounts of electromagnetic radiation. This may cause the controller to “freeze” in its current state. See trouble shooting for more information.

 **FOR YOUR SAFETY**

This controller is equipped with a grounded power lead and must be wired into a **properly grounded** outlet. **DO NOT** remove the ground terminal from the plug. **DO NOT** circumvent the ground terminal.

 **WARNING**

Ensure that the supporting material is capable of handling the load of the controller. Weak or damaged drywall or poor mounting locations may result in the controller falling and causing personal injury, property damage and or death.

Circuit Breaker

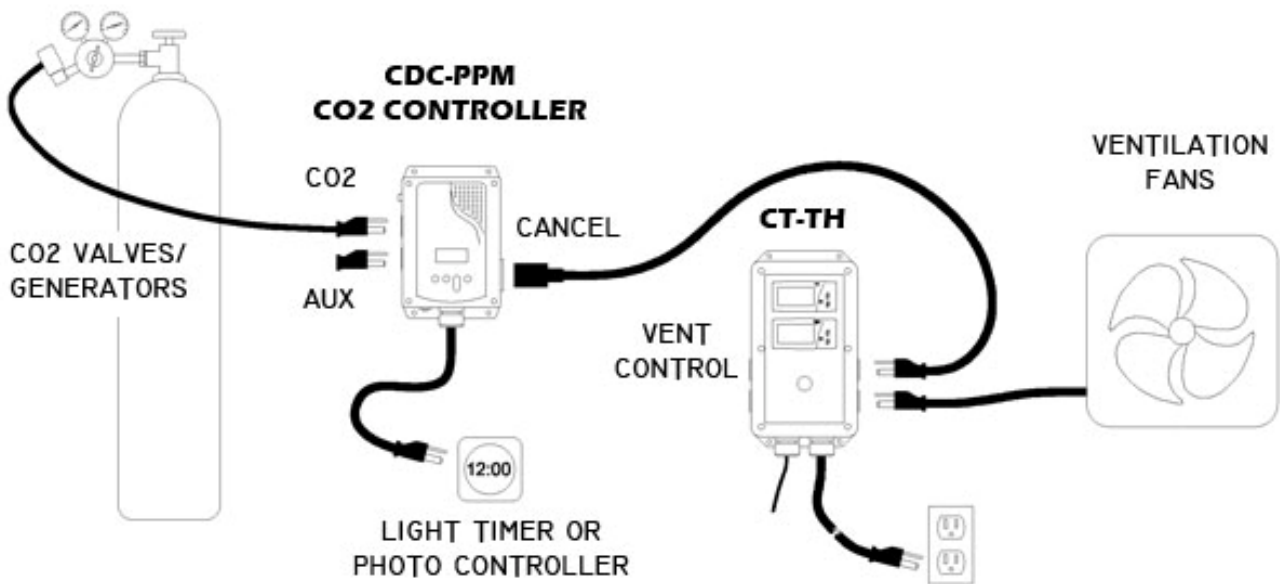
This controller is equipped with a 15 amp thermal circuit breaker. Exceeding the rated current will cause the circuit breaker to shutdown the controller. Wait 60 seconds and then press the reset button. You should hear/feel a click and the controller should restart.

Setup Overview

1. Attach equipment according to the labels on the side of the controller and the diagrams shown below.
2. Plug the controller power cord into a suitable 120V circuit. Typically CO2 is only administered when the lighting is on, for this reason we recommend you plug the power cord into the lighting supply, into a timer that is timed with the lighting, or into a PC-15 photo-controller for greenhouse applications.
(We recommend a dedicated circuit with a surge suppressor and GFCI protection.)
3. Set CO2 PPM level and hysteresis.

Connections

Typical Indoor Setup Diagram:



Settings

Setting PPM Level & Hysteresis:

1. Allow monitor to exit warm-up mode
2. Hold **CLEAR + MODE** for 5 seconds until menu appears
3. Press **MODE** until you reach the "RELAY" setting*
4. Use the **UP/DOWN** arrow keys to adjust the PPM setting; default is 1000ppm
5. Press **ENTER** to confirm your setting
6. Press **MODE** and adjust the "HYSTERS" hysteresis setting to the desired level; default is 50ppm
7. Press **ENTER** to confirm your setting
8. Press **MODE** again to exit the menu

***If you do not see RELAY or HYSTERS options, make sure the controller is set to "NONSTD" instead of one of the numbered standard settings.**

The hysteresis is subtracted from the set point and acts as the point at which the controller begins to operate CO2 until it returns to the set point.

Example:

Setting the PPM level to 1500ppm with a hysteresis of 100ppm will cause the controller to turn on the "Raise" receptacle when levels fall below 1400ppm until they reach 1500ppm again. The controller will also turn the "Lower" receptacle on when levels rise above 1500ppm until they fall below 1400ppm.



NOTE

Ensure the TIMA setting is set to "OFF."
This is the automatic sensor calibration which cannot be used in an enrichment setting.

Calibration

The CDC-PPM controller is factory calibrated and should not need calibration for at least three (3) years. To check the sensor for proper calibration, bring the controller outdoors and ensure the reading is between 350 – 700 ppm (depending on where you live.)

DO NOT breathe on the sensor!

Your breath contains large amounts of CO2 and will cause inaccurate readings!

Calibration requires a software kit (UIP8000) or nitrogen zero-calibration gas (CAL2075).

Specifications

Voltage	120 VAC 50/60Hz
Maximum Current Capacity	15 Amps @ 120VAC
Overload Protection	15 Amp thermal circuit breaker w/reset button
Operating Temperature	60-90°F (15-32°C)
Storage Temperature	40 - 70°C
Operating Humidity	90% RH (Non-condensing)
CO2 Control Range	0-9,999 ppm
Accuracy	± 100ppm or 7% whichever is greater
Hysteresis	0-9,999 ppm
Response Time 0-90%	<1 minute
Warm-up Time @ 25°C	<2 minutes
Calibration	Factory Calibrated - 3 years (User Calibratable w/Air or Nitrogen)
Relay Operation	100,000 mechanical / 10,000,000 electrical

Troubleshooting

PROBLEM:

No power, the controller is not lighting up.

The CO2 controller is cycling too frequently.

The calibration seems incorrect .

The controller screen & sampling indicator “freezes” and the controller stays in its current state.

SOLUTION:

- Check to make sure the unit is plugged in.
- Make sure the circuit has power; use another working device such as a lamp to make sure.
- Ensure the circuit breaker on the controller is not tripped. Try to reset it by pressing the button.
- Ensure the controller is not in the direct path of CO2 emission or ventilation. Place controller in a non-stagnant location.
- Increase the hysteresis setting.
- Take the controller outside and check that the reading is between 350-450ppm (up to 700ppm in cities.)
- Use nitrogen gas and ensure the reading is close to zero.
- See the “Calibration” section
- Cycle the power to the unit to reset.
- Ensure you are delivering a continuous voltage and are not experiencing brown outs.
- Place the controller away from digital ballasts or devices that emit large amounts of electromagnetic interference.

Maintenance

This controller does **not** require maintenance.

DO NOT open the controller enclosure. There are no user serviceable parts inside the controller.

The controller may require cleaning with a soft cloth damp with a mild soap & water solution. Do not spray the controller with cleaners or use cleaners which may be harmful to plastics. Do not use abrasive detergents, petrol, alcohol or solvents.

Warranty

Agrowtek Inc. warrants that all manufactured products are, to the best of its knowledge, free of defective material and workmanship and warrants the components for the following period from the date of purchase:

CDC-PPM Carbon Dioxide Controller System: **1 Year**

This warranty is extended only to the original purchaser of the equipment from the date of purchase detailed on the purchase invoice.

This warranty does not cover damages from abuse, accidental breakage, or units that have been modified, altered, or installed in a manner other than that which is specified in the installation instructions.

Agrowtek Inc. must be contacted prior to return shipment for a return authorization. No returns will be accepted without a return authorization. The original purchase invoice must accompany any warranty claims.

This warranty is applicable only to products that have been properly stored, installed, and maintained per the installation and operation manual and used for their intended purpose. This limited warranty does not cover products installed in or operated under unusual conditions or environments including, but not limited to, high humidity or high temperature conditions.

The products which have been claimed and comply with the aforementioned restrictions shall be replaced or repaired at the sole discretion of the Agrowtek Inc. at no charge.

This warranty is provided in lieu of all other warranty provisions, express or implied. It is including but not limited to any implied warranty of fitness or merchantability for a particular purpose and is limited to the Warranty Period.

In no event or circumstance shall Agrowtek Inc. be liable to any third party or the claimant for damages in excess of the price paid for the product, or for any loss of use, inconvenience, commercial loss, loss of time, lost profits or savings or any other incidental, consequential or special damages arising out of the use of, or inability to use, the product. This disclaimer is made to the fullest extent allowed by law or regulation and is specifically made to specify that the liability of Agrowtek Inc. under this limited warranty, or any claimed extension thereof, shall be to replace or repair the Product or refund the price paid for the Product.

This warranty provides the purchaser with specific rights but the claimant may have other rights which vary from jurisdiction to jurisdiction.