

# APCETHD

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## Specs

Input voltage	120 Volts AC
Maximum amperage	14.5 amps @ 120 VAC
Remote COMBO probe cable length	15 ft
Temperature control range	41° to 113° F
Temperature accuracy	+/- 2°F
Temperature dead-band (hysteresis)	adjustable
Humidity control range	5% to 95% rH
Humidity accuracy	+/- 3% rH
Humidity dead-band (hysteresis)	adjustable
CO2 ON timer setting range	1 second to 12 hours
CO2 OFF timer setting range	1 second to 96 hours
Weight	5 lbs
Waterproofing Grade	IP20
Dimensions	9" x 7" x 4"

## Basic description

The APCETHD is designed to control humidity, temperature and CO2. The controller has four (4) receptacles and a remote combination probe with highly accurate temperature, humidity and light sensors. The remote combination sensor is designed to quickly react to changes in the growing area and to resist EMI / EFI from electronic ballasts. The remote sensor can be placed up to 15 feet from the controller.

**Note: An optional 15 ft extension cable can be purchased to allow the user to place the remote sensor up to 30ft from the controller.**

## Installation

Secure the unit to a wall.

Determine the best location for the remote probe. Place the probe in an area with good air movement preferably at plant height. Avoid placing the probe in direct sunlight or under direct HID Lighting.

**NOTE: Do not place the sensor probe where it will come in to contact with water. The unit is not waterproof!**

The remote probe has a quick disconnect to easily remove or connect the probe. Secure the quick disconnect to the unit by securing the QD screw to the unit.

Plug the power cable into a standard NEMA 5-15 wall outlet. A 120 volt power supply is required.

Ensure that all of the devices being connected to the controller have the proper voltage and will not exceed the maximum amperage rating of this unit.

**Note: Now is the time to customize your settings prior to connecting any equipment.**

## Photocell Sensitivity

The sensitivity of the photocell may be adjusted.

Press both **Enter/Reset** and **Up** buttons and hold for 3 seconds. The current photocell setting will be displayed. Press **Up** to increase the number displayed and the sensitivity. (requires less light to activate photocell) Press **Down** to decrease the number and the sensitivity (requires more light to activate photocell). Press Enter / Reset to accept the change.

## Button Functions

The fifteen (15) buttons located on the front face control all the functions. Pressing each button will display a function and/or current setting(s) in the green LED window. Some buttons perform more than one function.

Several small green LED lights or status indicators located on the front panel will light up to show selected function when certain buttons are pressed.

**Up** - Press button to increase setting

**Down** - Press button to decrease setting

**Enter/Reset** - Press button, hold for 3 seconds to enter new setting and to reset the Min/Max range.

## Temperature buttons

**Daytime setting** - Press button to set day temperature setting.

**Night setting** - Press button to set night temperature setting.

**Dead Band** - Press button to set the temperature dead-band setting.

## Humidity buttons

**Humidity setting** - Press button to set Day and Night humidity Settings.

**Humidity Mode** - Press button to select the humidification (rH Incr) or de-humidification (rH decr) mode.

**Dead Band** - Press button to set the humidity dead -band setting.

## CO2 buttons

**CO2 Mode** - Press button to change the CO2 Mode. Selecting **dAYlock** will disable the CO2 output when the Cooling output is turned on (exhaust fans are running) Selecting **dAYFrEE** will allow the CO2 and Cooling outputs to be on at the same time. Use this mode if you are using air conditioning to cool.

**CO2 ON time** - Press this button to set the amount of time the CO2 output will be turned ON for. CO2 will be released or produced during this time.

**CO2 OFF time** - Press this button to set the amount of time the CO2 output will be turned OFF for. The CO2 device will remain turned OFF during this time.

**Note: The CO2 timers can also be used as a standard DAYTIME recycling timer if it is not used as a CO2 timer. (Select dAYFrEE mode)**

## Split Mode buttons

**Temp/Humidity Lock** - Press button to lock or split the humidity and temperature functions. The user has the option to run both at the same time or independently.

**Min/Maximum Temp** - Press this button to recall the stored high and low recorded levels for Temperature. Press and hold the Enter/Reset button while the recorded value is displayed to reset the Min/Max values.

**Min/Maximum Humid** - Press this button to recall the stored high and low recorded levels for Humidity. Press and hold the Enter/Reset button while the recorded value is displayed to reset the Min/Max values.

**\*To change the temperature reading from F to C, press and hold the UP and DOWN buttons for 2-3 seconds.**

## Error LEDs

The APCETHD is smart enough to monitor the temperature and humidity levels and to alert the user to a problem with any of the devices connected to the APCETHD. Here is how it works.



As the unit functions normally, the environmental conditions (temp & humidity) will be slowly but steadily changing. These small changes are detected by the controller.

If the controller does not detect a slight change in one (or more) environmental conditions within a 1-hour period, the unit will deactivate the affected output and the appropriate green Error LED will be flashing to indicate which device may have a problem.

This safety feature is extremely important and useful to eliminate “runaway” conditions which could result in crop damage or other more serious problems.

If any of the Error LEDs are blinking, the user should refer to the example below to help identify the actual cause of the error.

**\* EXAMPLE: The Cooling error LED is flashing, it means that the device connected to the Cooling output either did not turn on OR that there is a problem with the temperature sensor. Check the cooling device for proper operation and verify the remote sensor is reading properly.**

**Note: To reset an error, press the Enter / reset button.**

## Factory Settings

The APCETHD comes pre-programmed with factory settings. These settings may be adjusted by the user. For best results, verify changes after adjusting any settings. The controller can be easily reset to factory settings. (see below)

Temp day settings	80°F
Temp night setting	70°F
Temp dead-band	3°F
Humid settings	50 % rH
Humid mode	Rh decr
Humid dead-band	5 % rH
CO2 Mode	DayFree
CO2 ON timer	1 minute
CO2 OFF timer	30 minutes
Temp & humid lock	Split

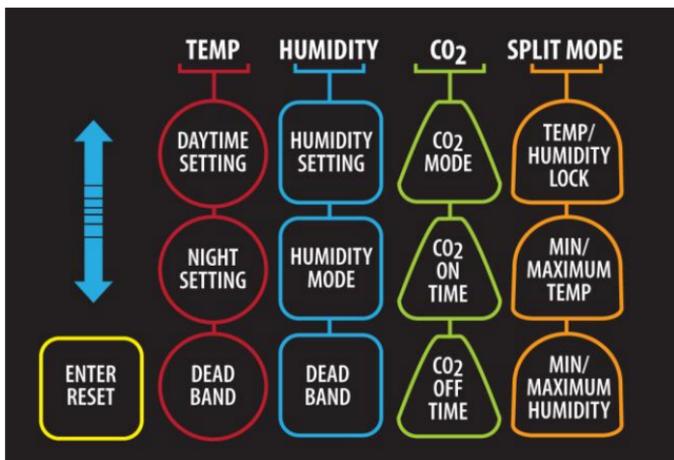
***Reset Factory Settings*** - Press and hold the Enter / Reset and down buttons for 3 seconds. The display will read **f.Set**. Press the Enter/reset button again to restore the factory default settings. When the factory reset is complete the unit will say **doNE**.

**Note: To change the temperature reading from F to C, press and hold the UP and DOWN buttons for 2-3 seconds.**

## Overview

The individual push-buttons on the APCETHD makes changing settings EASY.

- \* Press a button, the display shows the current setting.
- \* To change the settings, use the UP and DOWN buttons.
- \* Then press ENTER to accept the new setting.



## How to customize settings...

**Up** - Press button to increase setting

**Down** - Press button to decrease setting

**Enter/Reset** - Press button, hold for 3 seconds to restart timer or to adjust the setting. The timer will always start in the "ON" cycle.

**Temperature Display** - Press and hold both the Up and Down button for 3 seconds to change display. C for Celsius and F for Fahrenheit

**Daytime Setting** - To set the Day temperature press the TEMP DAYTIME SETTING, **dAY\_F** will be displayed. To change settings press the Up and Down buttons. Press Enter to accept new setting.

**Night Setting** - To set the Night temperature press TEMP NIGHT SETTING button, **Nit\_F** will be displayed. To change settings press the Up and Down buttons. Press Enter to accept new setting.

**Temp dead-band** – Press this button to change the Temp deadband. To set the dead band, press TEMP DEAD BAND. **d.b.\_\_F** will be displayed. To change setting press the UP and DOWN buttons. Press Enter to accept new setting.

**Humidity setting** - There is a day humidity setting and a night humidity setting.

1) To set the daytime humidity, press the HUMIDITY SETTING button. **day\_rH** will be displayed. Press the Up or Down button to change daytime humidity setting. Press Enter to accept new setting.

2) To set the nighttime humidity, press the HUMIDITY SETTING button a second time **nit\_rH** will be displayed. Press the Up or Down button to change the nighttime humidity setting. Press enter to accept new setting.

**Humidity Mode** – Use this button to select humidify or dehumidify. Press Humid mode, the display will read the current setting, either Humidify (**rH Incr**) or dehumidify (**rH dEcr**). Press the Up and Down buttons to change the setting. Press Enter to accept new setting.

**Humid dead-band** - Pressing Humidity DEAD BAND will display the current setting. Press the Up or Down buttons to change the setting. Press Enter to accept new setting.

**CO2 ON time** - To change the timer settings, press the up or down button to change hours setting, (Left 2 digits) then press Enter to change to the minutes (center 2 digits), use up or down to change, then press Enter to advance to the seconds setting (Right 2 digits). Pressing Enter a final time accepts the new settings.

**CO2 OFF time** - Repeat the procedure above to change the CO2 OFF timer settings.

**Temp/humidity lock** - use this function to interlock (**COnnEct**) or split (**SPLit**) humidity and temperature. Press Temp/humidity lock button to display the setting. Press the Up and Down buttons to change the setting. Press Enter to accept new setting.

1) Select connect (**COnnEct**) if using ventilating fans only for cooling and removing humidity. The fan will turn on when the sensor detects a rise above the setting in either the humidity or temperature.

2) Select split (**SPLit**) if using a ventilating fan or AC unit as a cooling device and a dehumidifier to remove humidity. Each device is controlled independently. The cooling device will turn on when the temperature rises above the setting and the dehumidifier will turn on when the humidity rises above the setting.

3) Select split (**SPLit**) if using a fan or AC unit as a cooling device and a humidifier to add humidity. Each device is controlled independently. The cooling device will turn on when the temperature rises above the setting and the humidifier will turn on when the humidity lowers below the setting.

**Min/Maximum Temp** - Press to “recall” or display the minimum and maximum temperature recorded values. Each time the button is pressed, the next setting will be displayed.

**Min/Maximum Humidity** - Press to “recall” or display the minimum and maximum humidity recorded values. Each time the button is pressed, the next setting will be displayed.

**To reset the Min/Max values** – When the recorded value is displayed, press the Enter / Reset button and hold for 3 seconds.

## Q & A

***What if my temperature is reading high?*** Make sure the remote probe is not in direct lighting from HID lights or sunlight.

***Do I need to calibrate my humidity sensor?*** No. Like the temperature sensor, the humidity sensor is digital and does not require calibration.

***Why is the display reading Err SEn?*** The remote probe is not connected and/or communicating with the controller. Check the quick-connect cable and that the remote probe is getting power. \*Contact the factory for more info.

***What if one of the small green Error LEDs are on?*** One or more environmental conditions are not acting correctly. Refer to the Error LEDs sections to diagnose the problem.

***What if the CO2 timer is not keeping correct time?*** The battery may need to be replaced. The lithium battery has an average life of 5 years. Battery is a lithium CR1220 3 volt.

***What if there is no power?*** Reset the power switch (circuit breaker). If this continues reduce the number of devices connected or use a power multiplier / expander to control devices with larger amperage.

## IMPORTANT MESSAGE

1. **Save these instructions.** These safety and operating instructions must be kept in a safe place for future reference.
2. **Heed all warnings.** All warnings on this product and in the instructions must be observed closely.
3. **Follow all instructions.** All operating instructions must be followed..
4. If the instructions as provided by the manufacturer are not followed damage to the product may result.
5. Install your controller at least 8 ft away from any devices that produce large amounts of electronic noise, such as electronic ballasts or ozone generators.



8 ft  
minimum



6. The  symbol on the enclosure represents that the receptacle beside it may have an output voltage, which can be dangerous. The output voltages are the same as the input voltage voltage. This receptacle can only be inserted with standard Nema 1-15P and Nema 5-15P plugs. **Don't insert any other plug in it.**
7. **Do not use this Controller near water.** For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like. The controller shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be place on this product. The product is not water-proof, or shock-proof.
8. Any factory serviceable pare parts of the product only can be checked or replaced by the manufacturer or authorize agencies. An unauthorized person is NEVER allowed to open the enclosure.
9. If the power cable insulation is broken, please stop using the product! Immediately unplug the unit and contact the retailer you purchased it from.

10. The product is equipped with a circuit breaker for short circuit or over current situations. The circuit breaker will automatically shut down the product at once. All outlets of the product all have the safety ground.

11. Do not install the enclosure near any heat source.

12. Do not block any ventilation openings.

13. **This product is a Safety Class I Controller.** The main plug should be inserted in a power socket outlet only if provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the product is likely to make the product dangerous and is prohibited.

### MESSAGE IMPORTANT

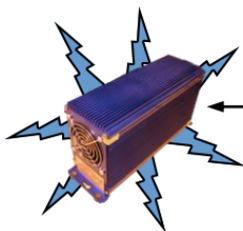
1. Conservez ces instructions. Ces consignes de sécurité et d'exploitation doivent être conservées dans un endroit sûr pour référence future.

2. Respectez tous les avertissements. Tous les avertissements sur ce produit et dans les instructions doivent être observés de près.

3. Suivez toutes les instructions. Toutes les instructions doivent être suivies.

4. Si les instructions fournies par le fabricant ne sont pas suivies d'endommager le produit peut entraîner.

5. Installez votre contrôleur au moins 8 pieds loin de tous les appareils qui produisent de grandes quantités de bruits électroniques, tels que les ballasts électroniques ou des générateurs d'ozone.



8 ft  
minimum



6. Le symbole sur le boîtier représente que le récipient à côté il peut avoir une tension de sortie, qui peut être dangereux. Les tensions de sortie sont les mêmes que la tension de tension d'entrée. Cette prise ne peut être insérée à la norme NEMA 1-15P et NEMA 5-15P bouchons. Ne pas insérer d'autres plug en elle.

7. Ne pas utiliser ce contrôleur près de l'eau. Par exemple, près d'une

baignoire, baignoire lavabo, évier de cuisine ou la lessive, dans une cave humide, ou près d'une piscine, etc. Le contrôleur ne doit pas être exposé à des éclaboussures et aucun objet rempli de liquides, tels que des vases, doit être placé sur ce produit. Le produit n'est pas étanche à l'eau, ou antichoc.

8. Toutes les pièces d'usine Paré réparable du produit ne peut être vérifiée ou remplacée par le fabricant ou autoriser les agences. Une personne non autorisée n'est jamais permis d'ouvrir le boîtier.

9. Si l'isolation du câble d'alimentation est cassée, s'il vous plaît arrêtez d'utiliser le produit! Débranchez immédiatement l'appareil et contactez le revendeur vous l'avez acheté.

10. Le produit est équipé d'un disjoncteur pour un court-circuit ou sur des situations actuelles. Le disjoncteur se fermera automatiquement le produit à la fois. Toutes les sorties du produit ont tous la terre de sécurité.

11. Ne pas installer l'enceinte à proximité de toute source de chaleur.

12. Ne pas bloquer les ouvertures de ventilation.

13. Ce produit est une classe de sécurité I contrôleur. La fiche principale doit être insérée dans une prise électrique que s'ils sont fournis avec un contact de terre de protection. Toute interruption du conducteur de protection à l'intérieur ou à l'extérieur du produit est susceptible de rendre le produit dangereux et est interdit.

## **Warranty and Liability**

### **1.Limited Warranty**

Hydrofarm, Inc doing business as Hydrofarm, Inc (collectively HYDROFARM) warrants that for a period of three years from the date of purchase, this product will be free from defects in material and workmanship. HYDROFARM, at its option, will repair or replace this product or any component of the product found to be defective during the warranty period. Replacement will be made with a new or remanufactured product or component. If the product is no longer available, replacement may be made with a similar product of equal or greater value. This is your exclusive warranty. DO NOT attempt to repair or adjust any electrical or mechanical malfunctions on this product. Doing so will void this warranty and may cause serious injury/death/damage.

This warranty is valid for the original retail purchaser from the date of the initial retail purchase and it not transferable. Keep the original sales receipt. Proof of purchase is required to obtain warranty performance. HYDROFARM dealers, distributors, service centers and retail outlets selling HYDROFARM products do not have any right to alter, modify or in any way change the terms and conditions of this warranty.

This warranty does not cover normal wear of parts or damage resulting from the following: negligent use or misuse of the product, use on improper voltage or current, use contrary to the operating instructions, use contrary to any and all applicable local, state, provincial or federal laws, disassembly, repair or alteration by anyone other than HYDROFARM or an HYDROFARM authorized service center. Future, the warranty does not cover: Acts of God, such as fire, flood, hurricanes, tornadoes, nor Acts of War or Acts of Terrorism.

## **What are the limits on HYDROFARM's liability?**

HYDROFARM shall not be liable for any incidental or consequential damages cause by the breach of any express, implied or statutory warranty or condition.

Except to the extent prohibited by applicable law, any implied warranty or condition of merchantability or fitness for a particular purpose is limited in duration to the duration of the above warranty.

HYDROFARM disclaims all other warranties, conditions or representations, express, implied, statutory or otherwise.

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Some provinces, states or jurisdictions do not allow exclusion or limitations on how long an implied warranty lasts, so the above limitations or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from province to province, state to state or jurisdiction on jurisdiction.

This warranty is offered by HYDROFARM,INC., If you have any other problem or claim in connection with this product, please write our Consumer Service Headquarters, HYDROFARM,INC.

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# autopilot

Environmental Controllers

This product conforms to USA and Canada standards as listed below.



Made in China