AC INFINITY

AIRPLATE SERIES

CABINET COOLING SYSTEM

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 CF2207X1

PRODUCT	MODEL	UPC-A
AIRPLATE S1	AI-CFS80BA	854759004044
AIRPLATE S2	AI-APS2	854759004723
AIRPLATE S3	AI-CFS120BA	854759004006
AIRPLATE S5	AI-CFD80BA	854759004105
AIRPLATE S7	AI-CFD120BA	854759004068
AIRPLATE S9	AI-APS9	854759004549
AIRPLATE P7	AI-APP7	819137022812
AIRPLATE T3	AI-APT3	854759004372
AIRPLATE T7	AI-APT7	854759004389
AIRPLATE T8	AI-APT8	854759004945
AIRPLATE T8 WHITE	AI-APT8-W	819137020504
AIRPLATE T9	AI-APT9	854759004396
CONTROLLER 2	AI-ATC	854759004402
CONTROLLER 8	AI-TCD4	854759004730

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PRODUCT WARNING

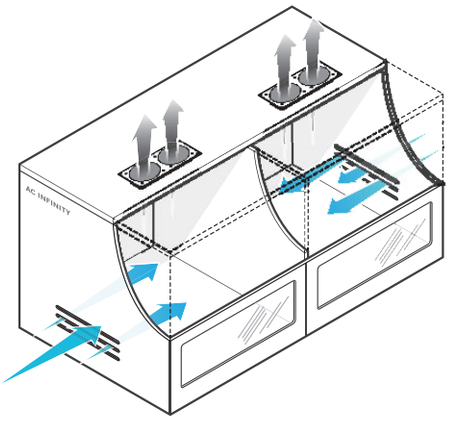
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

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. 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.
5. This product must not be used in potentially hazardous locations such as flammable, explosive, chemical-laden or wet atmospheres.
6. Do not cover power cords with rugs or other fabric materials.
7. This product has rotating parts. Safety precautions should be exercised during the installation, operation, and maintenance of this product.
8. Do not insert or allow fingers or foreign objects to enter any ventilation or exhaust openings as it may cause electric shock, fire, or damage to this product. Do not block or tamper with this product in any manner while it is in operation.
9. 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.
10. Do not operate this product while its cord is damaged, or if it malfunctions, has been dropped, or is damaged in any manner.

CABINET COOLING GUIDE

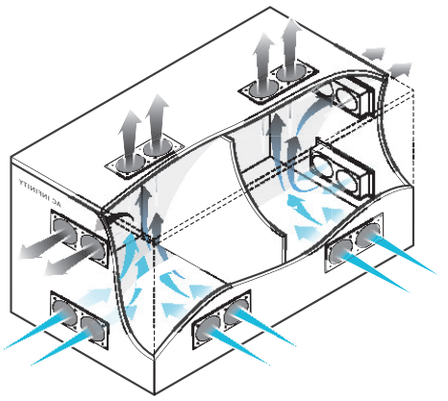
INTAKE AND EXHAUST

All cabinet fan systems should contain an intake and an exhaust variable, which can either be fans or ventilation holes. This is required to balance the static pressures between the inside and outside of the cabinet.



FAN POSITIONING

Due to natural convection, warmer air which is less dense than colder air will rise on its own. It is ideal to position fans near the top of the cabinet configured to exhaust out the warmer air and position fans near the bottom to push in colder air.



CFM REQUIREMENTS

A fan or set of fan's CFM rating measures the rate at which air flows into a space. To obtain the required CFM rating, divide the dimensions of a cabinet by 1728 to get the cubic feet area then multiply by three to account for various real world variables.

$$\frac{\text{SIZE OF CABINET}\ \text{L x W x H (inches)}}{1728} \times 3$$

KEY FEATURES

S/T-SERIES

ALUMINUM FRAME

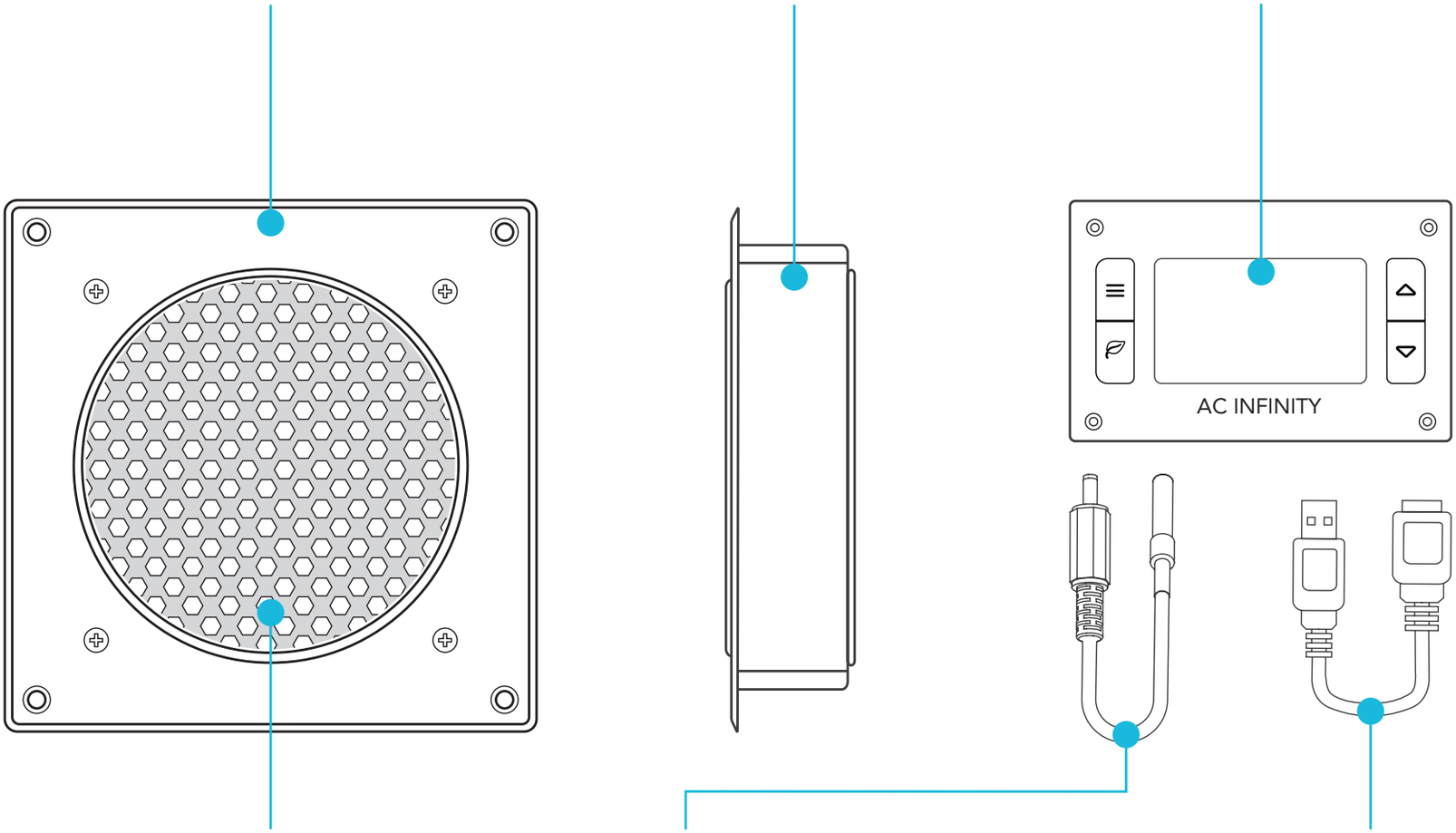
Features an aluminum frame with a brushed black finish and CNC machined corners.

PROTECTIVE BACK

Fans are enclosed in a hard shell cover to prevent intrusions.

SMART CONTROLLER*

LCD display enables temp monitoring, thermal control, speed control, alarms, and SMART energy mode.



DUAL BALL BEARINGS

Fans contain long-life ball bearings rated at 67,000 hours. This feature also enables fans to be mounted in any direction.

THERMAL PROBE

The corded sensor probe constructed of stainless steel ensures an accurate temperature reading.

FAN EXPANSION PORTS

Each fan unit contains an USB port to daisy chain additional fan units. Up to six fans can share the same power source.

*Included in AIRPLATE T-Series

KEY FEATURES

P-SERIES

EFFICIENT MOTOR

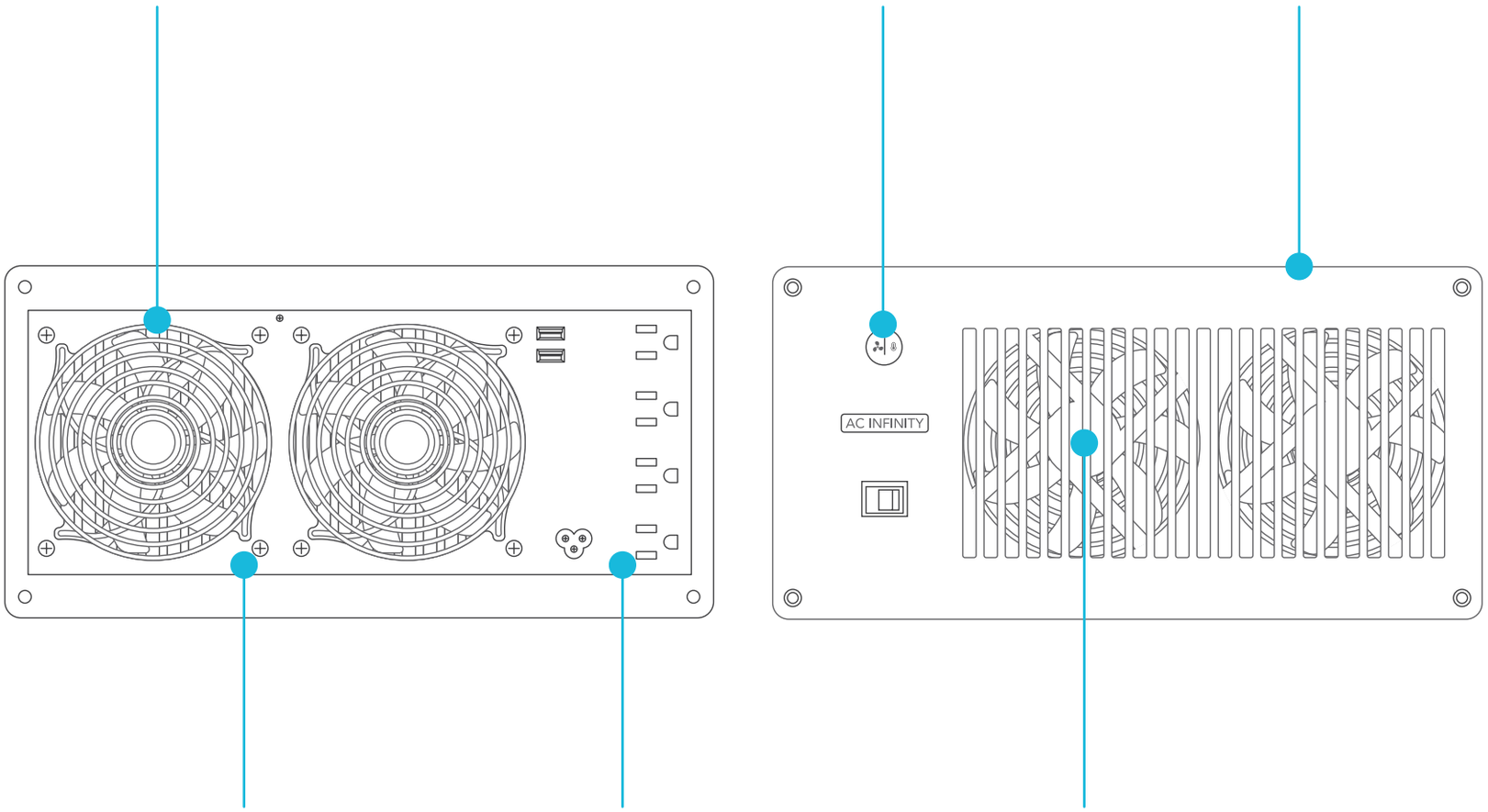
PWM-controlled motor featuring precise speed control, low noise operation, and energy efficient DC power.

THERMALLY ACTIVATED

Programmed with four speed settings and thermal triggering to turn on the fans upon reaching temperature thresholds.

SLEEK FRONT PLATE

Features an aluminum frame with a brushed black finish and CNC-machined edges for a flush mount on flat surfaces.



BACKUP MEMORY

Retains fan speed and thermal temperature trigger settings when power is shut off for convenient on/off operation.

OUTLETS AND USB PORTS

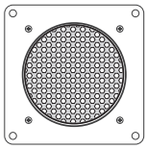
Built with two USB ports and four outlet sockets to power devices that can be turned on or off using the front switch.

SILENT COOLING

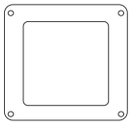
Contains long-lasting dual ball bearings that quietly produces airflow and enables this unit to be mounted in any direction.

PRODUCT CONTENTS

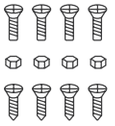
S-SERIES



CABINET
FAN UNIT
(x1)



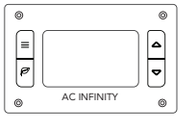
PLASTIC
STENCIL
(x1)



MOUNTING
SCREW SET
(x4)

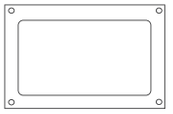
USB POWER
ADAPTER
(x1)

T-SERIES (Includes S-SERIES Fan Units)



THERMAL
CONTROLLER
(x1)

THERMAL
PROBE
(x1)



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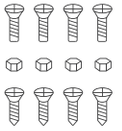
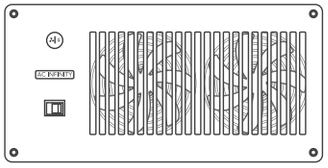
STENCIL
(x1)



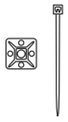
MOUNTING
SCREW SET
(x4)

AC POWER
ADAPTER
(x1)

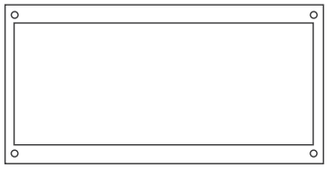
P-SERIES



CABINET FAN
+ OUTLET
(x1)



CABLE
MOUNT
(x1)



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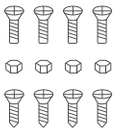
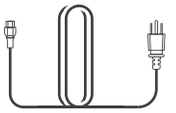
STENCIL
(x1)

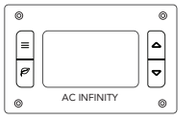


MOUNTING
SCREW SET
(x4)



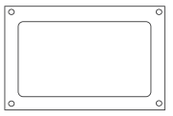
AC POWER
CORD
(x1)

MULTI-ZONE CONTROLLER (Sold Separately)

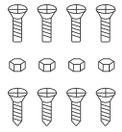


MULTI-ZONE
CONTROLLER
(x1)

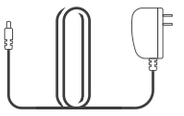
THERMAL
PROBE
(x1)



PLASTIC
STENCIL
(x1)



MOUNTING
SCREW SET
(x4)



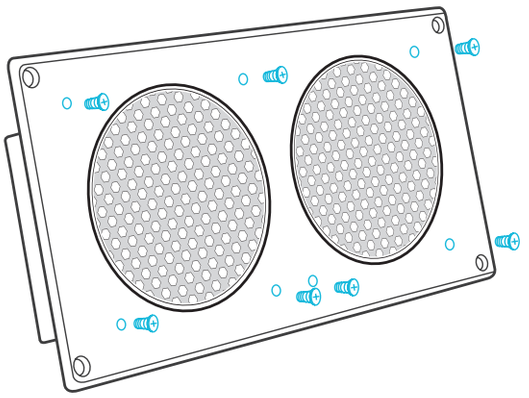
AC POWER
ADAPTER
(x1)

CHANGING FAN DIRECTION

STEP 1

Unplug the cabinet fan before flipping the internal fan.

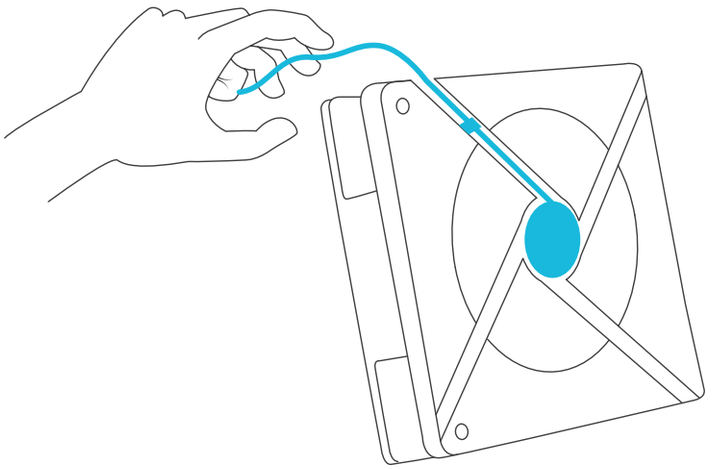
Remove the screws using a Phillips screwdriver to separate the front plate and the internal fan from the shell.



STEP 2

Identify the airflow direction to achieve your desired configuration; airflow will blow on the label side.

Route the cord towards the label side if creating an intake configuration.

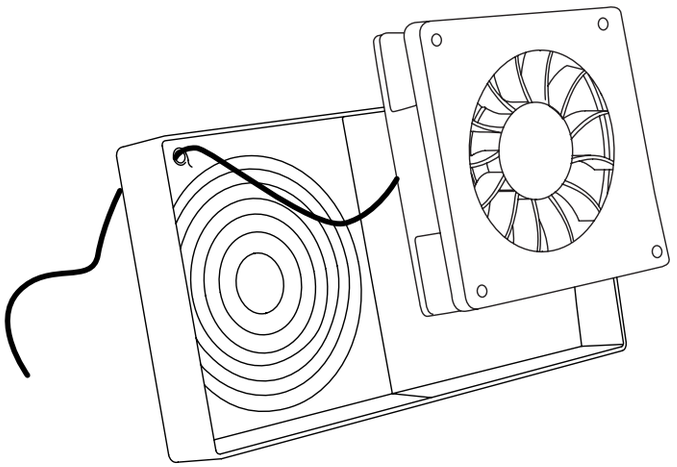


CHANGING FAN DIRECTION

STEP 3

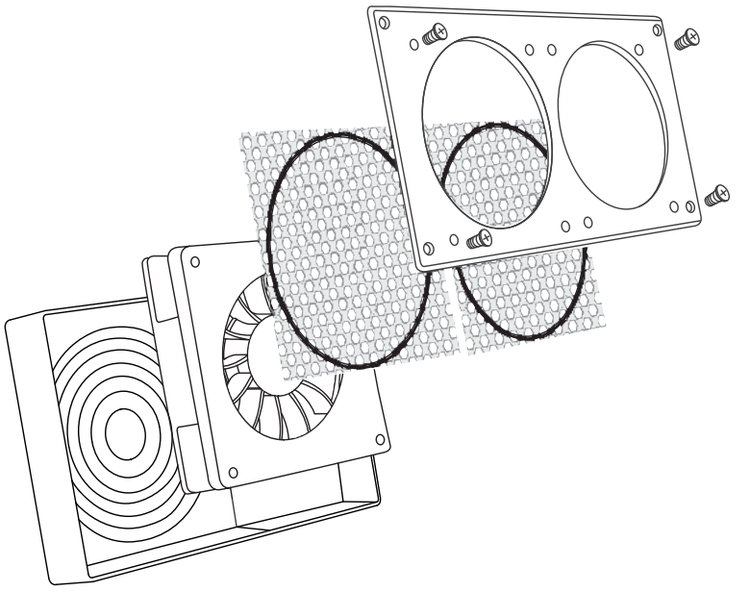
Lift the fan guard to run the cord through one of the open grooves, then guide the fan into the shell.

Reapply the screws to secure the fan, fan guard, and shell together.



STEP 4

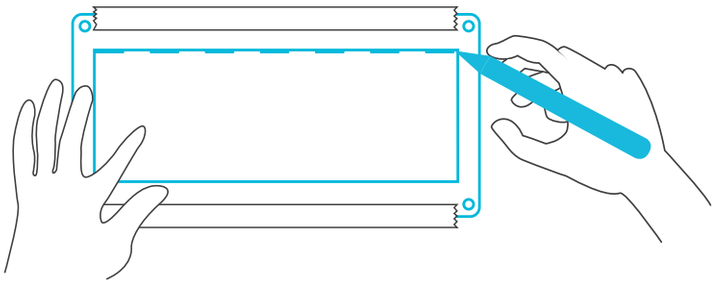
Replace the grille and front plate over the open side. Reapply the screws to secure the grille and front plate back and reassemble the cabinet fan.



MOUNTING

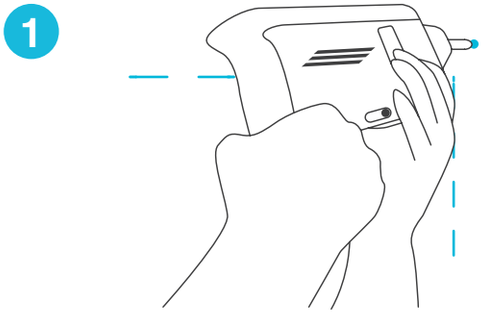
STEP 1

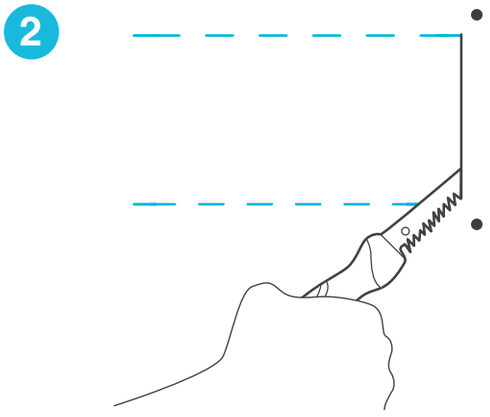
Determine your desired mounting location. Place and secure the stencil over it using tape and mark the drilling points and outline.



STEP 2

Drill the mounting holes into your wall space. Cut the rectangular outline to create the opening. Use of a saw is recommended.



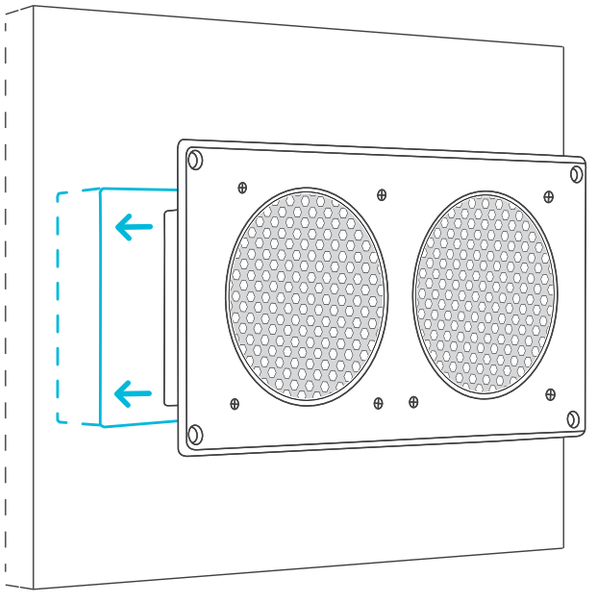


MOUNTING

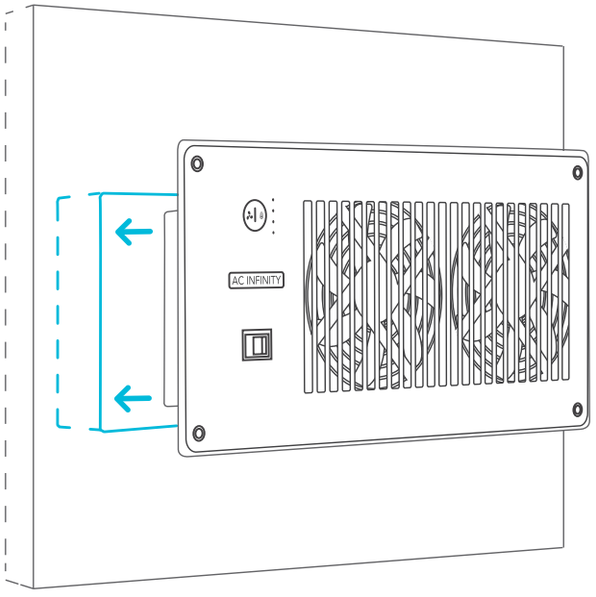
STEP 3

Push the cabinet fan into the cut opening to create a flush mount, making sure the fan's backside does not touch its perimeter to minimize vibration noise.

S-Series



P-Series

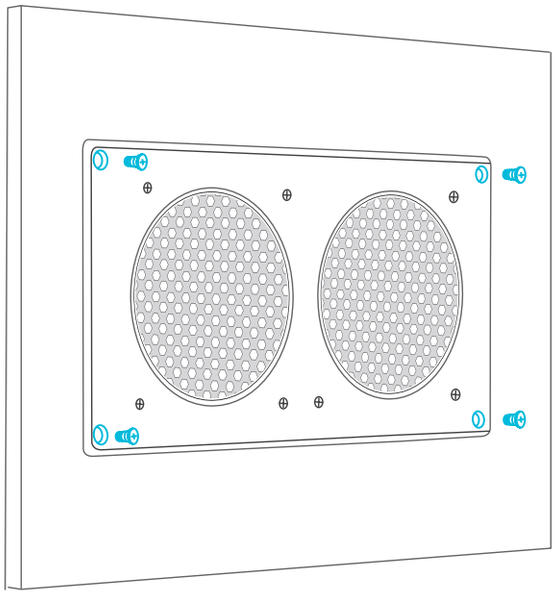


MOUNTING

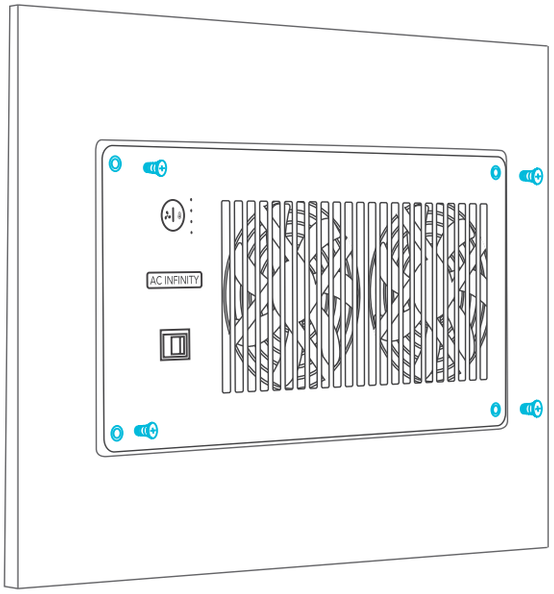
STEP 4

Screw the bolts into the mounting holes to secure the cabinet fan.

S-Series



P-Series

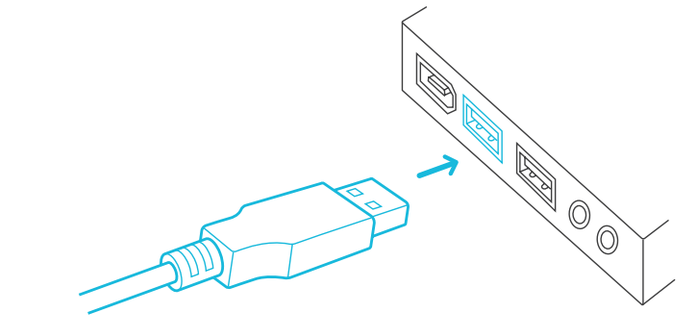


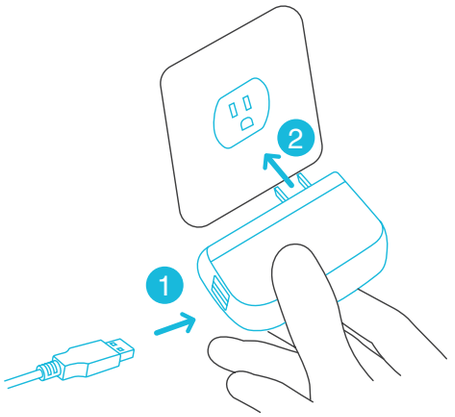
POWERING

S/T-SERIES

S-SERIES

Power the cabinet fan by plugging the USB connector into either a USB port or into the included power adapter, to then plug into an outlet.

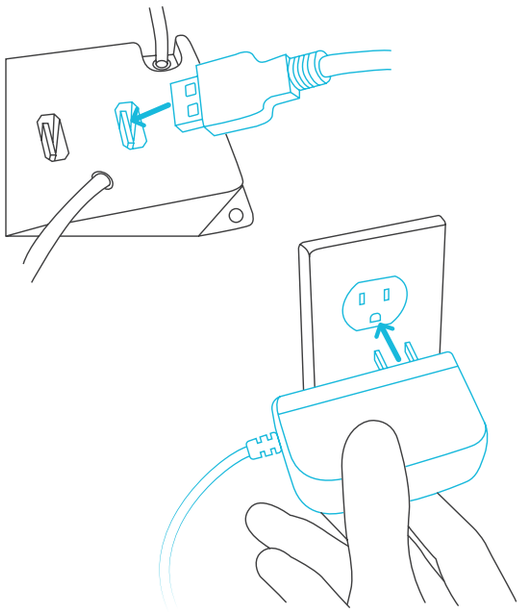




T-SERIES

Plug the cabinet fan's USB connector into one of the multi-zone controller's USB ports.

Plug the power adapter's male connector into the multi-zone controller's power port, then plug the two-pronged end into an outlet.

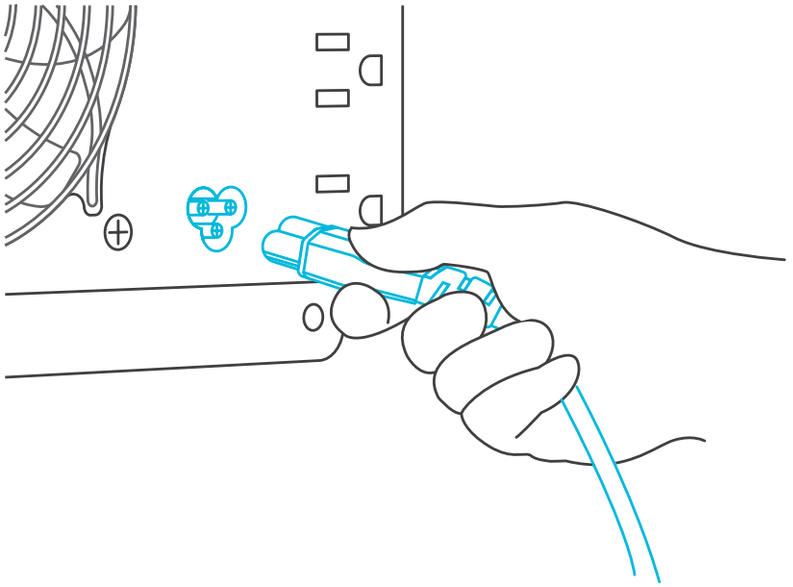


POWERING

P-SERIES

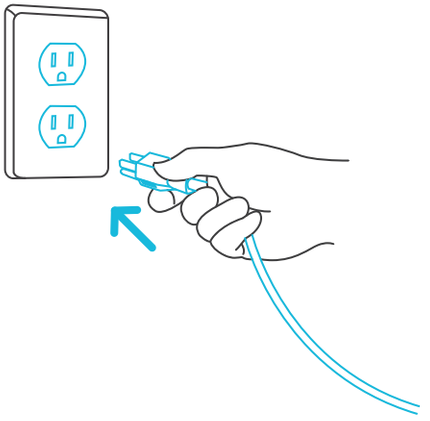
STEP 1

Plug the AC power cord into the 3-pin port, located on the backside of the cabinet fan.



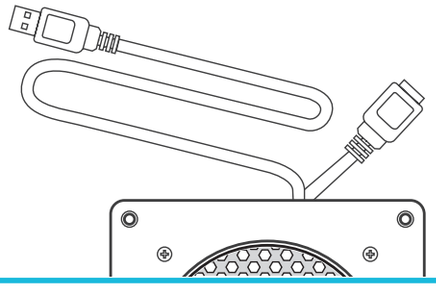
STEP 2

Plug the AC power cord into a wall outlet to power the cabinet fan.



CONNECTING MORE FANS

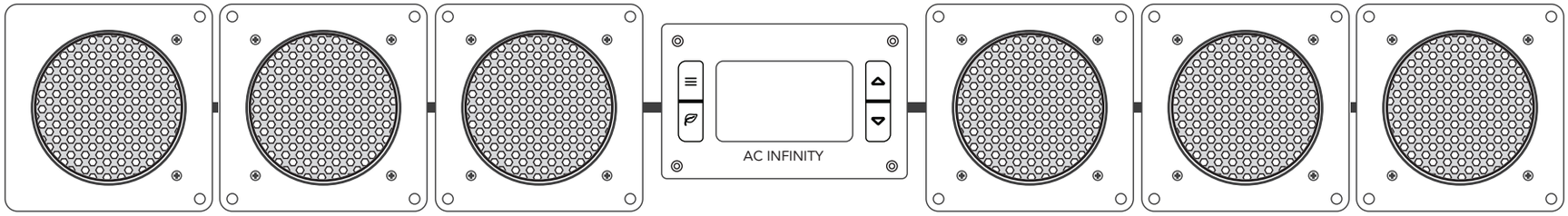
S/T-SERIES

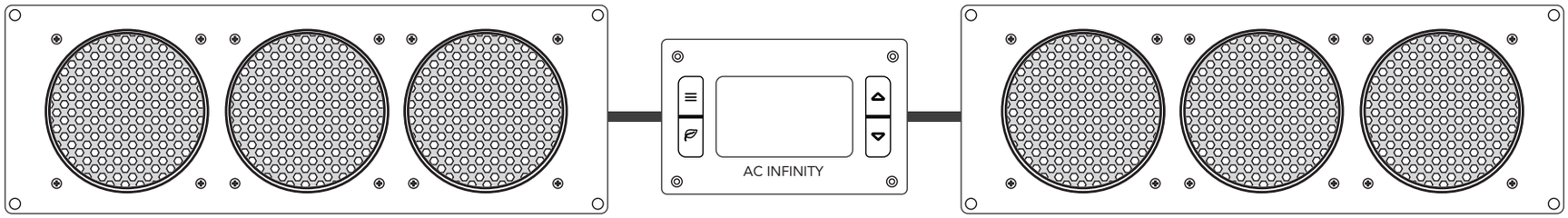


Each fan unit includes an USB port that enables you to connect an additional fan. Up to four fans can share the same USB port, and up to six fans can share the same power outlet. Please see page 20 for limitations.

T-SERIES CONTROLLER

Thermal controllers can control up to six fans. Some models may contain more than one fan (AIRPLATE S7 contains two fans and AIRPLATE S9 contains three fans). Fan units connected with the thermal controller will share the same speed and temperature settings. If the fans contain an inline speed controller, set their speeds to HIGH.





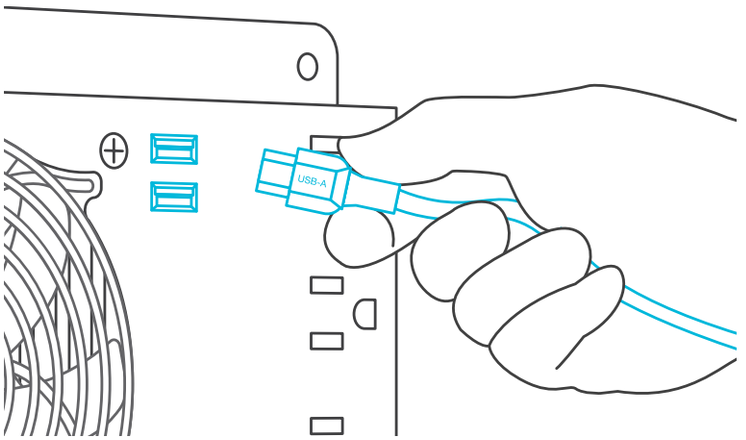
POWERING OTHER DEVICES

P-SERIES

STEP 1

You may use the two rear USB ports to power up to two USB devices (supports up to 5V per port).

These devices are powered on and off using the switch on the front side.

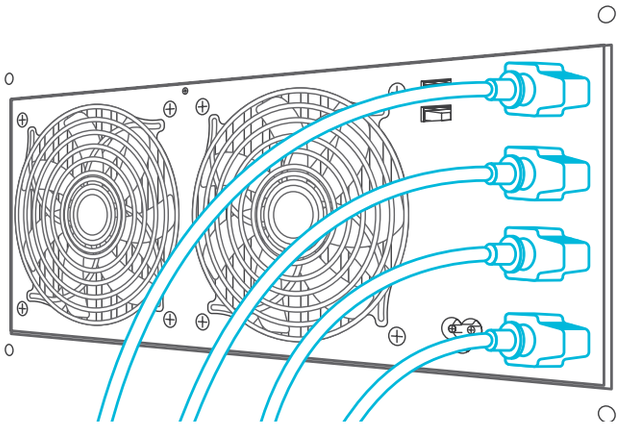


STEP 2

You may use the four rear outlet sockets as you would a power strip to power up to four additional devices (supports up to 850W).

Unplug the cabinet fan before plugging in more devices.

These devices are powered on and off using the switch on the front side.



PROGRAMMING

S-SERIES

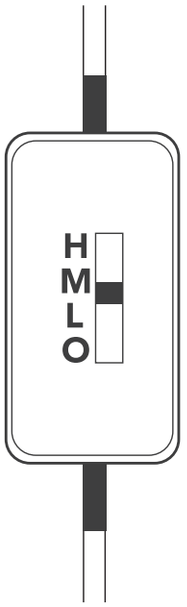
SPEED CONTROLLER

Sets the fan speed to OFF, LOW, MEDIUM, or HIGH. Daisy-chained fans will also adjust to this setting. All systems with more than four daisy-chained fans must set their inline speed controller to HIGH to prevent overloading this speed controller (ex. two AIRPLATE S9 units daisy-chained together must be set to HIGH).

S3/T3 – 1 Fan

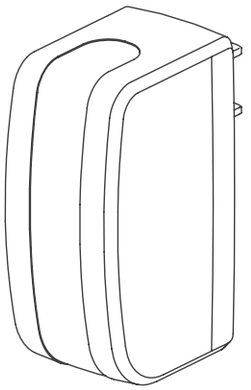
S7/T7 – 2 Fans

S9/T9 – 3 Fans



TURBO BOOST ADAPTER

Maximizes fan performance by increasing fan speed by up to 25%. You may use the speed controller to reduce noise level if the higher speeds are too loud for your application.



PROGRAMMING

T-SERIES

1. MODE BUTTON

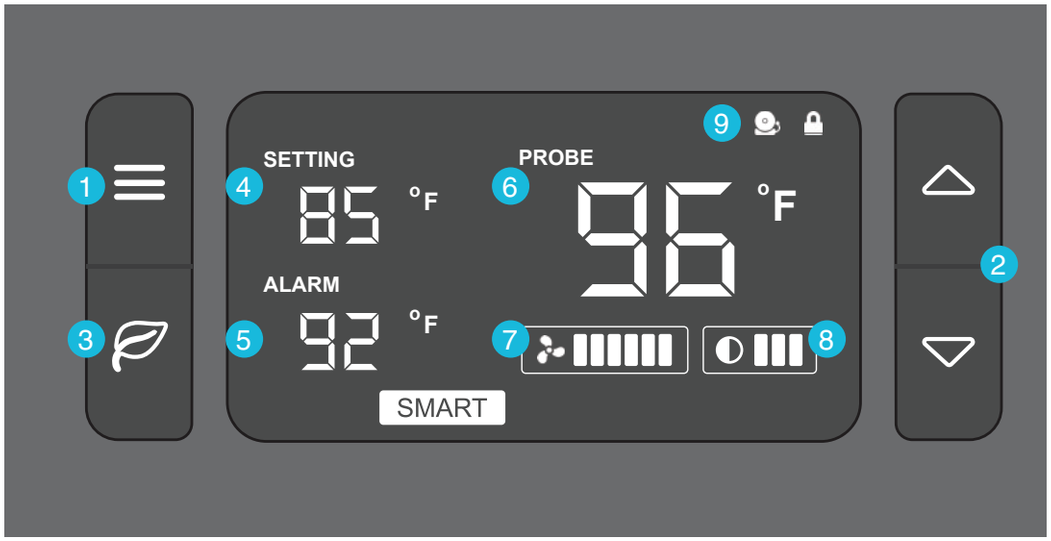
Cycles through the unit's modes: AUTO, SMART, OFF, ON, ALARM. Hold for three seconds to lock or unlock the display.

2. UP / DOWN BUTTON

Adjusts the value of the setting and alarm temperatures, display brightness, and speed of the cabinet fan.

3. LEAF BUTTON

Shuts off the display while allowing programs to run. Holding will change degrees to Fahrenheit or Celsius.



4. SETTING TEMP

Displays the temperature trigger setting in AUTO and SMART Mode.

5. ALARM TEMP

Displays the temperature alarm setting that triggers the alarm system.

6. PROBE TEMP

Actively shows current temperature that the probe is measuring.

7. FAN SPEED

Shows what speed the fans are currently running at. Six speeds are available.

8. BRIGHTNESS

Shows the brightness of the display. Four settings are available.

9. ALERT ICONS

Flashes to indicate if alarm, or display lock is being triggered.

PROGRAMMING

T-SERIES

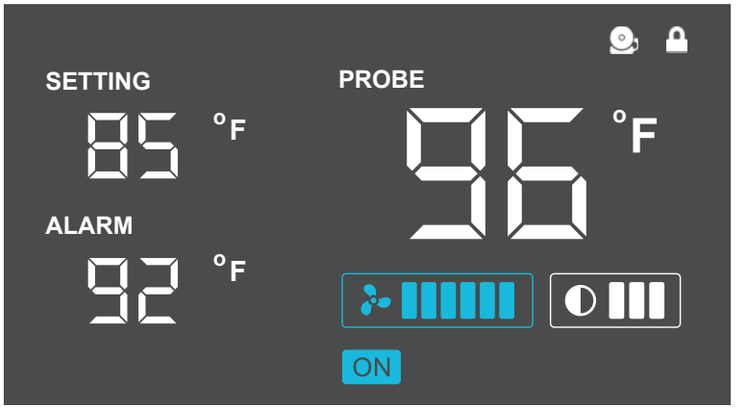
QUICK START

Navigate to the AUTO Mode using the MODE button. Use the up and down buttons to adjust the SETTING temperature. The PROBE temperature displays the thermal probe's current measurement. When the PROBE temperature meets or exceeds the SETTING temperature, the fans will start running.

ON MODE

Your fan will actively run at the speed level set here, regardless of the probe's reading. Use the up and down buttons to adjust the fan speed.

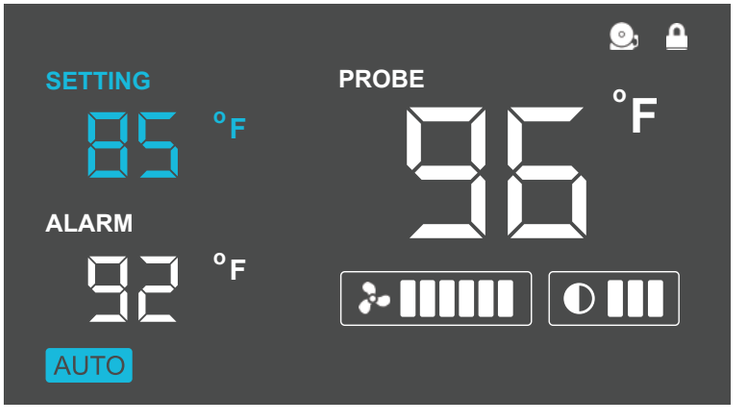
The ON mode also serves as the speed level used in AUTO Mode, and the maximum speed level used in SMART Mode.



AUTO MODE

Sets a high temperature trigger that activates the fans when the PROBE temperature meets or exceeds the SETTING temperature. Use the up and down buttons to adjust the SETTING temperature.

Once triggered, the fans will run at the speed level set in ON Mode. The fans will stop running when the PROBE temperature falls at least 4°F below the SETTING temperature.



See page 25 to learn how to adjust the variation buffer.

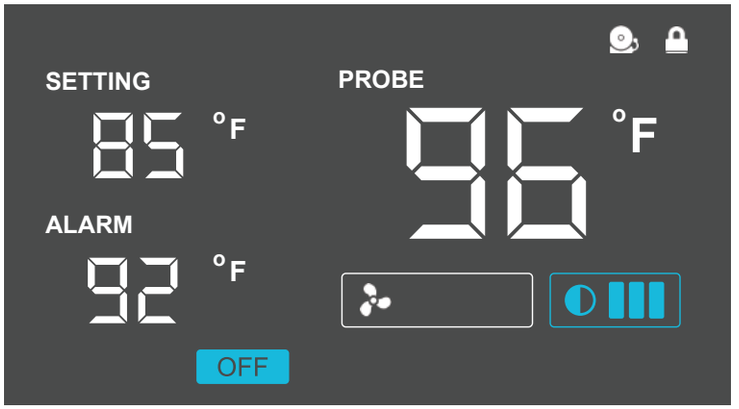
PROGRAMMING

T-SERIES

OFF MODE

Your fan will not run while in this mode. Use the up and down buttons to adjust the backlight brightness.

Setting the brightness to the auto-dim level (1st and 3rd bars illuminated) will dim the display to the lowest setting whenever the controller is not being used after 30 seconds.



SMART MODE

Sets the transition threshold between fan speed levels. Use the up and down buttons to adjust the SETTING temperature.

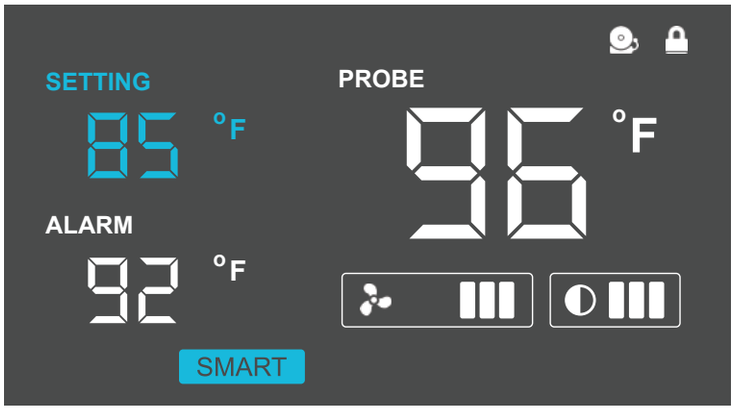
1. Set a maximum fan speed in ON Mode.

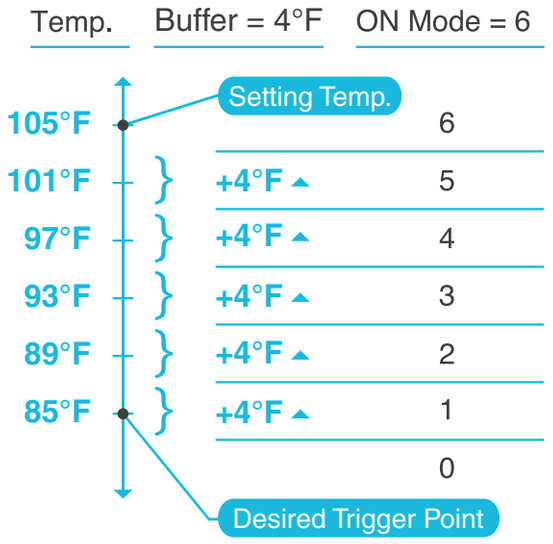
2. Multiply this speed by the variation buffer (ex. 4°F).

3. Add the result from step 2 to your desired trigger point. Subtract your buffer setting (ex. 4°F) from this figure.

4. Set the result from step 3 as your SETTING temperature.

For example, ([ON mode speed = 6] x [variation buffer = 4°F]) + [desired temperature trigger = 85°F] - [variation buffer = 4°F] = [SETTING temperature = 105°F]





See page 25 to learn how to adjust the variation buffer.

PROGRAMMING

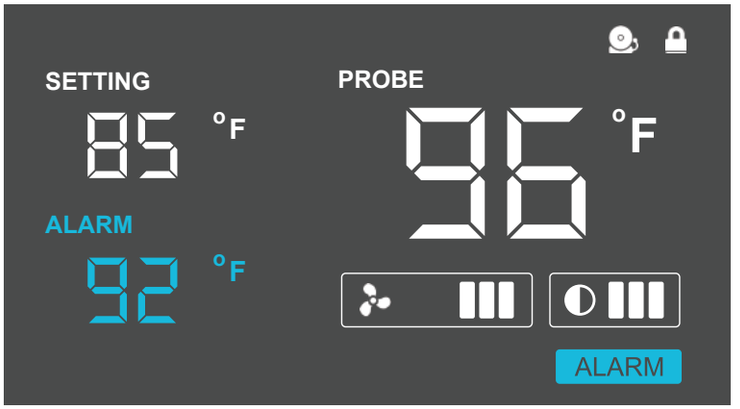
T-SERIES

ALARM SETTING

Sets a temperature alarm that will trigger when the PROBE temperature meets or exceeds the ALARM temperature. Use the up and down buttons to adjust the ALARM temperature.

Leave the ALARM Mode after adjusting its setting for it to be active. The alarm will only activate while the controller is in ON, AUTO, or SMART Mode.

Fans will run at maximum speed while the alarm is triggered and will make an audible beep every three seconds until the PROBE temp. drops below the ALARM temp., or if any button is pressed. The alarm can be disabled by pressing the up or down button until the ALARM temperature reads "OFF".



FAHRENHEIT OR CELSIUS

Changes the displayed units to Fahrenheit or Celsius. Press and hold the LEAF button to cycle through F and C. All displayed units will automatically convert when adjusting this setting.

If using CONTROLLER 8, press and hold the ZONE CHANGE button instead.

PROGRAMMING

T-SERIES

VARIATION BUFFER

Adjusts the gap from your SETTING temperature to prevent the fans from shutting off too quickly due to fluctuating change in the environment. This setting toggles between 4°F (2°C) and 2°F (1°C) buffers.

Hold the MODE button and DOWN button together for 3 seconds to change the variation buffer to 2°F (1°C).

Hold the MODE button and UP button together for 3 seconds to change the variation buffer back to 4°F (2°C).

In AUTO Mode, the PROBE temperature will need to fall at least 4°F (2°C) or 2°F (1°C) for the fans to stop running. Fans will still immediately run when the PROBE temperature meets or exceeds the SETTING temperature.

In SMART mode, the fan speed will lower by one level for every 4°F (2°C) or 2°F (1°C) the PROBE temperature is below the SETTING temperature.

CONTROLLER LOCK

Toggles the controller lock. Hold the MODE button for 3 seconds to lock controller. Programs will still run in the background while the controller is locked, but pressing a button will cause the screen lock icon to flash instead.

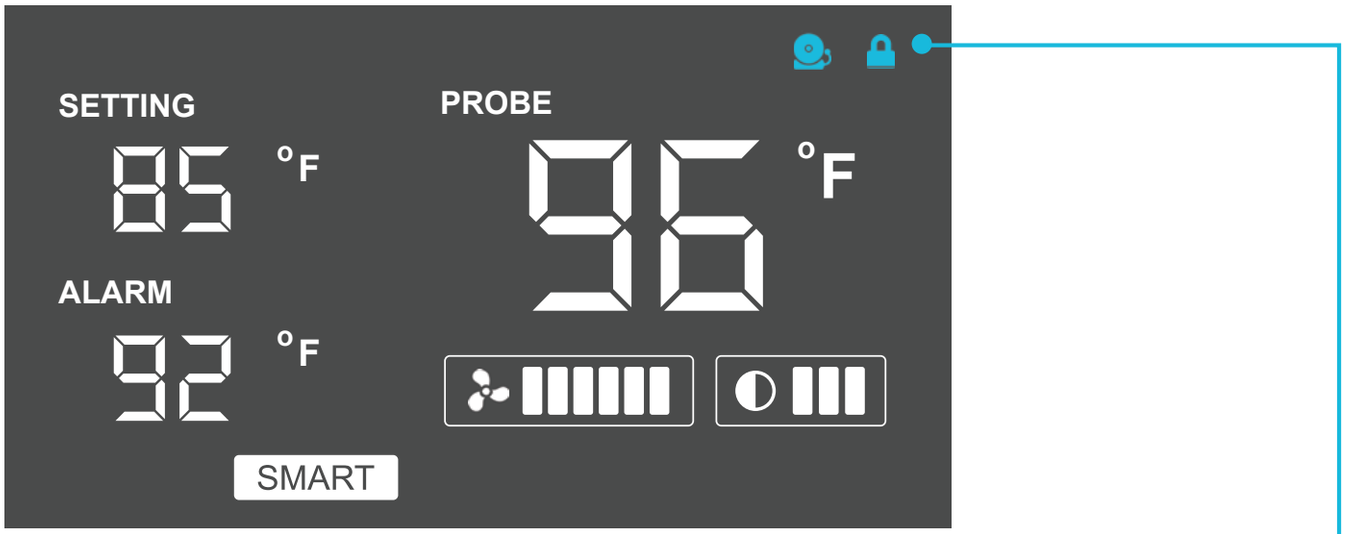
Hold the MODE button again for three seconds to unlock the controller.

PROGRAMMING

T-SERIES

ALERT ICONS

Two alert icons are displayed at the top right corner of the screen. These icons denote which system function is being monitored. Icons may flash when the controller signals an alert to notify you of any triggered function.



ALARM ALERT

Flashes whenever the PROBE temperature rises past the ALARM temperature setting. See page 24 to learn how to set the alarm.

DISPLAY LOCK ALERT

Displays when you lock the controller. The icon will flash if you attempt to adjust the controller while it is still locked. Hold the MODE button to toggle the controller lock.

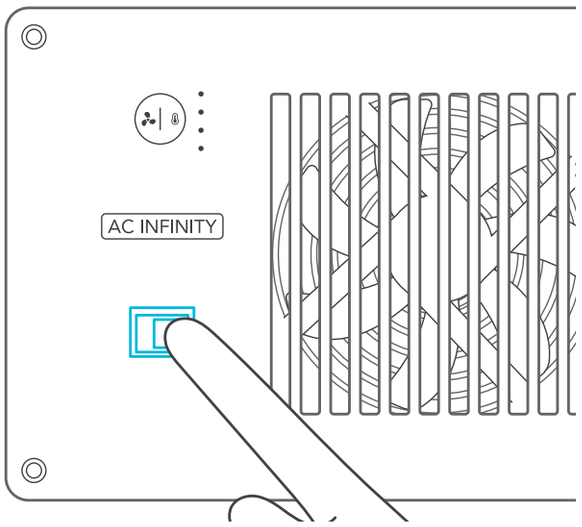
PROGRAMMING

P-SERIES SPEED MODE

POWERING ON/OFF

Flip the switch to turn on or turn off the rear outlets and USB ports.

This switch will control the power of additional devices plugged into the cabinet fan.

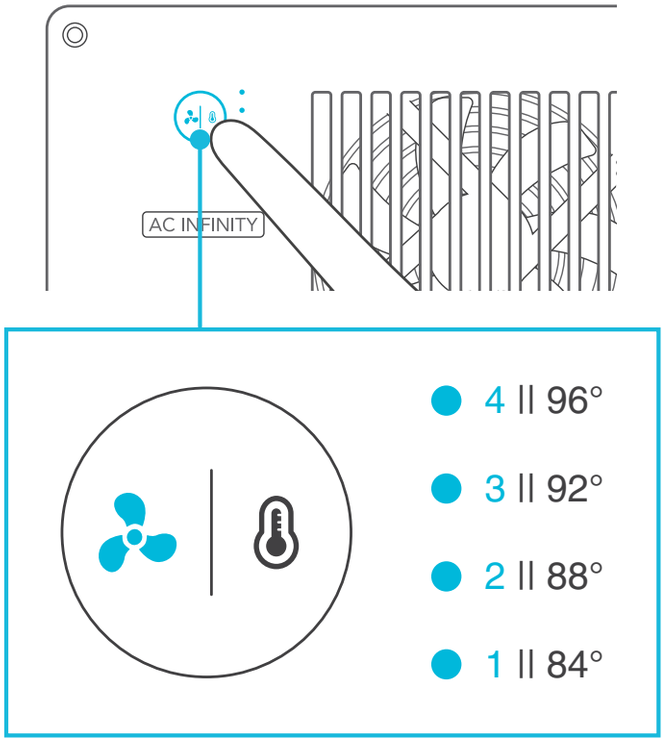


FAN SPEED ADJUSTING

Press the button to adjust the cabinet fan's speed level from 0-4. Speed Mode is indicated by a white LED light.

Holding this button will switch the cabinet fan between Speed Mode and Thermal Mode.

This button will only control the cabinet fan, and will not control any additional devices plugged into the cabinet fan.



PROGRAMMING

P-SERIES THERMAL MODE

THERMAL ADJUSTMENT

Hold the button until the indicator light changes to orange to switch to Thermal Mode.

This button will only control the cabinet fan, and will not control any additional devices plugged into the cabinet fan.

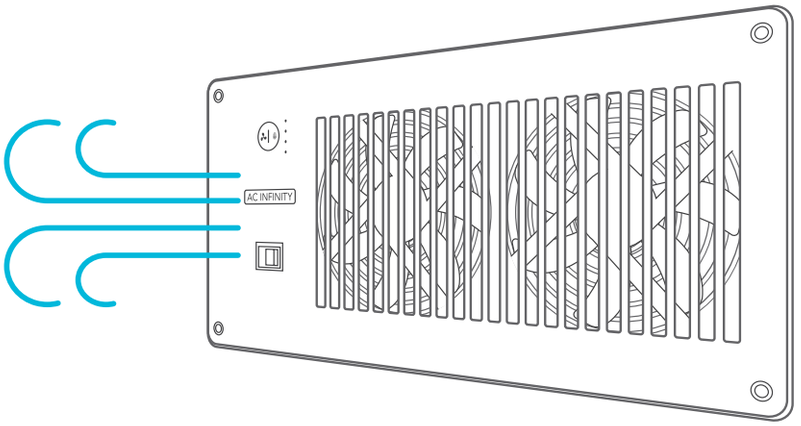
- 4 || 96°
- 3 || 92°
- 2 || 88°
- 1 || 84°

TRIGGER SETTING

Press the button to set a temperature trigger between 84°F, 88°F, 92°F, and 96°F.

The cabinet fan will activate and run at the fan speed set in Speed Mode if the probe detects this threshold being met or exceeded.

The cabinet fan will deactivate when the probe temperature falls 4° below the set trigger (ex. if the trigger is set to 96°F, the cabinet fan will stop when the temperatures falls to 92°F or below).

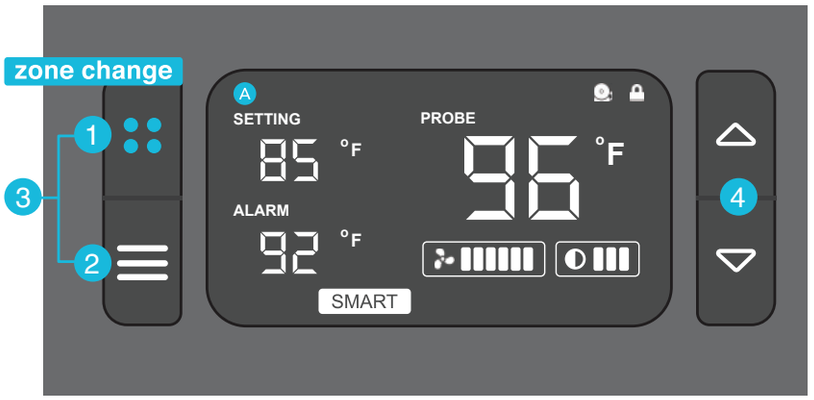


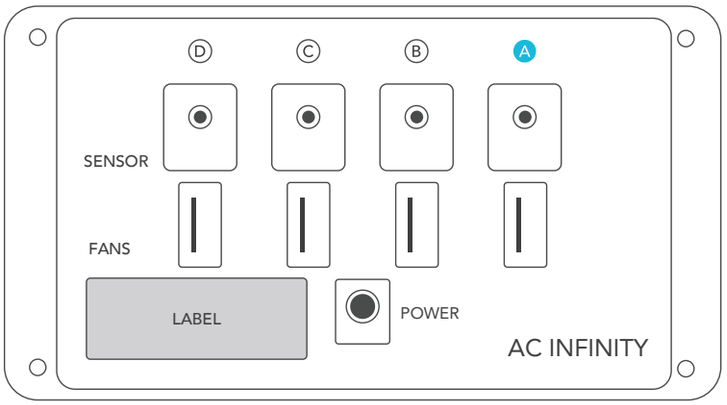
MULTI-ZONE CONTROLLER

CONTROLLER 8

MULTI-ZONE CONTROLLER

The multi-zone controller enables you to control cooling fans in four different zones with independent programming settings for each zone. Pressing the zone change button will cycle through these zones as shown by A, B, C, and D icons on the LCD display. On the back side of the controller, there will be one probe and fan port underneath each corresponding A, B, C, and D designation.





OTHER SETTING DIFFERENCES

1. Hold the ZONE button to set the display to Fahrenheit or Celsius.
2. Hold the MODE button to lock or unlock the display.
3. Hold ZONE and MODE buttons to turn the display off while programs run.
4. Hold UP and DOWN buttons to reset the controller to factory settings.

AIRPLATE FAQ

Q: Can I mount this cabinet fan vertically?

A: Yes. The AIRPLATE can be mounted in any orientation, including vertically.

Q: How do I flip the fan to create intake or exhaust airflow?

A: Unplug the fan unit to power it off. Unscrew the bolts from the frontplate and the body, then flip the fans within the body and screw the bolts back in. This does not apply to the AIRPLATE S2.

Q: Can I splice the cables to extend them or use my own probe?

A: We do not recommend hardwiring or splicing our fan's power wires. Such modifications may compromise electrical safety and will void this product's warranty.

Q: Does this fan fit with filters?

A: The AIRPLATE fan is not compatible with any filters.

Q: Will I be able to mount this fan on a wall?

A: This product is not specifically designed to be mounted on or through a wall.

Q: Is this fan fit for outside applications?

A: This product is not specifically designed for outside use.

Q: Is it normal to hear a humming sound after flipping the fan?

A: A humming noise that occurs after flipping the fan from exhaust to intake is normal and will not impact performance.

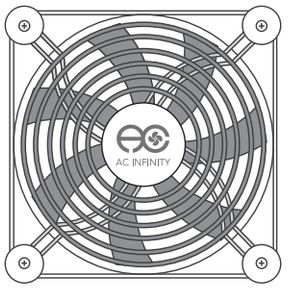
Q: How many additional fans can I connect with my cabinet fan?

A: Up to four fans can share the same USB power source. Up to six fans can share the same multi-zone controller or wall outlet power source. Only multi-zone controllers can provide programming through their USB ports.

AC INFINITY PRODUCTS

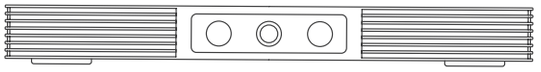
Component USB Fans

The MULTIFAN series fans can be placed on top of AV components and electronics to economically exhaust hot air. It features an inline speed controller and can be powered by a USB port. The fans can also be powered through a power outlet with a boost speed adapter (sold separately).



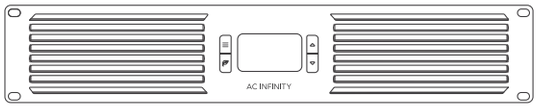
Component Fan Systems

The MULTIFAN series fans can be placed on top of AV components and electronics to economically exhaust hot air. It features an inline speed controller and can be powered by a USB port. The fans can also be powered through a power outlet with a boost speed adapter (sold separately).



Rack Fan Systems

The CLOUDPLATE rack fan system is designed for quietly cooling a wide range of audio video, home theater, DJ, server, network, and IT equipment racks. Features a thermal controller that will automatically adjust duct fan speeds in response to changing temperatures.



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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 have any issues with this product, contact us and we'll happily resolve your problem or issue a full refund!

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