AC INFINITY

# $CO_2$ CONTROLLER

## ENVIRONMENTAL MONITOR

USER MANUAL

# WELCOME

Thank you for choosing AC Infinity. We are committed to product quality and friendly customer service. If you have any questions or suggestions, please don't hesitate to contact us. Visit www.acinfinity.com and click contact for our contact information.


EMAIL
support@acinfinity.com

WEB
www.acinfinity.com

LOCATION
Los Angeles, CA

# MANUAL CODE CTC2210X1

| PRODUCT | MODEL | UPC-A |
| --- | --- | --- |
| $CO_2$ CONTROLLER | AC-CTC7 | 819137022997 |

# MANUAL INDEX

# PRODUCT WARNING 

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

1. Ensure your power source conforms to the electrical requirements of this product.

2. Check your local code restrictions for additional safety measures that may be needed for a proper code compliant installation.

3. Read all instructions before installing and using this product.

4. When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.

5. If you are unfamiliar or have doubts about performing this product's installation, seek the services of a qualified, trained, and licensed professional. Inappropriate installation will void this product's warranty.

6. This product must not be used in potentially hazardous locations such as flammable, explosive, chemical-laden or wet atmospheres.

7. Do not cover power cords with rugs or other fabric materials.

8. Do not depend on the on/off programming as the sole means of shutting power from this product. Unplug the power cord before installing, servicing, or moving this product.

9. Do not operate this product while its cord is damaged, or if it malfunctions, has been dropped, or is damaged in any manner.

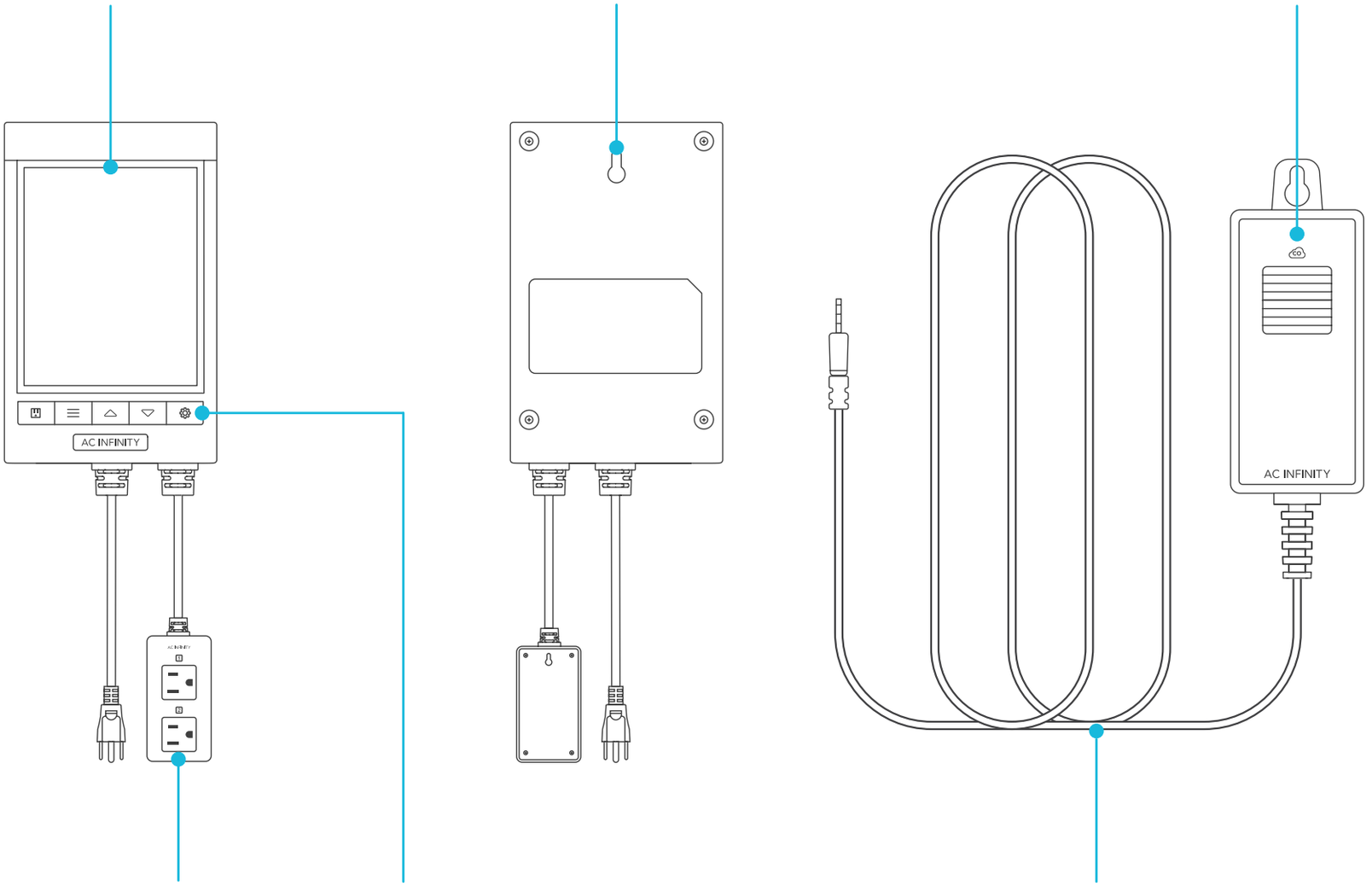
10. Use this product only as intended by the manufacturer.

# KEY FEATURES

## ACTIVE MONITORING
LED display shows key data like outlet power status, $CO_2$ trends, clock, and cycle.

## WALL MOUNTING
Hard black housing and fire-resistant casing with key-hole hanger for easy mounting.

## CUTTING EDGE SENSOR
Next-generation sensor using photoacoustic technology to accurately read $CO_2$ levels.

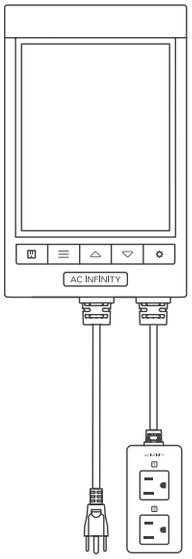



## DUAL OUTLETS
Built with a detached electrical socket module that allows for powering and controlling two individual devices.

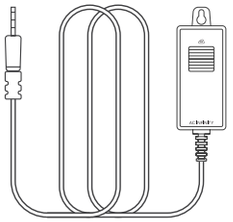
## SMART CONTROLLER
Features automation controls that power and activate your outlet devices featuring $CO_2$, fan, and cycle programming.

## EXTRA CORD LENGTH
Extended cord length of 144 inches (12 feet) for ease of management and flexible mounting options.

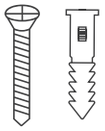
# PRODUCT CONTENTS



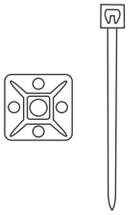

$CO_2$
CONTROLLER
(x1)



$CO_2$
SENSOR
(x1)



WALL-HANG
WOOD SCREWS
(x3)

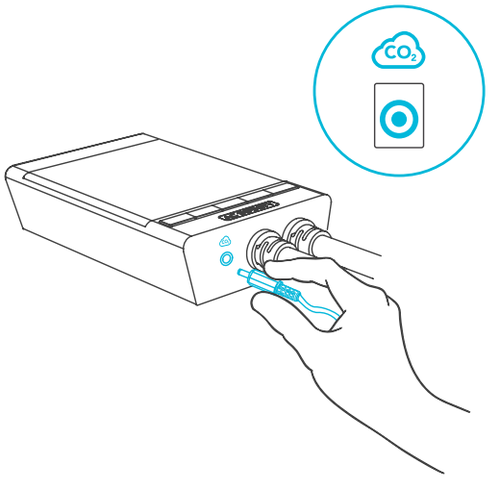


WIRE
MOUNT
(x1)

# POWERING AND SETUP

## STEP 1

Plug the sensor probe into the 3.5mm port located at the bottom side of your controller.

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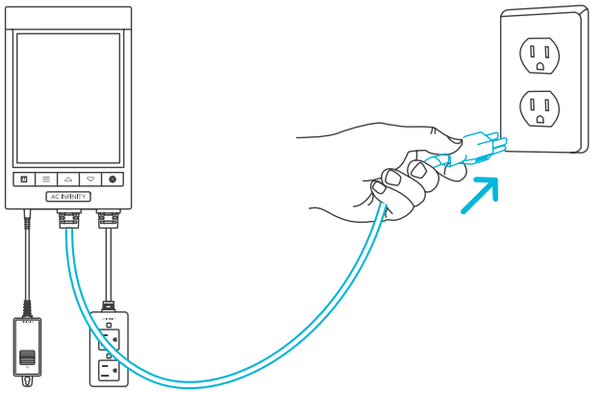
## STEP 2

Insert the power plug into a wall outlet to power your controller.

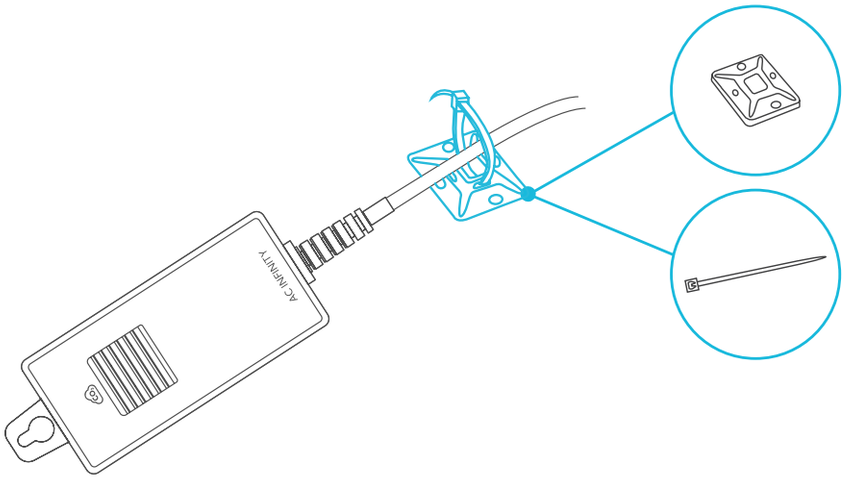


# POWERING AND SETUP

### STEP 3

Secure the corded sensor using the included wire tie and adhesive mount.

You may also wall hang the corded sensor. Refer to the next steps for wall hanging instructions.

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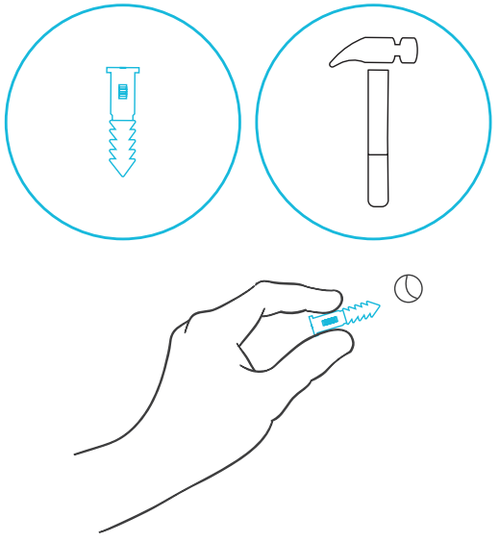
### STEP 4

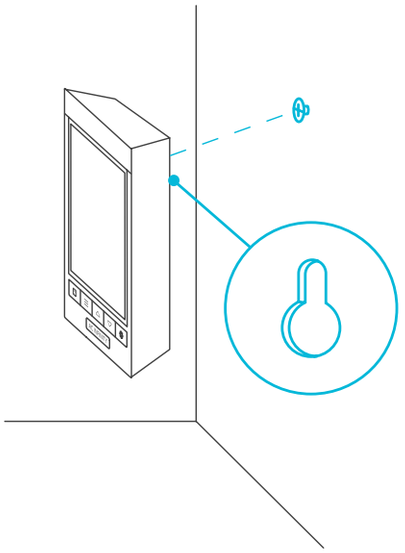
Locate a spot free of obstruction and secure the anchor into your wall. Twist the wood screw into the anchor.



# POWERING AND SETUP

### STEP 5

Hang your controller by the screw using the hole located on its backside.



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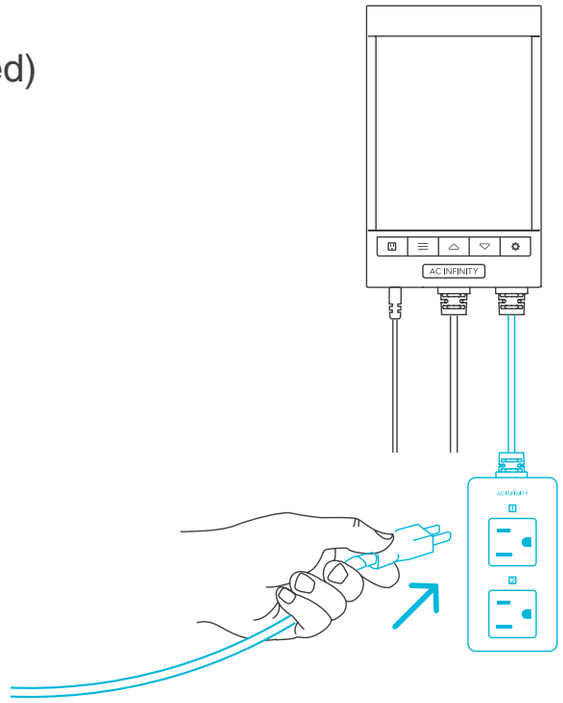
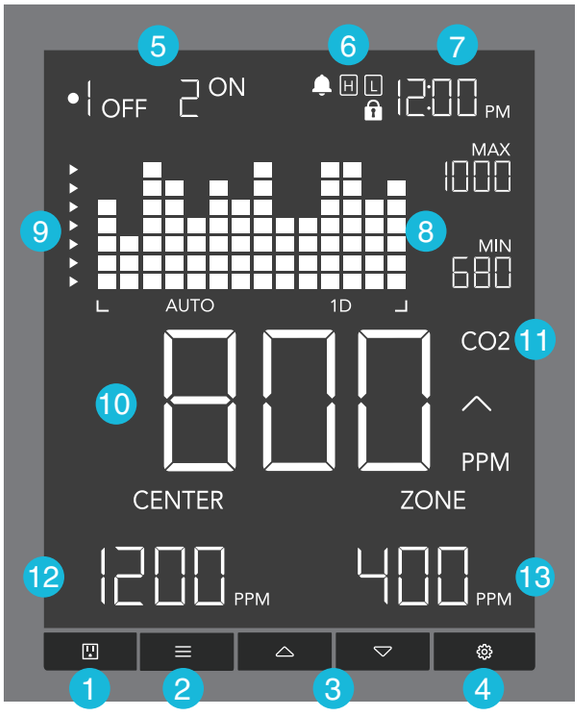
### STEP 6

Plug your fan and/or $CO_2$ generator (not included) into the sockets to power it with your controller.



# PROGRAMMING




### 1. OUTLET BUTTON

Switches between Outlet 1 and Outlet 2. Set programs will still be active regardless of your current outlet.

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### 2. MODE BUTTON

Cycles through each of the controller's modes: OFF, ON, $CO_2$ (Center and Zone), Fan (Center and Zone), and CYCLE (On and Off).

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### 3. UP/DOWN BUTTONS

Adjusts the value of your current mode. The up button increases and down button decreases the setting. Hold both to reset values to factory settings.

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### 4. SETTING BUTTON

Cycles through each of the controller's settings: $CO_2$ CHART, NIGHT1 (Start and End), NIGHT 2 (Start and End), ALARM HIGH, ALARM LOW, DISPLAY BRIGHTNESS, CLOCK, CALIBRATION.

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### 5. OUTLET STATUS

Displays the devices' active status, ON or OFF, indicating whether or not power is being fed.

# PROGRAMMING

### 6. STATUS ICONS
Flashes or displays the alert icons of the controller. The icons include ALARM, TIMER ALERT, and DISPLAY LOCK.

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### 7. CURRENT TIME
Displays the current time. The internal battery sustains the clock so it does not default to 00:00 if power is cut off. See page 22 to learn how to set the clock time.

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### 8. $CO_2$ CHART
Displays $CO_2$ levels over a set period, adjustable in controller settings (see page 19). Also displays minimum and maximum PPM levels based on the current time scale.

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### 9. TARGET ZONE ARROWS
Indicates whether the current $CO_2$ reading is within range of your center and zone programming.

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### 10. SENSOR READING
Displays current $CO_2$ levels measured within a 0-5000ppm range. Changes in 1ppm units when under 1000ppm, 5ppm units when in between 1000-2000ppm, and 10ppm units when over 2000ppm. Trend indicator signals a rise, steady, or fall in $CO_2$ levels within the last hour.

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### 11. CURRENT MODE
Displays the current mode, $CO_2$ or FAN, indicating which mode your outlet is in.

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### 12. CENTER SET POINT / COUNTDOWN
Displays the countdown of the TIMER TO ON, TIMER TO OFF, CYCLE, or SCHEDULE modes. TO ON shows the amount of time left before your devices power on. TO OFF shows the amount of time left before your devices power off.

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### 13. ZONE VALUE / USER SETTING
Displays the value of your current mode. Use the up and down buttons to adjust the value.

# PROGRAMMING

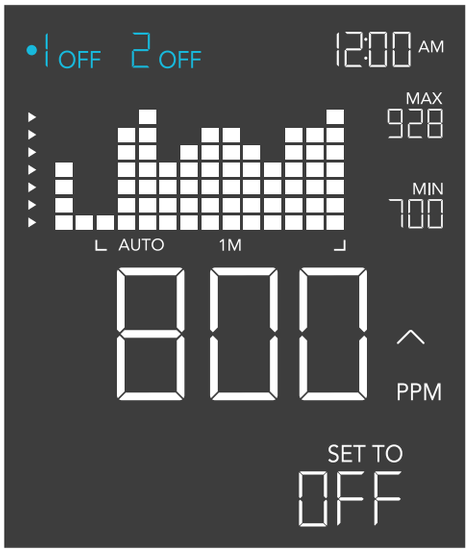
## OUTLET TOGGLING

Pressing the outlet button switches between the controller's two devices: Outlet 1 and Outlet 2. The dot indicates the controller's current device.

## OUTLET 1 & OUTLET 2

Navigate to a numbered outlet with a device plugged in to set individual programming.

Programs will run in the background even while you navigate to the other outlet.



# PROGRAMMING

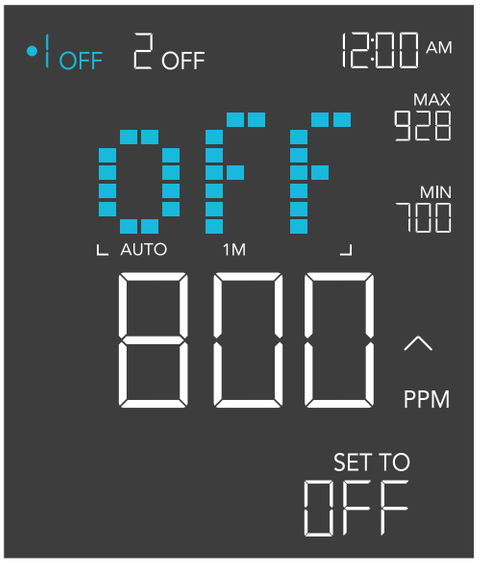
## CONTROLLER MODES

Pressing the mode button will cycle through the controller's available programming modes: OFF, ON, $CO_2$ (Center and Zone), Fan (Center and Zone), and CYCLE (On and Off). Make sure to use the appropriate mode for the device you've plugged in (ex. $CO_2$ mode for $CO_2$ generator).

## OFF MODE

Your device(s) will switch off regardless of $CO_2$ levels or time-based triggers.

Jump back to OFF Mode anytime by holding the MODE button while in other modes or settings.

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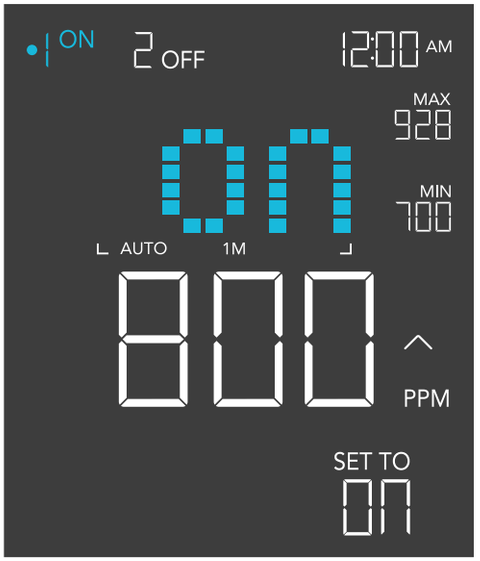
## ON MODE

Your device(s) will switch on regardless of $CO_2$ levels or time-based triggers.



# PROGRAMMING

## $CO_2$ MODE

### STEP 1

Ensure you are in the correct numbered outlet for the $CO_2$ generator you are using. Then navigate to the Center submode.

### STEP 2

Use the up or down buttons to set the center value and your desired $CO_2$ level. Press the mode button to navigate to the Zone submode.

### STEP 3

Use the up or down buttons to set the zone value and establish an activation buffer around the center value.

Your $CO_2$ generator will switch on if the reading falls below this threshold. When the reading rises above this trigger point, your $CO_2$ generator will switch off.

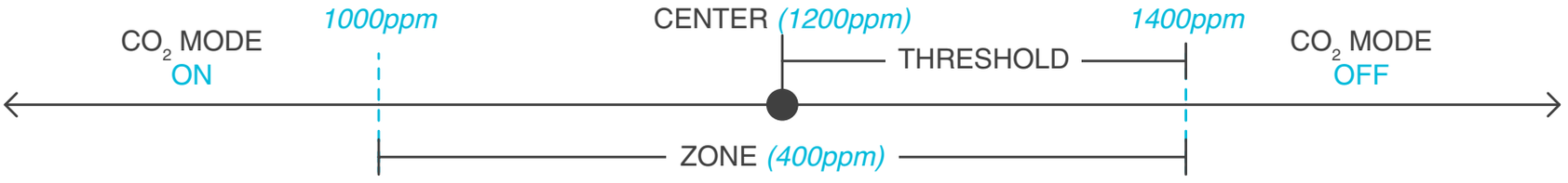
In this example, the center value is 1200ppm and the zone value is 400ppm.

Your $CO_2$ generator will switch on when the current $CO_2$ level is below 1000ppm [1200 – (400/2)].

The $CO_2$ generator will turn off when the current $CO_2$ level is above 1400ppm [1200 + (400/2)].



The set zone value is the buffer around your set center value that is equal to half its setting. (ex. 400ppm. Buffer zone is 1000-1400ppm).



# PROGRAMMING

## FAN MODE

### STEP 1

Ensure you are in the correct numbered outlet for the fan you are using. Then navigate to the Center submode.

### STEP 2

Use the up or down buttons to set the center value and high $CO_2$ trigger. Press the mode button to navigate to the Zone submode.

### STEP 3

Use the up or down buttons to set the zone value and establish an activation buffer around the center value.

Your fan will switch on if reading meets or exceeds this threshold. When the reading falls below this trigger point, your fan will switch off.

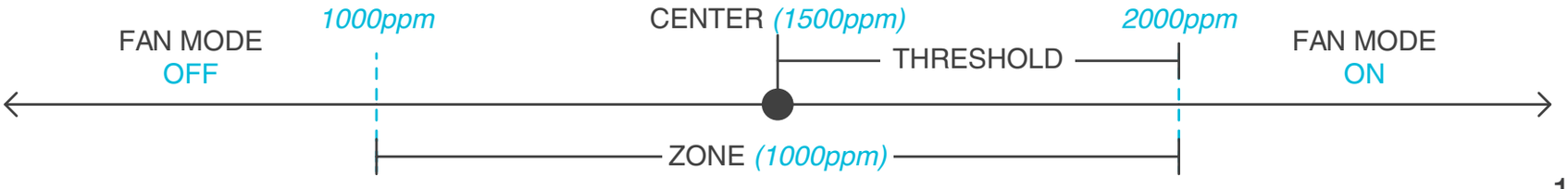
In this example, the center value is 1500ppm and the Set Zone is 1000ppm.

Your fan will switch on when the current $CO_2$ level meets and exceeds 2000ppm [1500 + (1000/2)].

The fan will turn off when the current $CO_2$ level is below 1000ppm [1500 - (1000/2)].



The set zone value is the buffer around your set center value that is equal to half its setting. (ex. 1000ppm. Buffer zone is 1000-2000ppm).

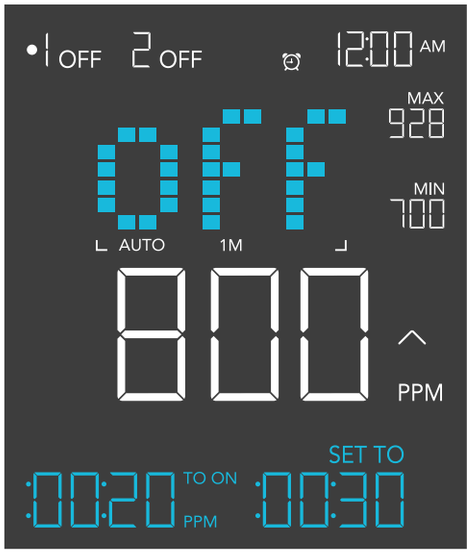


# PROGRAMMING

## CYCLE MODE (ON AND OFF)

Sets an ON duration and an OFF duration for your device to cycle through continuously. Press the up or down button to set a countdown for your device to turn on. Then press the mode button and use the up or down button to set a countdown for your device to turn off.

The countdown will begin if no buttons are pressed for 5 seconds. Leaving the CYCLE mode while the countdown is running will pause it until you return to this mode.

# PROGRAMMING

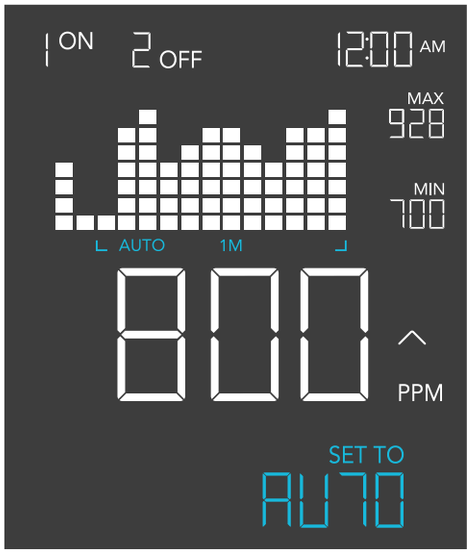
## CONTROLLER SETTINGS

Cycles through each of the controller's settings: $CO_2$ CHART, NIGHT1 (Start and End), Night 2 (Start and End), ALARM HIGH, ALARM LOW, DISPLAY BRIGHTNESS, CLOCK, and CALIBRATION.

## $CO_2$ CHART SETTING

Changes the $CO_2$ chart's time scales. Each scale adjusts the chart to the selected duration (ex. 1M = 1-minute spread)

Press the up or down button to cycle through the following time scales:




| $CO_2$ | Timespan | Time Per Unit |
|---|---|---|
| Auto | - | - |
| 1M | 1 minute | 5 sec. |
| 1H | 1 hour | 5 min. |
| 1D | 1 day | 2 hours |
| 1W | 1 week | 0.5 days |

# PROGRAMMING

## NIGHT SETTING

Shuts off your device within a set timeframe, turning back on when the schedule ends. This will override all programming set in Outlet 1 or Outlet 2, even while away from this setting. Make sure the system clock time is correct before adjusting this setting. NIGHT 1 programs Outlet 1 while NIGHT 2 programs Outlet 2.

### STEP 1 - NIGHT 1 START

Press the up or down button to first set up a START clock-time in NIGHT 1 START to turn your device off.

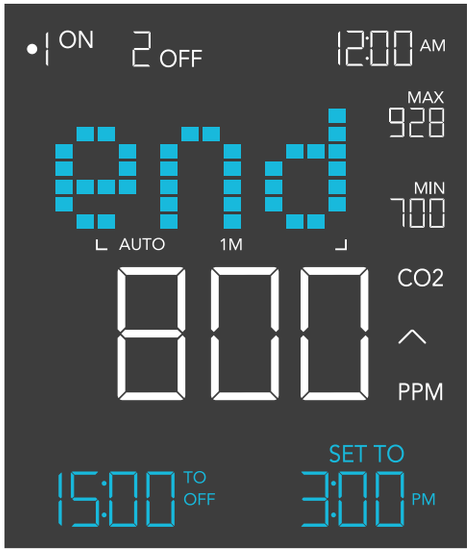
### STEP 2 - NIGHT 1 END

Press the mode button to navigate to NIGHT 1 END and set an END clock-time to turn your device on. This option will only appear if you set NIGHT 1 programming.

### STEP 3

Repeat these steps in NIGHT 2 if you have a device plugged into Outlet 2.

The countdown will begin if no buttons are pressed for 5 seconds. The time left on the countdown before the next ON or OFF phase is displayed on the lower left corner.

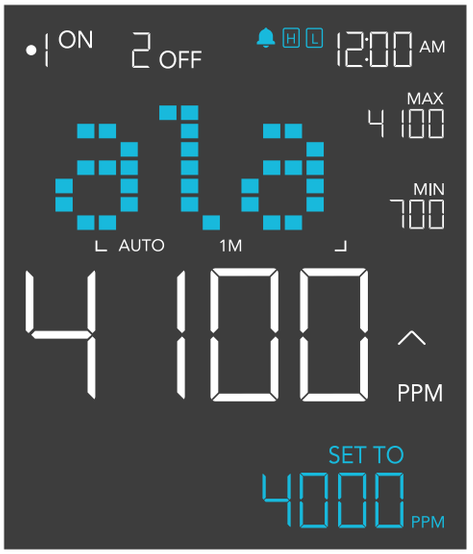



# PROGRAMMING

## HIGH ALARM SETTING

Press the up and down button sets a high $CO_2$ alarm. The alarm will sound and its icon will flash if the sensor's reading exceeds the set $CO_2$ level.

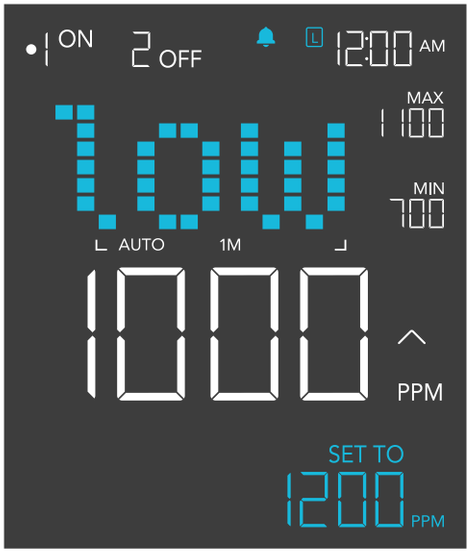
To activate the alarm, leave the alarm mode. The alarm will turn OFF if the sensor's reading falls below the trigger or if any button is pressed. You can also set the alarm OFF by holding the up and down buttons together.




## LOW ALARM SETTING

Press the up and down button sets a low $CO_2$ alarm. The alarm will sound and its icon will flash if the sensor's reading falls below the set $CO_2$ level.

To activate the alarm, leave the alarm mode. The alarm will turn OFF if the sensor's reading rises above the trigger or if any button is pressed. You can also set the alarm OFF by holding the up and down buttons together.

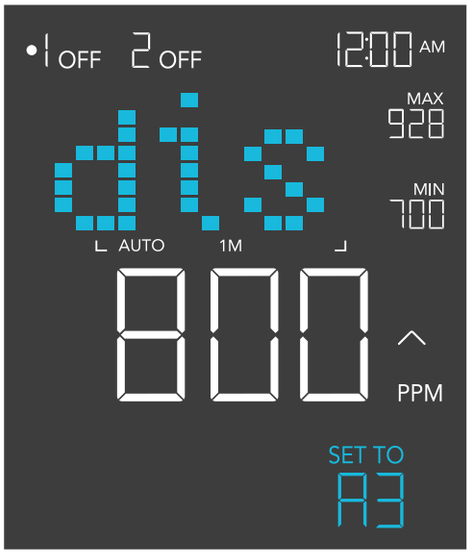


# PROGRAMMING

## DISPLAY SETTING

Adjusts the display brightness and auto-dimming. Press the up or down button to cycle through levels 1, 2, 3, A2 and A3; 3 being the highest brightness setting, while 1 is the lowest. In settings 1, 2 and 3, the display will stay at that brightness level and will not automatically dim the display.

A2 and A3 will set the brightness level at 2 and 3, respectively, and will dim down the brightness level 1 when the controller is not being used after 15 seconds.

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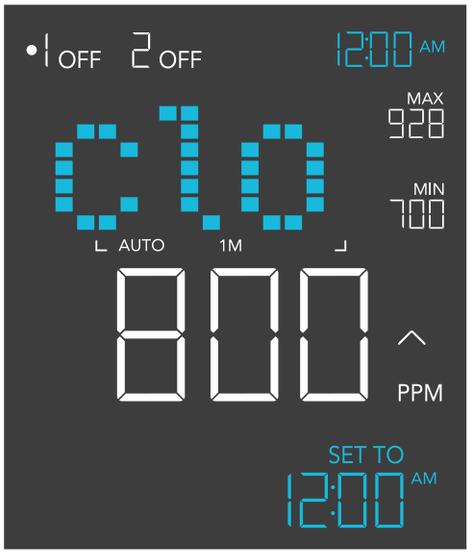
## CLOCK SETTING

Adjusts the current clock time. Press the up or down button to increase or decrease the time. Once you cycle through 12:00 each time, the units will automatically change to AM or PM. The clock time is located at the lower left corner of the display.

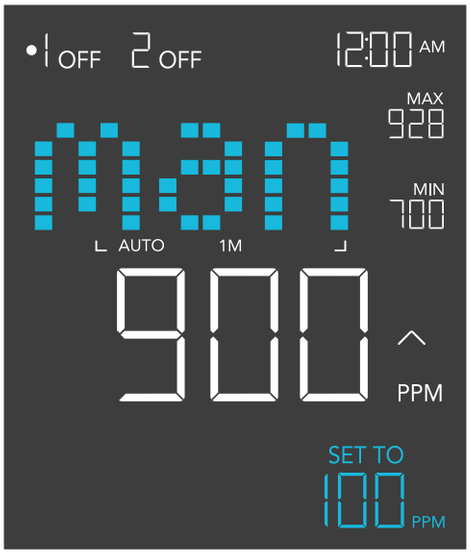


# PROGRAMMING

## MANUAL CALIBRATION SETTING

Adjusts the $CO_2$ reading the sensor is measuring. Press the up or down button to increase or decrease the data figure in 10ppm increments.

The calibration cycle ranges from -500ppm to 500ppm and will be applied to the sensor's measurements.

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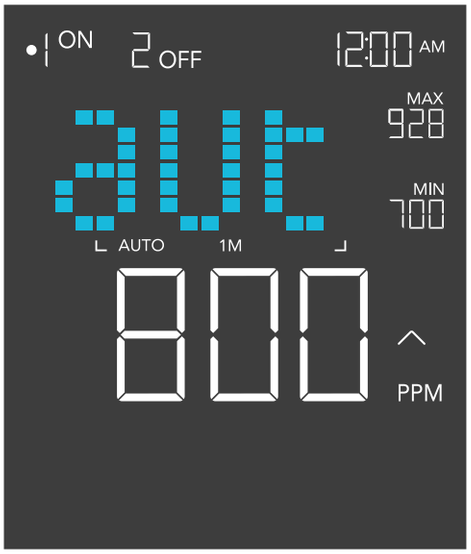
## AUTO-CALIBRATION SETTING

Automatically adjusts the $CO_2$ reading to 400ppm, using outdoor conditions as a baseline, to correctly display $CO_2$ levels.

Set the sensor in a shaded outdoor location away from moisture. Hold the outlet button for 5 seconds to begin the calibration. A 10-minute timer will appear on the lower right corner.

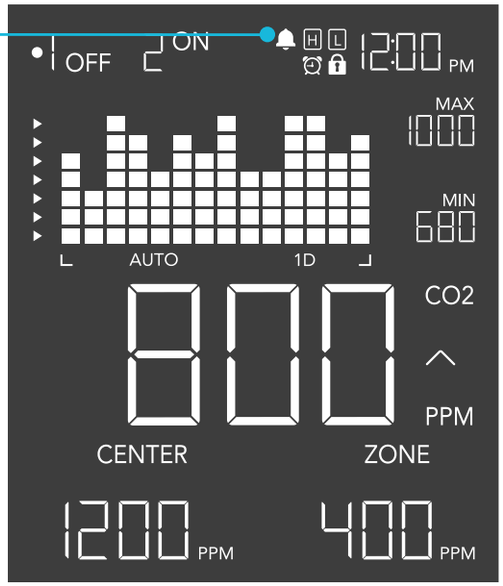
Stay on this setting until the countdown concludes to finish the calibration. Pressing the outlet button during the auto-calibration will cancel the process.



# PROGRAMMING

## ALERT / STATUS ICONS

On the top right of the display is the alert icon section. Icons may flash when the controller wishes to alert you that a particular function or alarm is being triggered.




### ALARM ALERT

This icon will flash when the high or low alarm has been triggered.

### TIMER ALERT

This icon will flash when a countdown has completed for TIMER TO ON, TIMER TO OFF, and CYCLE modes or the SCHEDULE setting.

### DISPLAY LOCK ALERT

This icon will display when you lock the controller. The icon will flash and beep if you attempt to adjust the controller while it is still locked.

# OTHER SETTINGS

## CONTROLLER LOCK

Holding the setting button will lock the controller in your current mode. While your controller is locked, no parameters may be adjusted, nor will you be able to switch modes. Holding the setting button again will unlock the controller.

HOLD + 

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## HIDE SCREEN

Lock the controller so no settings can be adjusted. See above. Then press the setting button to turn the display off. Pressing it again will turn the display back on. Programs will still run in the background while the LCD screen is off.

PRESS + 

---

## JUMP TO OFF MODE

Holding the mode button for 3 seconds while in any mode or setting will automatically jump to OFF Mode. This function is disabled if the controller is locked.

HOLD + 

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## RESET TO OFF/DEFAULT

Holding the up and down buttons together for 2 seconds will reset the value of your current mode or controller setting to OFF/Default. Pressing either the up or down button will return to the previous value.

HOLD + 

---

## AUTO INCREASING OR DECREASING

Holding the up or down button will increase or decrease the user setting automatically until you release them.

HOLD + 

HOLD + 

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## FACTORY RESET

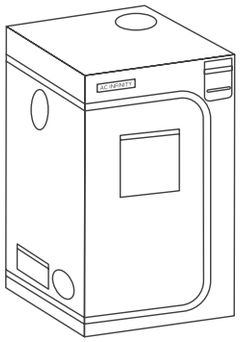
Holding the mode, up, and down buttons together for 5 seconds will reset your controller and restore factory settings. This clears all user parameters in each controller mode and setting.

HOLD + 

# AC INFINITY PRODUCTS

## Advance Grow Tents

The CLOUDLAB series is a line of grow tents designed to create ideal growing conditions and facilitate indoor plant cultivation year-round. Features 2000D thick oxford canvas lined with inner diamond patterned mylar that maximizes grow light luminosity, and a reinforced frame with 150 lb. weight capacity. Includes a mounting plate to install your AC Infinity controller onto.



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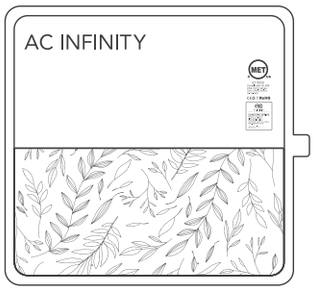
## Seedling Mats

The SUNCORE series is a line of seedling mat designed to improve germination success and accelerate your seeds' growth process by emitting steady heat. Each mat is lined with an innovative far-infrared film that provides even heating distribution.

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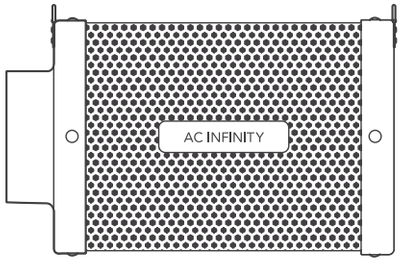
## Carbon Filters

The duct carbon filter is designed to eliminate odors and chemicals for grow tents and hydroponic spaces. It utilizes premium grade Australian charcoal that features greater absorption power and a longer lifespan. Enables maximum airflow pass through as part of an intake or an exhaust system.

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# WARRANTY

This warranty program is our commitment to you, the product sold by AC Infinity will be free from defects in manufacturing for a period of two years from the date of purchase. If a product is found to have a defect in material or workmanship, we will take the appropriate actions defined in this warranty to resolve any issues.

The warranty program applies to any order, purchase, receipt, or use of any products sold by AC Infinity or our authorized dealerships. The program covers products that have become defective, malfunctioned, or expressively if the product becomes unusable. The warranty program goes into effect on the date of purchase. The program will expire two years from the date of purchase. If your product becomes defective during that period, AC Infinity will replace your product with a new one or issue you a full refund.

The warranty program does not cover abuse or misuse. This includes physical damage, submersion of the product in water, incorrect Installation such as wrong voltage input, and misuse for any reason other than intended purposes. AC Infinity is not responsible for consequential loss or incidental damages of any nature caused by the product. We will not warrant damage from normal wear such as scratches and dings.

Contact our dealers department at **dealers@acinfinity.com** or **(626) 838-4656** for more information about our dealers and distributors program. Contact our customer service department at **support@acinfinity.com** or **626-923-6399** for product and warranty assistance. Our business hours are Monday through Friday, 9:00 am to 5:00 pm PST.


**If you run into any issues with this product, contact us and we'll happily issue a replacement or a full refund!**

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