



Tasvent Supply Company Pty Ltd

USER GUIDE

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Ai Plus Home Ventilation System

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Quality - Efficient - Reliable - Flexible - Economical - Proven



Positive Pressure



Heat Transfer



Heat Transfer
Positive Pressure



Positive Pressure
Outside Air



Positive Pressure
No roof space



Heat / Positive Pressure
Outside Air

TASVENT AI-PLUS HOME VENTILATION SYSTEM HOW IT WORKS EXPLANATORY NOTES.

The **AI-PLUS** is a powerful, intelligent home ventilation system that will change fan speed, heating elements and air valves according to environmental conditions. The same unit will suit any house size and control a full range of features all through the **Initial Installer Set Up**. Additional features can be added at a later date still using the same base system. The system has been designed to be "set and forget" and will carry on doing its job happily in the background keeping your home healthy!

The following notes will hopefully give you an overview of the **AI-PLUS Home Ventilation System** operation. Once set up, the System is a very simple system to operate. To some people the notes might seem overwhelming and involved, however once you understand how the system works you will find it as easy to operate as using your **TV Remote**. If, however, at any time you have a question, please do not hesitate to give us a call.

The Ai PLUS Control system has two (2) Temperature Sensors. One (1) in the Control Box, which is mounted in the Roof Space and one (1) in the Keypad Control which is mounted usually in the room which has the Heat Source.

The Temperature Sensor in the Control Box (in Roof Space) is Referenced for Positive Pressure Mode. (This is the mode for Ventilating-for Condensation control) This Sensor is Referenced when setting the Maximum and Minimum Roof Space Temperatures, which will be the parameters for the operation of the Positive Pressure System. The system will operate between these two temperatures. When the Roof space Temperature reaches the Maximum Temperature setting, the Keypad Controller will show "Too Hot" and shut the system off. When the Roof space Temperature drops to the Minimum Temperature setting the Keypad Controller will show "Too Cold" and shut the system off. Note: if the Minimum Temperature setting is set at zero (00) the system will not shut off.

MAXIMUM ROOF SPACE TEMPERATURE SETTING: During Winter when the System is operating, we would normally set the Maximum Temperature Setting high at say **50 Degrees**. It is doubtful that we would get this sort of Temperature in the Roof Space during Winter but what it does is allow us to get the maximum "free solar gain" heat from the Roof Space. If it is free warm air then let's have it!

MINIMUM ROOF SPACE TEMPERATURE SETTING: Can be the tricky one (in particular for condensation control) as this setting will vary from house to house, installation to installation. By monitoring the system (at the keypad) during the first week of operation you can ascertain the conditions for your house. We recommend running the minimum temperature setting at **00 Degrees** (system will not turn itself off),

When you have no more condensation (generally you will notice a difference within days), you can experiment by lifting the temperature setting up 1 degree at a time until condensation returns (ie. We work out the trigger point for condensation in your house). Remember that the system will turn itself off when the temperature drops below the minimum temperature you have set. **Note:** We do not want the system to turn itself off too early. We want the system to keep ventilating your house to eliminate condensation.

If the setting is set too high, the system could shut down too early in the morning whilst you are asleep, so it will not be ventilating, so we will not be controlling the condensation. We want the system to continue ventilating 24/7. Once these settings are established you do not generally need to change them again.

If you do not feel confident, you can just leave the setting at 00 degrees. This means the system will not shut down when the temperature drops and thus keep ventilating. Please note: as the temperature drops the fan slows down

The Keypad Temperature Sensor is referenced for the other "add on" features / options with our AI PLUS Systems. ie. Heat Transfer, Fresh Air, Cool Air Transfer. The Keypad is usually mounted in the same room as the Heat Source. We therefore know the Temperature in this room (as well as the Temperature in the Roof Space with the control box sensor).

HEAT TRANSFER OPTION: With Heat Transfer, the Temperature setting is the Temperature at which point "warm air transfer" will occur. Eg if the Temperature setting is set at 20 Degrees, when the Temperature in the Heat Source room reaches 20 Degrees the System will start transferring air from this room.

The System will automatically "sense" the warmest air source .. (in the Roof Space or in the room with the Heat Source). If the air is warmer in the Roof Space, the System will draw the air from here and the Keypad will display "AUTOWARM" and / or "FREE HEAT". Typically as night time approaches, the Roof Space Temperature Drops We then start our Heat Source going. (turn the heat pump, on / up, or light the wood heater). When the Temperature becomes warmer in the Heat Source Room and reaches the previously set Warm Transfer Temperature, the System will close off the Air Valve in the Roof Space and start to "warm air transfer".

PLEASE NOTE: The System is not a heater. The Air Transfer Mode will transfer warm air generated from your heat source to the outlets. You are relying on this heat source to produce heat. The more heat you produce, the warmer the air will be at the outlets. Inlets for Air Transfer are situated to try and get the maximum heat available from your heat source. Inlets for wood heaters tend to be closer to the heaters as this is the warmest spot, whereas, the warmest air from heat pumps tend to be several metres in front of them. Because the Ventilation System has been drying out your house it will be easier to heat.

The AI-PLUS System is an AUTOMATED System. Temperatures in Roof Spaces fluctuate during the day. The System automatically adjusts to these changing temperatures. As the temperature rises the fan speeds up (more air) and as the temperature drops the fan slows down (less air). When installed, the System is set up to suit the size of your house (small, medium or large) and the number of outlets you have. The System Fan operates through 10 different Speeds. The house size setting will determine what speeds the fan runs at and how much air we deliver. These settings are pre set and cannot be altered. For example an average sized house with a 3 outlet system might be set at "medium" when setting up, whereas a larger house, still with 3 outlets might be set at "large". Generally We would set the house size at "medium". It is a quick adjustment to change the system to "large" ie more air, or "small" ie less air. This flexibility allows us to ensure the system is set up to suit each particular house.

The fan will operate up to its maximum predetermined speed during the day when the Roof Space Temperature is at its warmest, but the system will adjust to fluctuating or decreasing Temperatures. For example as the Temperature drops overnight, the fans will slow down so that it is in "maintenance mode" trickling ventilation ie not flooding your house with cold air. As the Temperature rises in the morning, the fan will increase its speed.

So, after the system is installed, we need to program the controller to suit the system you have installed.

Referencing the [Initial set up & configuration Instructions](#), the primary functions which need to be set up are :-

- “House Size” this determines the amount of airflow available to suit your house.
- “Control ” this determines the functions available for each particular system....
- "Heater" ..most systems do not have a supplemental heater so you set it up as NO.
- If you do not have Fresh Air as part of your system, you set this up as NO.
- If you have Warm Air Transfer as part of your System (98% of our installs) then you set this up as YES. This allows you to set the temperature for when warm air transfer will start.

With the House Size selected and your system functions selected and your Maximum and Minimum Roof Temperatures selected and your Warm Air Transfer Temperature set, your system is up and running...Just let it do its work.



TASVENT Ai-Plus Ventilation System

Initial Set up & configuration instructions

To enter Feature Setup press **AIR BOOST** & **ON/OFF** button simultaneously for 6 seconds.

▲▼ to move through menu and press **SET** to select.

START SELF TEST – Manual Fan and Heater Control to test airflows.

Press **SET** to start, ▲▼ to change fan speed and **SET** to change heater level, press **MODE** to exit.

SET SIZE – Toggles between SMALL, MEDIUM and LARGE house size.

Press SET to adjust, then ▲▼

Press **SET** to accept.

CONTROL – Add or remove system components.

Press **SET** to select.

HEATER – Press **SET** to change YES/NO, then ▲

FRESH AIR VALVE – Press **SET** to change, YES/NO, then ▲

TRANSFER VALVE – Press SET to change, YES/NO, then ▲

To exit press **MODE**

FAN SPEED WHEN HEAT – Sets the fan speed for when heat is selected.

Press **SET** to adjust, then▲▼.

Press **SET** to accept.

FILTER REMINDER

Press **SET** to select then wait – displayed will be time remaining in % then options.

To Reset Filter Reminder press **SET**

To exit press **MODE**

Note: Filter reminder is based on motor running time.

Additional Features Of System:

- Keypad backlight can timeout or stay permanently on selected by link on Keypad “J1”
- Duct warmer(s) can be placed remotely wherever the heat is required.
- Multiple fan motors can be installed to increase system capacity.
- “Quikmode” jumper can be used on keypad to enable system to respond quickly to temperature changes. This is used for system testing and setup; it bypasses delay programmed into system to stop “hunting” between speed bands.
- “Start Self Test” enables the installer to manually control the speed bands of the Motor and Heater output. This allows the installer to check air movement at the Diffusers, and be sure of correct house sizing.

Keypad Controller Instructions



- To turn your system **ON/OFF**

To turn ON press and hold **ON/OFF** for 2 seconds.

To turn OFF press and hold **ON/OFF** for 2 seconds.

In standard “positive pressure” mode the unit will now display “Air ON”.

Your home will be ventilated with any solar heated air in this mode.

- To turn on supplemental **HEAT** (if heater fitted)

Press **SET** button and release.

Arrow up or down through the power levels, when at the desired power level, release the button, then press **SET** again to store the setting.

Note: Power levels are stated in percentage of heating power 25%, 50%, 75%, Max (i.e. if 75% is selected and 2kW heater is fitted, the output will be 1.5Kw)

To set the room thermostat setting – press and hold the **SET** button until “Room Heat Off” is displayed. Arrow up and down to the desired temperature setting and release the button then press **SET** again to store the setting.

- To set **Heat Transfer** (if transfer valve fitted)

Press and hold the **SET** button until “Set Warm Tfr” is displayed. Arrow up or down to the desired temperature setting and release the button then press **SET** again to store the setting. The heat will start to transfer when the temperature at the source rises to this setpoint.

This will set the temperature that the air valve will change and move air from the Woodburner or Heatpump to the remote parts of the house.

- To select **Cool Transfer** (if transfer valve fitted)

Press and hold **MODE** button until “Cool Tfr” is displayed.

To set **Cool Transfer**

Press and hold the **SET** button until “Set Cool Tfr” is displayed. Arrow up or down to the desired temperature setting and release the button then press **SET** again to store the setting. The cool air will start to transfer when the temperature at the source lowers to this setpoint.

This will set the temperature that the air valve will change and move air from the Heatpump (when in cooling mode) to the remote parts of the house

To select **Fresh Air** (if fresh air valves fitted)

Press and hold **MODE** button until "FreshAir" is displayed.

To set **Fresh Air**

Press and hold the **SET** button until "FreshAirOff" is displayed. Arrow up or down to the desired temperature setting and release the button then press **SET** again to store the setting. The system will change back to positive pressure mode (bringing air from your roof space) when the temperature lowers at this setpoint.



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- To return to **Auto Warm** (normal mode)

Press and hold **MODE** button until "Autowarm" is displayed.

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- To set the **maximum roof space temperature**.

Press and hold the **SET** button until "Set Roof Max" is displayed. Arrow up or down to the desired temperature setting and release the button then press **SET** again to store the setting. The system will stop bringing air into the house at this point and display "Too Hot"

This can be set between 19°C and 50°C

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- To set the **minimum roof space temperature**

Press and hold down the **SET** button until "Set Roof Min" is displayed. Arrow up or down to the desired temperature setting and release the button then press **SET** again to store the setting. The system will stop bringing air into the house at this point and display "Too Cold".

This can be set between 00°C and 14°C (if 00°C is selected the unit will not shut off at any lower temperature)

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- To turn on **AIR BOOST** (use in times of extreme conditions)

To turn ON press and hold **AIR BOOST** for 2 seconds.

To turn OFF press and hold **AIR BOOST** for 2 seconds.

When Air Boost is selected, the keypad display will alternate between "AirBoost" and the systems current mode.



TASVENT AI-PLUS CONTROLLER

FILTER REMINDER MESSAGE



After the system has been running for a period of time (initially 12 months +) the keypad will display a prompt message, reminding you to check your roof space filter. On inspection of the filter, if it appears "dirty" you can remove it and give it a light vacuum (or hand wash in warm water). After re-installing the filter you then re-set the prompt message. The filter in most houses should last for several years with minimal maintenance. Replacement filters are available, if required.

How to Reset Filter Reminder

Hold the **Arrow Up** and the **Arrow Down** Buttons for approx. 6 seconds (until the screen shows "feature setup". Then Arrow up until "Filter" is shown. Press the Set Button, wait a couple of seconds and press the Set Button again. The Filter Reminder will be Reset.