



# SMART EC FAN CONTROLLER **PRO**

## USER MANUAL

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## Temperature and Humidity Controller

Thank you for purchasing the Headwind HVC Temperature and Humidity Controller.

This manual contains all the information necessary to install, use and maintain the controller. Please read and understand this manual completely before installing and using the product.

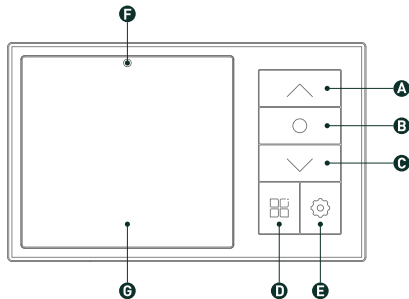
In this manual, the temperature and humidity controller will be referred to as "The Controller".

This is the original manual, keep it in a safe location.

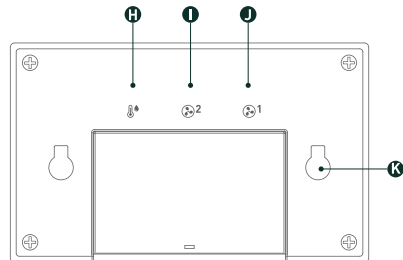
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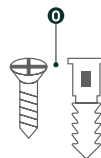
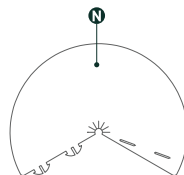
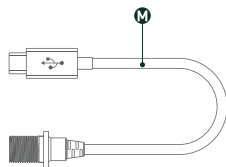
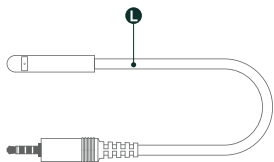
# 1 PRODUCT DESCRIPTION



Key	Function	
A	Up	Navigate up in menu / increase value
B	Power/Enter	Turn on or off controller / confirm
C	Down	Navigate down in menu / decrease value
D	Mode	Go to mode menu / go to next setting menu
E	Set/Back	Go to setting menu / navigate back in menu
F	Light sensor	Sensing light intensity to switch between day and night modes
G	Screen	Controller interface screen display



Connections	
H	Temperature and humidity sensor interface
I	Fan Ch2 interface
J	Fan Ch1 interface
K	Hanging hole



#### Accessories

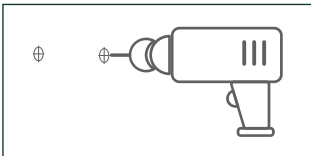
<b>L</b>	5 meters sensor cable
<b>M</b>	0.1 meters type C adaptor
<b>N</b>	Hood
<b>O</b>	Screws

## 2 TECHNICAL SPECIFICATIONS

Product Name	Temperature and humidity controller
Dimension	115mm x 70mm x 23mm
Weight	135g
Housing	AB5+PC
Maximum Devices Controlled	2
Operation Voltage	9-10VDC
Power	3W
Current	0.3A

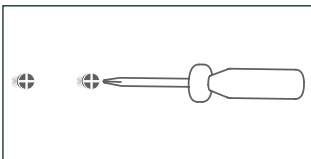
Jack Type	Type C
Sensor Jack Type	3.5mm
Sensor Probe Length	5 meters
Working Temperature	-4°F-158°F (20°C-70°C)
Working Humidity	0%-99%
Power Input	10V from Device
Display Size	2.8 inch TFT

# 3 INSTALLING THE CONTROLLER



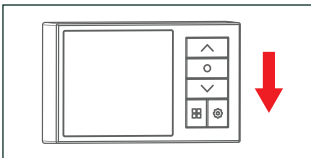
## STEP 1

Determine where you wish to mount the fan and use a drill to create two screw holes. [Intermediate space 83mm].



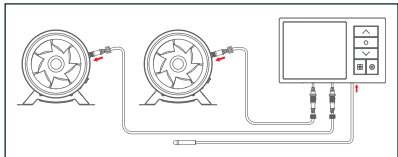
## STEP 2

Affix the mounting plate to a wall using the countersunk screws and leave around 5mm.



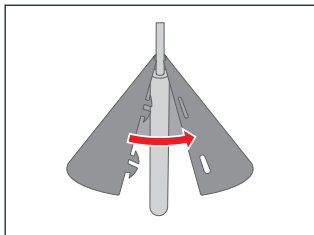
## STEP 3

Remounting the controller on the mounting plate.



## STEP 4

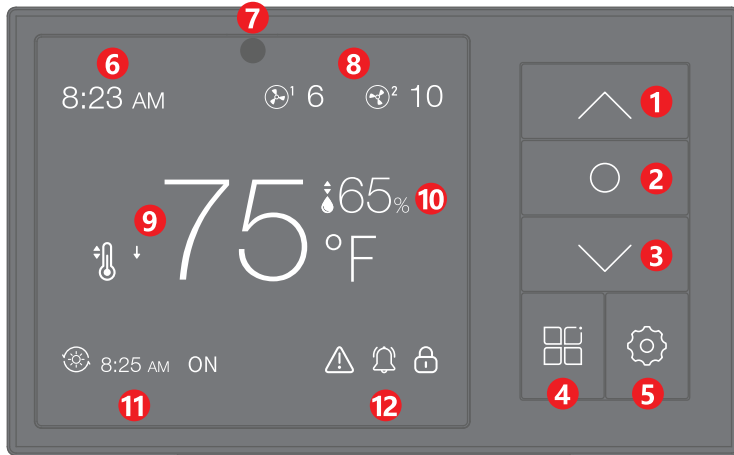
Connect the sensor to the controller.  
Connect the type-C adaptor to the controller.  
Fix the screw.



## STEP 5

Cover the temperature sensor from the light.  
Use the hood supplied with the controller and fold it  
around the sensor.

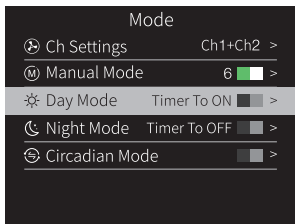
## 4 INTERFACE INTRODUCTION



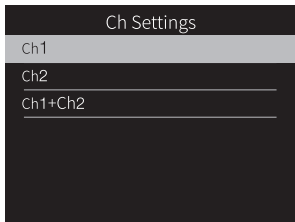


- 1 **Up:** Navigate up in menu / increase value.
- 2 **Power/Enter:** Turn on or off controller / confirm.
- 3 **Down:** Navigate down in menu / decrease value.
- 4 **Mode:** Go to mode menu / go to next setting menu.
- 5 **Set/Back:** Go to setting menu / navigate back in menu.
- 6 **Light sensor:** Sensing light intensity to switch between day and night modes.
- 7 **Time:** Show the system time.
- 8 **Channel:** Show the current operation channel. Including on/off, speed and errors.
- 9 **Temperature:** Show the current temperature.
- 10 **Humidity:** Show the current humidity.
- 11 **Mode:** Manual (M), Day ☀, Night 🌙, Circadian 🌄, Auto 🌙, Timer to on/off, Cycle, Schedule.
- 12 **Operation status:** Error ⚠, Alarm 🔔, Lock 🔒.

## 5 MODE INTRODUCTION



Cycles through the unit's modes: Channel, manual, day, night, circadian mode. Press will turn on/off Day/Night/Circadian mode. Default operating mode is Circadian mode.

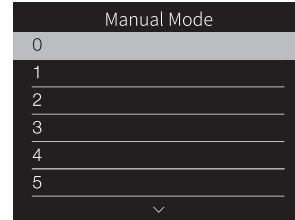


### 5.1 Ch SETTINGS

Press enter to open mode menu and select channel. Channel means which fans you are setting. Default operating channel is Ch1 + Ch2.

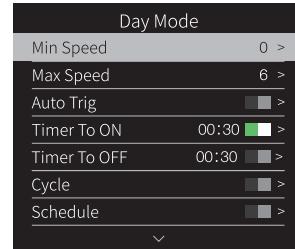
## 5.2 MANUAL MODE

Show what speed the fans are currently running at. 11 speeds level are available. Default speed level is 6. Press enter to manual mode and press the up/down button can adjust the fan speed level.



## 5.3 DAY/NIGHT MODE

Press enter to Day/Night mode, there are seven settings titles: Min Speed, Max Speed, Auto Trigger, Timer to on, Timer to off, Cycle, and Schedule. Press mode to turn on/off Auto/Timer to on/Timer to off/Cycle/Schedule mode.



### 5.3.1 MIN/MAX SPEED

11 speed level are available in Min/Max Speed. Default min speed is 0 and max is 6. Auto/Timer to on/Timer to off/Cycle/Schedule support adjust min/max speed.

Auto Trig		
High Temp	82°F	<input checked="" type="checkbox"/> >
Low Temp	60°F	<input type="checkbox"/> >
High Hum	80%	<input type="checkbox"/> >
Low Hum	40%	<input type="checkbox"/> >

High Temp

82°F

## 5.3.2 AUTO TRIGGER

4 modes in Auto Trigger: High temperature, High humidity, Low humidity. Press mode to select modes in Auto Trigger. Press enter to set specification details.

- Fan will run at max speed when temperature is higher than setting temperature in high temp mode.  
Fan will run at min speed when temperature is lower than setting temperature in high temp mode.
- Fan will run at max speed when temperature is lower than setting temperature in low temp mode.  
High/Low Hum mode operations are the same as High/Low temperature mode.
- Fan will run at min speed when temperature is higher than setting temperature in low temp. High/Low Hum mode operation are the same as High/Low temperature mode.
- If you select multiple modes in auto trigger, fan will run at max speed when temperature or humidity reaches setting data.

- Eg1: Set 82°F in High Temp mode, min speed level 0, max speed level 6, Fan will run at 0 when temperature is lower than 82°F. Fan will run at 6 speed when temperature is higher than 82°F.
- Eg2: Set 86°F in High Temp mode, 70% in High Hum mode, min speed level 2, max speed level 7. Fan will run at 7 when temperature reaches 82°F and humidity reaches 80%.

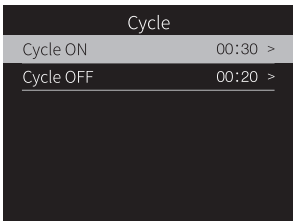
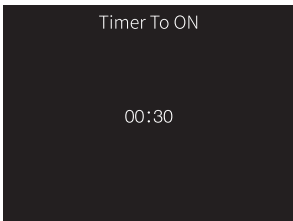
- Open High Temp mode and Low Temp mode at the same time, but former setting temperature is higher than latter. Fan will run at full speed when temperature is lower than Low Temp mode or temperature is higher than High Temp mode. Fan will run at min speed in other temperature. High Hum/Low Hum are the same as HighTemp/Low Temp.

Eg1: Set 68°F in Low Temp mode, 104°F in High Temp mode, min speed level 0, max speed level 6. Fan will run at 6 when temperature is lower than 68°F or higher than 104°F. Fan will run at 0 when temperature is higher than 68°F but lower than 104°F.

- Open High Temp mode and Low Temp mode at the same time, but former setting temperature is lower than latter. Fan will run at full speed when temperature is lower than Low Temp mode but higher than High Temp mode. Fan will run at min speed in other temperature.

Eg1: Set 95°F in Low Temp mode, 77°F in High Temp mode, min speed level 2, max speed level 7. Fan will run at 2 when temperature is lower than 77°F or higher than 95°F. Fan will run at 7 when temperature is higher than 77°F but lower than 95°F.

Auto Trig	
High Temp	86°F <input type="checkbox"/> ▾
Low Temp	104°F <input type="checkbox"/> ▾
High Hum	80% <input type="checkbox"/> ▾
Low Hum	40% <input type="checkbox"/> ▾



### 5.3.3 TIMER TO ON/OFF

**Timer to On:** In this mode, fan will run at min speed before finish timer. After finished timer, fan will run at max speed and last.

**Timer to Off:** In this mode, fan will run at max speed before finish timer. After finished timer, fan will run at min speed and last.

Eg1: Set 00:30 in Timer to On, min speed level 0, max speed level 6. Fan will run at 0 in first 30 minutes. Then fan will run at 6 and last.

Eg2: Set 01:00 in Timer to Off, min speed level 2, max speed level 7. Fan will run at 7 in first hour. Then fan will run at 2 and last.

### 5.3.4 CYCLE ON/OFF

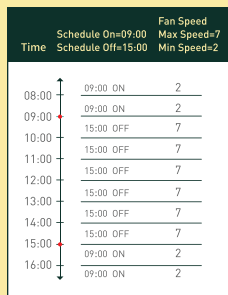
Fan will run at max speed in Cycle On mode. Then fan will run at min speed after timer finished.

Eg1: Set 00:30 in Cycle On mode and set 00:20 in Cycle Off mode, min speed level 0, max speed level 6. Fan will run at 6 in first 30 minutes and then run at 20 minutes. Repeat the above process.

## 5.3.5 SCHEDULE ON/OFF

Fan will run at max speed when it reaches setting time in Schedule On.  
Fan will run at min speed when reaches setting time in Schedule Off.

Eg1: Set 09:00 in Schedule On, 15:00 in Schedule Off, min speed level 2, max speed level 7. Fan will run at 7 in 09:00 to 15:00. Fan will run at 2 in 00:00 to 09:00 and 15:00 to 24:00.



Schedule	
Schedule ON	09:00 >
Schedule OFF	15:00 >

## 5.4 CIRCADIAN

Controller will automatically adjust its Day/Night mode in Circadian by light sensor. (Please do not cover the light sensor to prevent wrong judgment).

# 6 SETTING UP THE CONTROLLER

Settings	
Language	English >
Temp Unit	°F >
Calib T°	0°F >
Calib H°	0% >
Trans Speed	>
Fan Fault Detection	>
Alarm Settings	>
Circadian Switch Sensity	50 >
Brightness	>
Sounds	NO >
Time	>
Theme	Theme 1 >
Reset	>

## 6.1 LANGUAGE

**Chinese/English** Select the language you wanted and system will change display language.

## 6.2 TEMPERATURE UNIT

**°F/°C** Select the temperature unit and system will display Celsius or Fahrenheit.

## 6.3 TEMPERATURE/HUMIDITY CALIBRATION

The temperature calibration setting value and the detected temperature value are added and subtracted as the displayed value. Setting range -10°F to 10°F, interval 2°F/-5°C to 5°C to 5°C, interval 1°C.

The humidity calibration setting value and the detected humidity value are added and subtracted as the displayed value. Setting range -10% to 10%, interval 1%.



## 6.4 TRANS SPEED

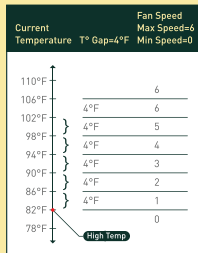
### T° Gap/H° Gap

**T° Gap** is matched with High Temp/Low Temp mode, setting range -10°F to 10°F, interval 2°F/-5°C to 5°C, interval 1°C. Default setting is 0°F/0°C.

**H° Gap** is matched with High Hum/Low Hum mode, setting range -10% to 10%, interval 1%. Default setting is 0%.

- Setting 4°F in T° Gap, Fan will run at min speed when temperature is lower than setting temperature. Fan will run at next gear based on min speed level when temperature reaches setting temperature in High Temp mode. Fan will raise to next gear based on former speed level when temperature rises 4F. Fan will not run faster when it arrives preset max speed although temperature is still rising.

**Eg1:** Setting 82°F in High Temp mode, min speed level 0, max speed level 6.  
 1. T° Gap is 0°F, Fan will run at 1 when temperature is higher than 82°F. Fan will run at 6 when temperature is higher than 82°F.  
 2. T° Gap is 4°F. Fan will run at 1 when temperature is higher than 82°F but lower than 86°F. Fan will run at 2 when temperature is higher than 86°F but lower than 90°F. Fan will run at 3 when temperature is higher than 90°F but lower than 94°F. Fan will run at 4 when temperature is higher than 94°F but lower than 98°F. Fan will run at 5 when temperature is higher than 98°F but lower than 102°F. Fan will run at 6 when temperature is higher than 102°F and it reaches max speed in this setting.



Trans Speed	
T° Gap	4°F >
H° Gap	0% >

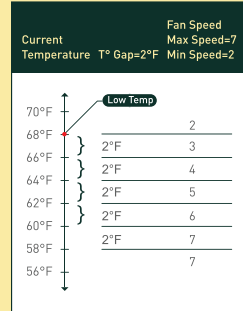
T° Gap	
	4°F

Trans Speed	
T° Gap	2°F >
H° Gap	0% >

T° Gap
2°F

- Setting 2°F in T° Gap. Fan will run at min speed when temperature is higher than setting temperature in Low Temp mode. Fan will run at next gear based on min speed level when temperature reaches setting temperature in Low Temp mode. Fan will raise to next gear on former speed level when temperature falls 4°F. Fan will not run faster when it arrives preset max speed although temperature is still falling.

Egl: Setting 68°F in Low Temp mode, min speed level 2, max speed level 7.  
 1. T° Gap is 0°F. Fan will run at 2 when temperature is higher than 68°F. Fan will run at 7 when temperature is lower than 68°F.  
 2. T° Gap is 2°F. Fan will run at 3 when temperature reaches or is lower than 68°F. Fan will run at 4 when temperature reaches or is lower than 66°F. Fan will run at 5 when temperature reaches or is lower than 64°F. Fan will run at 6 when temperature reaches or is lower than 62°F. Fan will run at 7 when temperature reaches or is lower than 60°F and it reaches max speed in this setting.



- If you turn on Temp mode and Hum mode together, fan will run at a higher speed after comparing two modes results.

Eg1: Setting 78°F in High Temp mode, T° Gap is 2°F, 70% in High Hum mode. H° Gap is 1%, min speed level 0, max speed level 7. Fan will run at 7 in High Hum modes when it reaches 86°F, 80%.

## 6.5 FAN FAULT DETECTION

Two channels are available, stand for two controlling fans. Press the mode button to turn on fault detection.

Default fault detection is turned off.

When fan doesn't work, the message  appears with an alarm. Also, display which channel is not working.

Trans Speed	
T° Gap	2°F >
H° Gap	1% >

Fan Fault Detection	
Ch1	<input checked="" type="checkbox"/>
Ch2	<input type="checkbox"/>

Alarm Settings	
High T° Alarm	90°F <input checked="" type="checkbox"/> >
Low T° Alarm	32°F <input type="checkbox"/> >
High H° Alarm	80% <input type="checkbox"/> >
Low H° Alarm	40% <input type="checkbox"/> >

Brightness	
Auto Brightness	Auto >
Screen off time	Never >

## 6.6 ALARM SETTINGS

Four modes are available: High Temperature, Low Temperature, High Humidity and Low Humidity. Press Mode button to turn on/off High Temp/Low Temp/High Hum/Low Hum. Press enter to set details. Default alarm function is turned off.

- When reaches alarm setting conditions, 🔔 appears with an alarm.
 

High Temperature Alarm 🔔	Low Temperature Alarm 🔔
High Humidity Alarm 🌧️	Low Humidity Alarm 🌧️

 Press any button to cancel alarm voice after it start alarm.

## 6.7 CIRCADIAN SWITCH SENSITY

If the intensity is higher than set value, it is judged as Day mode. If the intensity is lower than set value, it is judged as Night mode. Default setting value is 50.

## 6.8 BRIGHTNESS

Set display brightness by **Auto Brightness**. Set **Screen off time**.

## 6.8.1 AUTO BRIGHTNESS

Four modes are available: **Auto**, **A1**, **A2**, **A3**.  
Default mode is **Auto**.

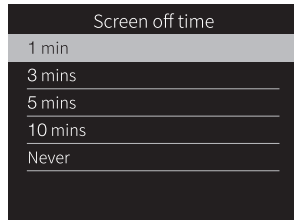
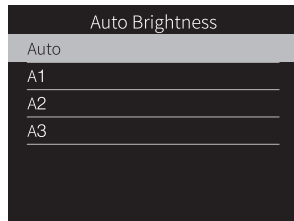
- 4 Levels in Brightness, **A0** is 10%, **A1** is 30%, **A2** is 60%, **A3** is 100%, **Auto** mode adjusts the brightness according to the light intensity.  
**Auto:** The brightness changes from Auto to A0 after 30 seconds no operation. Press any button to light up Auto.  
**A1:** The brightness changes from A1 to A0 after 30 seconds no operation. Press any button to light up A1.  
**A2:** The brightness changes from A2 to A0 after 30 seconds no operation. Press any button to light up A2.  
**A3:** The brightness changes from A3 to A0 after 30 seconds no operation. Press any button to light up A3.

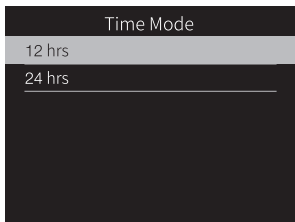
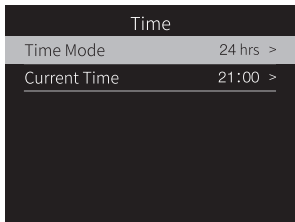
## 6.8.2 SCREEN OFF TIME

5 times are available: **1min**, **3mins**, **5mins**, **10mins**, and **Never**. Default set time is **Never**. Press any button to light up after screen is off.

## 6.9 SOUNDS

On or Off are available. Turn **on/off** all the sounds [Button / Alarm. Default is turned on.





## 6.10 TIME

Set **Time Mode** and **Current Time**.

### 6.10.1 TIME MODE

12hrs or 24hrs.

### 6.10.2 CURRENT TIME

Set system time.

## 6.11 THEME

One mode is available.

## 6.12 RESET

Reset and Back up.

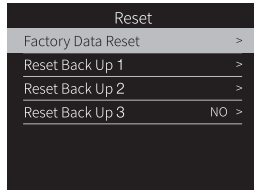
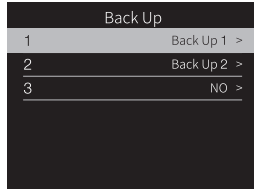
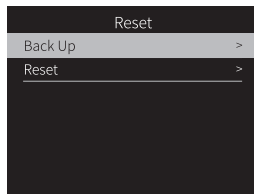
### 6.12.1 BACK UP

Store up to three copies.

Backing up again under the same back up will overwrite the first back up.  
Back up will store all the data and setting details.

### 6.12.2 RESET

Reset the factory settings, reset to back up1, reset to back up2, reset to back up3..



## 7 SAFETY GUIDELINES AND MEASURES

### **⚠ WARNING**

Do not open or disassemble the controller, it contains no serviceable parts. Opening the controller will void its warranty.

### **⚠ WARNING**

Do not use acids, solvents, abrasives or other aggressive substances to clean the controller as this may cause damage.

The controller is maintenance free. It may be cleaned with a soft cloth. Please contact your reseller in case of controller malfunction.



## 8 WARRANTY

Manufacturer will, free of charge, within a period of 1 year from the date of dispatch from their works, repair or at its option replace any goods which are proved to have defects as a result of defective materials or workmanship. The goods must be returned to Manufacturer paid for examination.

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. Manufacturer 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.







HEADWIND

**HVC**

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