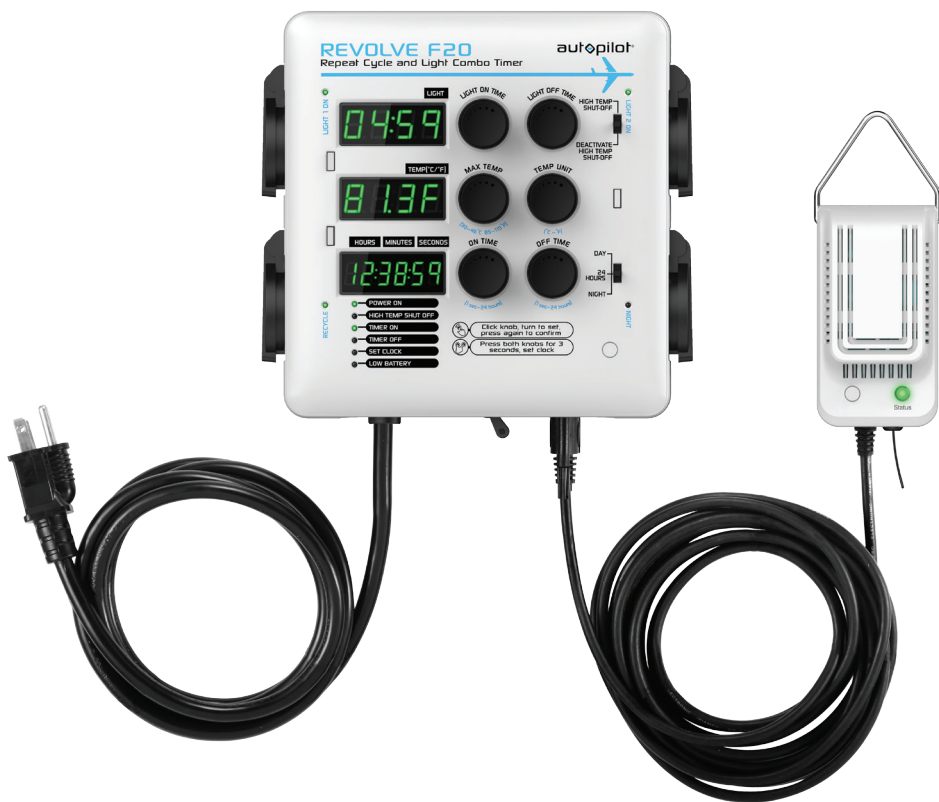


# USER MANUAL

# autopilot®

## Environmental Controllers

### REVOLVE F20 (Repeat Cycle and Light Combo Timer)



APE2200



*AutopilotControllers.com*

## **TABLE OF CONTENTS**

OVERVIEW	4
PARTS LIST - (WHAT'S IN THE BOX)	5
LED DISPLAY & CONTROL SURFACE	6
OPERATING INSTRUCTIONS	7
LIGHT ON/OFF SETTING	7
RECYCLE TIMER SETTING	7
MAXIMUM TEMPERATURE SETTING	7
RECYCLE OUTPUT	7
NIGHT OUTPUT	7
MOUNTING INSTRUCTIONS	8
SECURE UNIT TO A WALL	8
SECURE UNIT TO A GROW TENT	8
GENERAL WARNINGS	9
SPECIFICATIONS	10
WARRANTY	12

## OVERVIEW

Thank you for purchasing the Autopilot **REVOLVE F20** (APE2200) Repeat Cycle and Light Combo Timer. It controls lighting schedules and timed cycling functions in your grow area day and night with highly-reliable digital accuracy. The REVOLVE F20 has simultaneous dual timer functions, a 24-hour time clock for lighting, and a precise cycle timer for pumps, CO2 injection, exhaust fans, intake fans, etc. that allows you to dial in programming down to the second.

REVOLVE F20 has four outlets. One outlet is equipped with a cycle timer designed to control a pump or any other cycling device; two outlets control daytime devices such as lights and light movers; and one outlet controls a nighttime device such as a heater, dehumidifier, or exhaust fan. These outlets feature heavy protective covers that prevent atmospheric moisture from entering the device through any unused outlets.

The controller also features a high temperature shutdown function that detects unsafe high temperatures in the grow room and turns off the HID lights in the event of a ventilation failure. Additionally, the REVOLVE F20 has hot-start prevention to ensure proper cool down of lights before the device attempts to re-fire your valuable lamps. It also comes equipped with rubber feet on the back of the unit for added protection when mounted and optional U-brackets for tent mounting.

**NOTE:** After turning on the power to the unit, it can take up to 5 minutes for the sensor to calibrate.

**NOTE:** This controller has a 14.5A maximum load. For higher amperage devices such as A/C units, it is recommended to use a power expander.



### TOOLS NEEDED (FOR OPTIONAL MOUNTING)

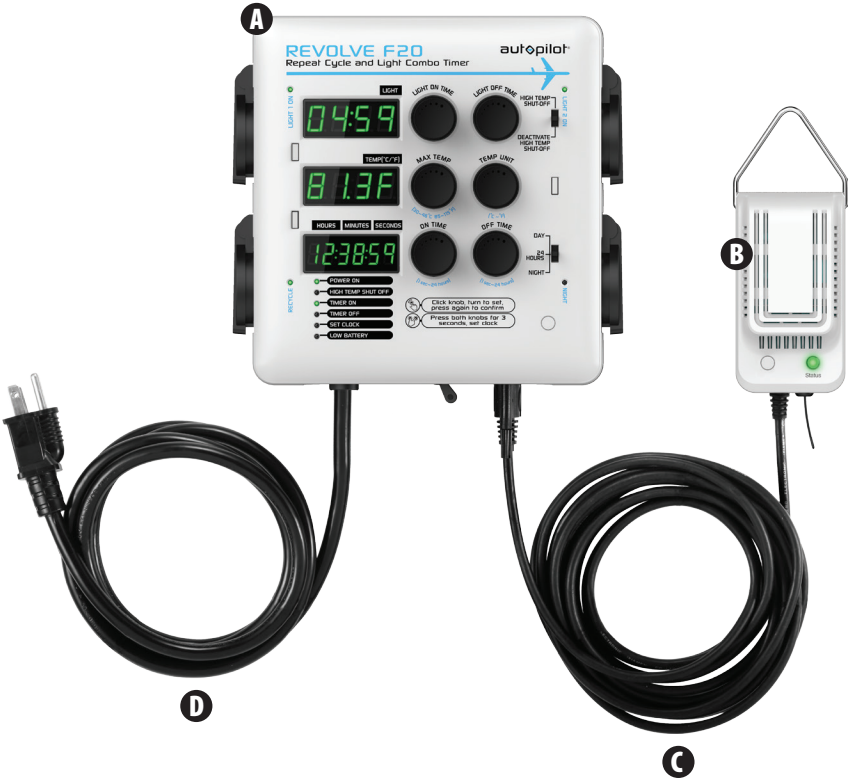
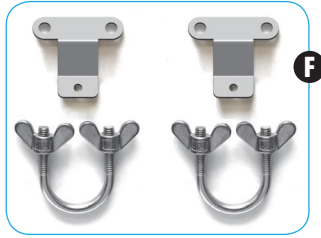
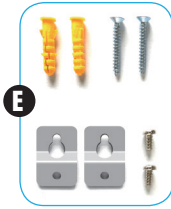


Phillips  
Screwdriver

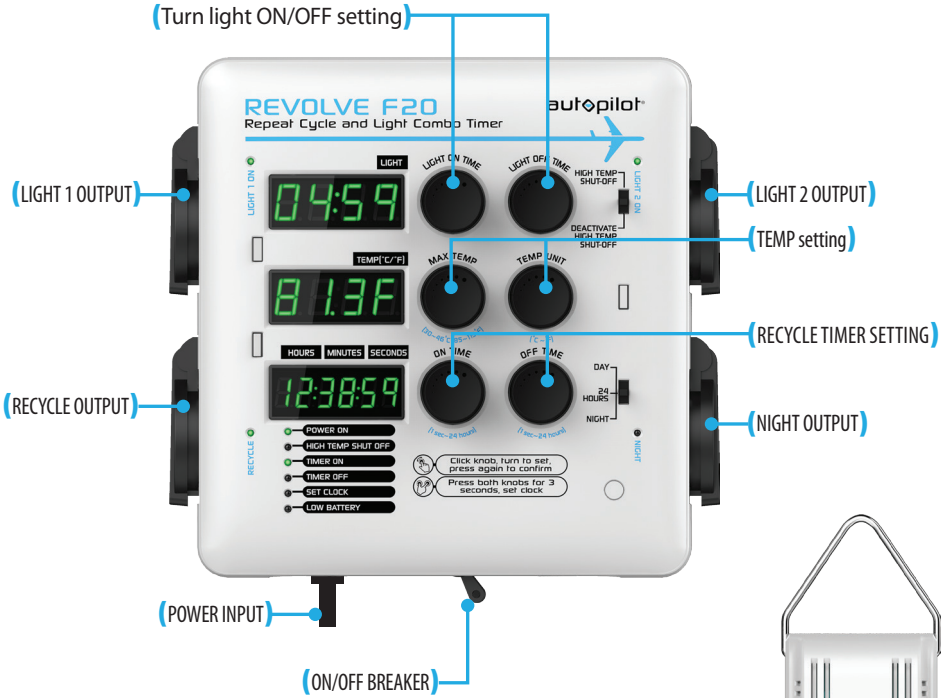
## PARTS LIST - (WHAT'S IN THE BOX)

- A** - Controller Unit
- B** - Sensor Unit
- C** - Sensor Cord



- D** - Power Cord
- E** - Mounting Hardware (for walls)
- F** - Mounting Hardware (for grow tents)

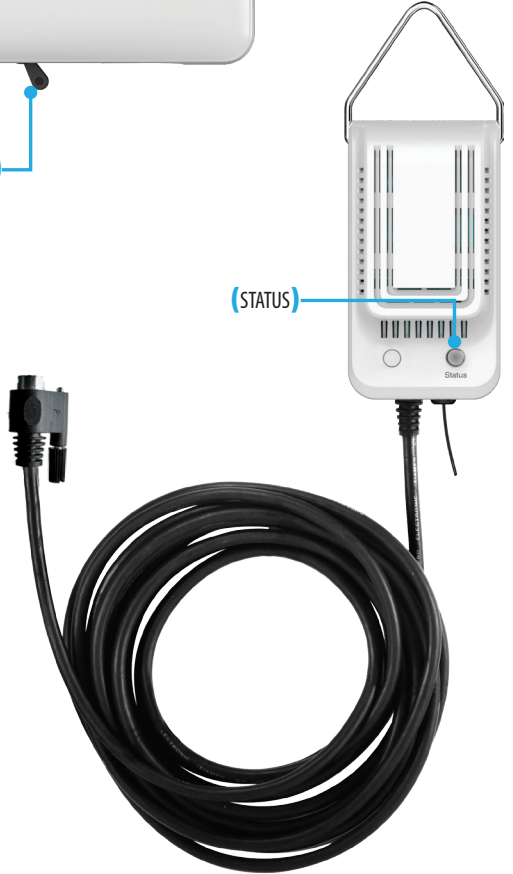


# LED DISPLAY & CONTROL SURFACE



### FUNCTION KNOBS

-  Click knob, turn to set, press again to confirm
-  Press both knobs for 3 seconds, set clock



## OPERATING INSTRUCTIONS

### LIGHT ON/OFF SETTING

**NOTE:** The unit's clock uses 24-hour military time format and not a.m./p.m.

**LIGHT ON TIME:** Click the LIGHT ON TIME knob and turn to set your desired on time point, e.g. turn light on at 06:00 (6:00 a.m.). Click the LIGHT ON TIME knob again to save the setting.

**LIGHT OFF TIME:** Set light off time the same way, using the LIGHT OFF TIME knob. Click the LIGHT OFF TIME knob again to save the setting.

**SET CLOCK:** Press both knobs simultaneously and hold for 3 seconds to set the 24 hour time clock, press both knobs to save the setting. After the clock has been set, the internal battery will maintain the correct time even if there is an interruption of power.

### RECYCLE TIMER SETTING

**ON TIME:** Click the ON TIME knob and turn to set. Set the hour setting first, then press again to set minutes, and finally seconds. Save the setting by pressing again.

**OFF TIME:** Set off time by the same process, using the OFF TIME knob.

**NOTE:** The display will count down by second in the last minute.

**TEST/OVERRIDE RECYCLE TIMER FUNCTION:** This function can be used to quickly test the programmed cycle timer setting, or override the programmed cycle times. To test the programmed On Time cycle, press and hold the On Time knob for 3 seconds. To test the Off Time cycle, press and hold the Off Time knob for 3 seconds.

### MAXIMUM TEMPERATURE SETTING

Click the MAX TEMP knob to set max temperature. Click the TEMP UNIT knob to choose Fahrenheit or Celsius.

### HIGH TEMPERATURE SHUTOFF

This feature will shut off the supplemental lighting if the temperature in the growing area goes above the user-set maximum temperature setting. This will protect plants from excessive heat in the event of a ventilation failure or unusually high heat loads.

For example, if the max temperature set point is 90°F/32°C, in the event the grow room temperature reaches this point, the light will be shut off. In the meantime, the top display (LIGHT) will count down a 15-minute lamp re-fire interval, and the middle display (TEMP °C/°F) will flash the temperature repeatedly. When the room temperature goes down to 88°F/31°C (2°F/1°C less than the user-set max temp), and the 15-minute countdown has finished, the light will be re-fired.

The 15-minute lamp re-fire interval is adjustable from 3 to 15 minutes by pressing the LIGHT OFF TIME knob for 3 seconds to enter the setting.

To cancel the countdown, press and hold the LIGHT ON TIME knob, and watch as the controller fast forwards the re-fire countdown to zero.

### RECYCLE OUTPUT

**DAY mode:** The outlet is only energized while the LIGHT ON mode is activated.

**24 HOURS mode:** The outlet is energized during day and night (during lights-on and lights-off). The setting should be entered from day/night mode.

**NIGHT mode:** The outlet is energized only while the LIGHT OFF mode is activated.

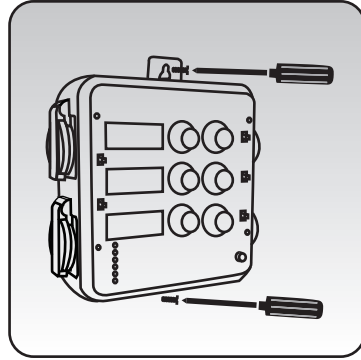
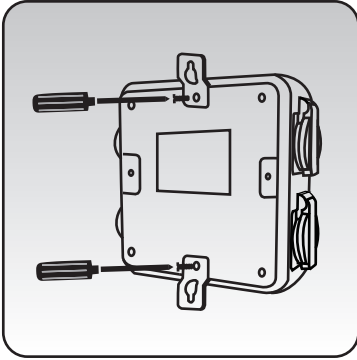
### NIGHT OUTPUT

This outlet is energized at all times when the LIGHT OFF mode is activated, and so any night device plugged into it such as a dehumidifier or fan will be continuously active during the lights-off period.

## MOUNTING INSTRUCTIONS

### SECURE UNIT TO A WALL

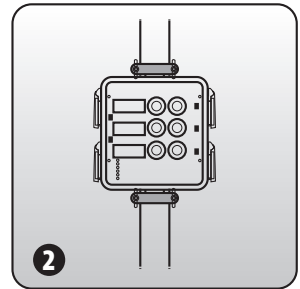
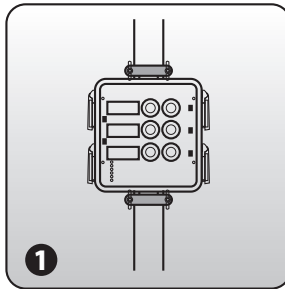
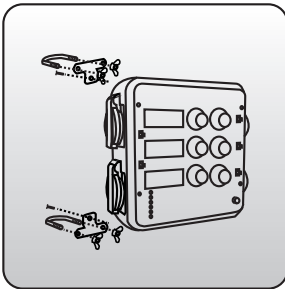
Secure the controller to the wall using the included mounting clips and screws.



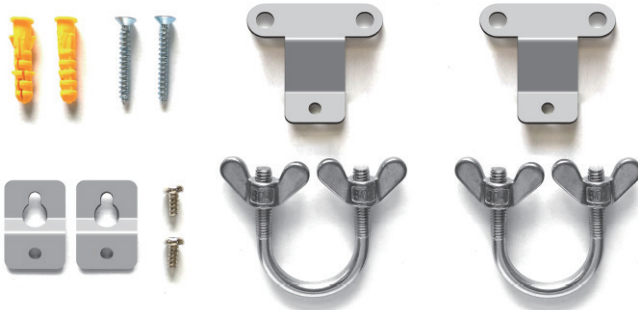
### SECURE UNIT TO A GROW TENT

Secure the controller to one of the grow tent's vertical support rods with the included U-bolt brackets.

1. Install on the inside of grow tent.
2. Install on the outside of grow tent (note that this method requires puncturing four holes



through the grow tent wall to allow the threaded ends of the U-bolts to emerge through the grow tent's fabric wall).





## GENERAL WARNINGS

1. Save the 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 itself may result.
5. Install your controller at least eight feet away from any devices that produce large amounts of electronic noise, such as electronic ballasts or ozone generators.



6. Do not exceed the maximum power rating (120V/14.5A in) and do not plug in a device/devices requiring more than the max output current (14.5A).
7. Insert only NEMA 1-15P and NEMA 5-15P plugs into the receptacle on this device. Do not insert any other type of plug into it.
8. Do not use this controller near water. It is neither waterproof nor shockproof.
9. Do not use the device near any heat source.
10. This product is a Safety Class I Controller. Its main plug should only be inserted into power outlets that are properly grounded.

## SULFUR VAPORIZER WARNING

If a sulfur vaporizer is used, first remove the remote sensor unit from the affected area or turn the controller off and cover the remote sensor probe with a protective plastic bag. Remove the bag before turning the power back on. Failure to protect the sensor while using a sulfur vaporizer will result in damage to its infrared component and will void the warranty.

## SPECIFICATIONS

<b>Max amperage</b>	14.5A @ 120VAC 60 Hz
<b>Power cord length</b>	6.5' (2 m)
<b>Sensor cord length</b>	15' (4.5 m)
<b>Lighting timer</b>	24-hour timeclock
<b>Light re-fire setting</b>	3-15 minutes
<b>Max temp setting</b>	Adjustable 85-115°F (30-46°C)
<b>Temperature accuracy</b>	±2°F/1°C
<b>Recycling ON timer range</b>	1 second to 24 hours
<b>Recycling OFF timer range</b>	1 second to 24 hours
<b>Timer mode</b>	DAY/NIGHT/24 hours
<b>Weight</b>	3.5 lbs (1.6 kg)
<b>Dimensions</b>	8.0" x 3.3" x 7.5" (202 x 85 x 191 mm)
<b>Altitude</b>	Up to 6500' (2000 m)
<b>Operating Temperature</b>	32°F to 122°F
<b>Maximum relative humidity</b>	80%
<b>Pollution degree</b>	2
<b>IP degree</b>	IP 20
<b>Indoor Use Only</b>	



# WARRANTY



## LIMITED WARRANTY

Hydrofarm warrants the **APE2200** to be free from defects in materials and workmanship. The warranty term is for 2 years beginning on the date of purchase. Misuse, abuse, or failure to follow instructions is not covered under this warranty. Hydrofarm's warranty liability extends only to the replacement cost of the product. Hydrofarm will not be liable for any consequential, indirect, or incidental damages of any kind, including lost revenues, lost profits, or other losses in connection with the product. Some states do not allow limitation on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you. Hydrofarm will, at our discretion, repair or replace the **APE2200** covered under this warranty if it is returned to the original place of purchase. To request warranty service, please return the **APE2200**, with original sales receipt and original packaging, to your place of purchase. The purchase date is based on your original sales receipt.



Thank you for choosing Autopilot by Hydrofarm. For further information about Autopilot products, videos, and technical information, please visit [AutopilotControllers.com](http://AutopilotControllers.com)

ADDITIONAL LANGUAGES OF THESE INSTRUCTIONS CAN BE FOUND AT [Hydrofarm.com](http://Hydrofarm.com)



Get Connected with the Hydrofarm Community:



Like us on Facebook, follow us on Twitter, and check out *Hydrofarmtv* on YouTube and Instagram!

APE2200 Instructions revised - January 8, 2018 11:26 AM



[Hydrofarm.com](http://Hydrofarm.com)