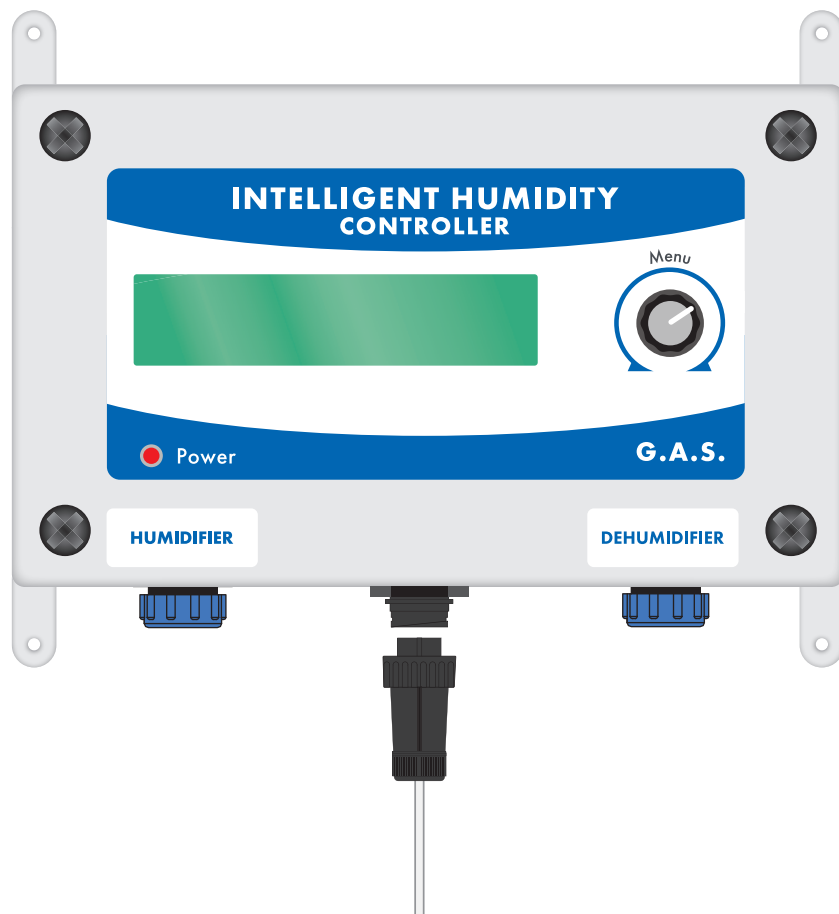


INTELLIGENT HUMIDITY CONTROLLER SONICAIR PRO DUAL



SENSOR POSITIONING

The best position for the sensor is the middle of the grow room just above the canopy. Make sure that the sensor can measure the light in the room.

PLEASE NOTE: We advise you have good air circulation in your grow room, this will prevent hot spots or high humidity zones. The sensor will be more accurate if the air is moving inside the grow room, therefore, making the controller more accurate.



DO NOT drop or hit the sensor
KEEP AWAY from water and aerosols

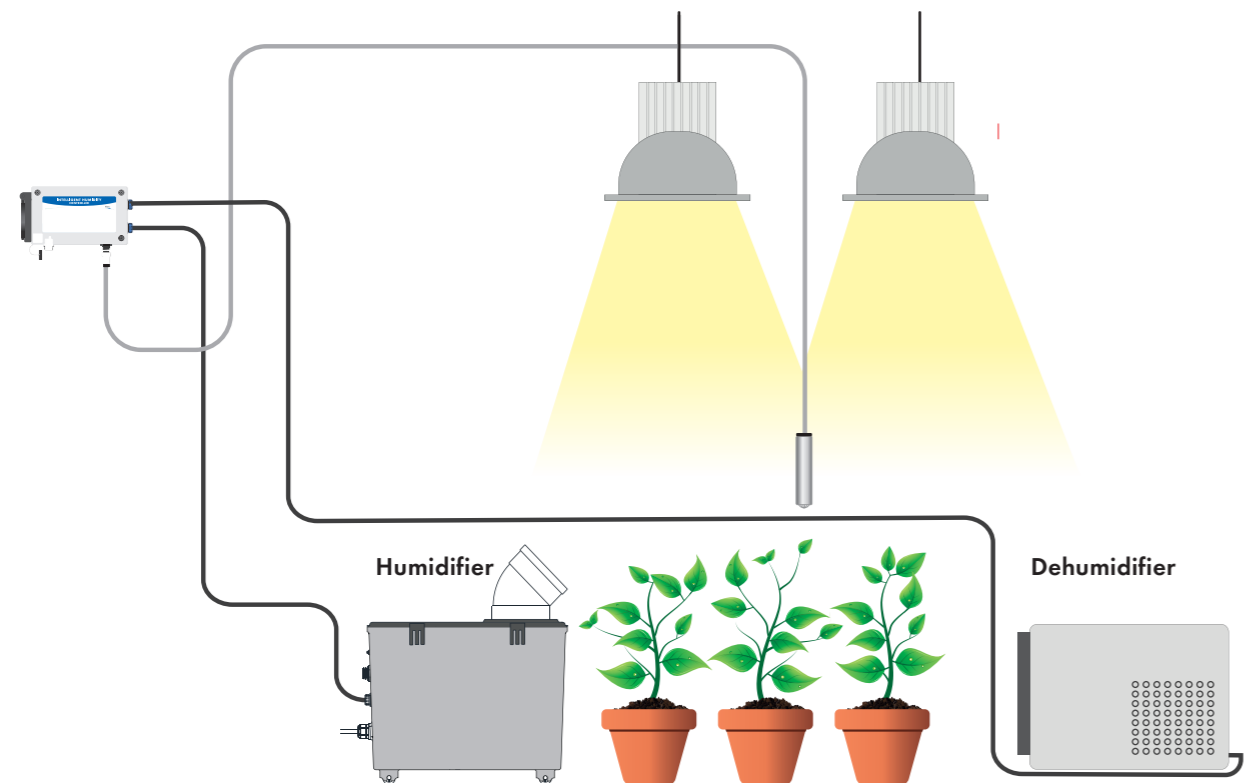
CONNECTING THE CONTROLLER

Plug the controller into the SonicAir Pro using the male / male humidifier cable.

Set up the SonicAir Pro according to it's instructions. Plug your SonicAir Pro humidifier into a UK mains socket. Make sure that the humidifier is turned on.

The Dual controller is powered from the humidifier and no additional power supply is needed for the controller.

The power LED will illuminate when the controller is powering the humidifier. A ▲ will show on the controller when powering the dehumidifier.



CONNECTING THE CONTROLLER TO A DEHUMIDIFIER

The Intelligent Humidity Controller Dual, can control professional dehumidifiers with low voltage terminal block.

Follow the main instructions to connect the humidifier before proceeding.

The cable has a plug on one end and two spade connectors on the other end. Plug the cable into the controller in the "dehumidifier" socket.

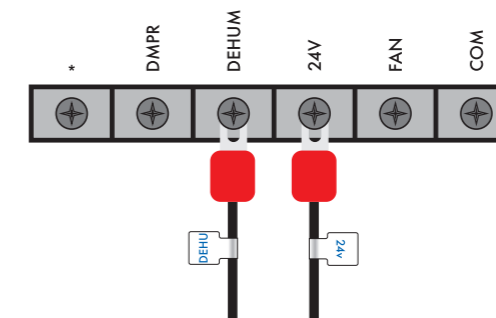
Then with your dehumidifier disconnected from the main power supply and using a screw driver loosen the screws on your dehumidifier low tension terminal block, that are marked 24V and DEHUM.

Attach the wires as shown below & according to the labels on the wires. "24V" & "DEHU" and tighten the screws to secure in place.

If your dehumidifier has a humidistat turn this to the highest humidity setting, or off. If the dehumidifier has a internal/external selector switch set it to external. Follow the instructions that came with the dehumidifier.

Finally plug the dehumidifier back into the mains power supply.

Your dehumidifier will now be controlled by the Intelligent Humidity Controller.



SENSOR

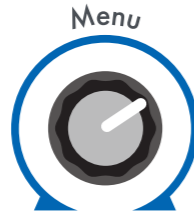
The sensor is attached to the unit via a quick connector.

The sensor plug is secured with a bayonet style locking ring. Turn the locking ring on the plug anti clockwise to release the plug. To reattach the plug align the four pins and the alignment key, push the plug into the socket. Turn the locking ring clockwise to secure the plug.

CONTROL

The controller is operated by the selection dial.

PRESS THE DIAL
To select or open menus.



TURN THE DIAL
To select menus and change values.

MAIN MENU HOME SCREEN

When the controller is turned on, the main menu – home screen is displayed. This shows your room temperature °C/°F, relative humidity %RH and control type.

There are four control types. The home screen will change depending on the control type selected.

- 24 hours relative humidity
- Relative humidity day / relative humidity night
- 24 hour VPD
- VPD day / relative humidity night
- When the controller is first turned on the control type will be 24 hour relative humidity.

From the home screen turn the selection dial anti clockwise.

Turning the selection dial anti clockwise you can see the current control type and current set point.

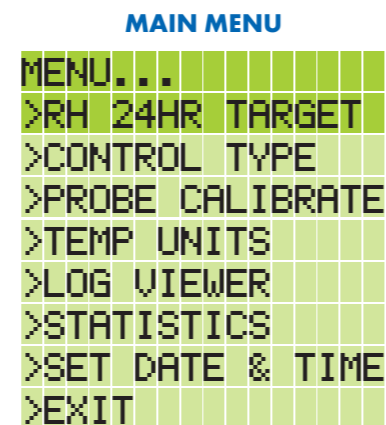
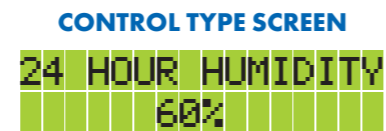
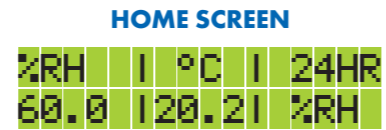
Turning the selection dial clockwise you can see the time and date.

From the home screen press the selection dial.

This will open the main menu.

The first item on the menu will always be the control type preselected.

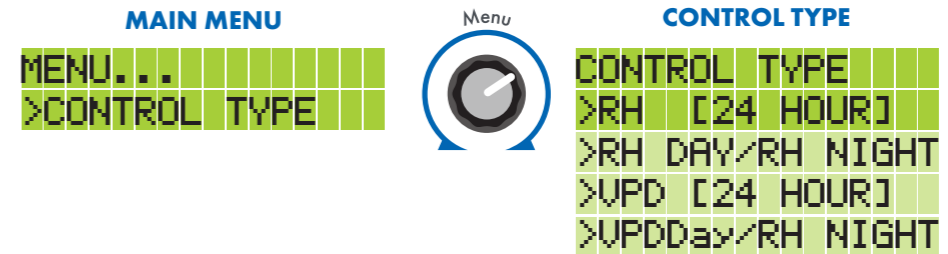
By turning the selection dial to the right you move down the menu items by turning the selection dial to the left you move up the items.



CONTROL TYPES

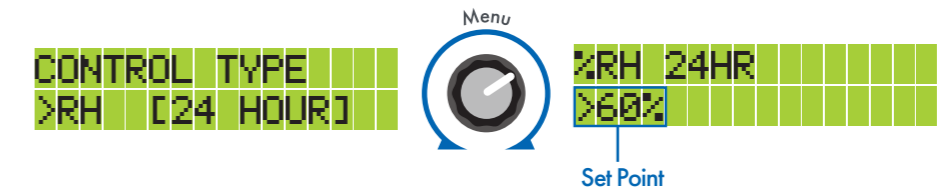
There are four ways you can set the controller to regulate the humidity. When you select a control type the home screen and top menu change to show the way the controller is working.

To change control type press the selection dial to enter the main menu, scroll down to CONTROL TYPE and press the selection dial.



RELATIVE HUMIDITY 24 HOURS

Will maintain your set relative humidity 24 hours a day.



Press the selection dial to select 24 hour relative humidity.

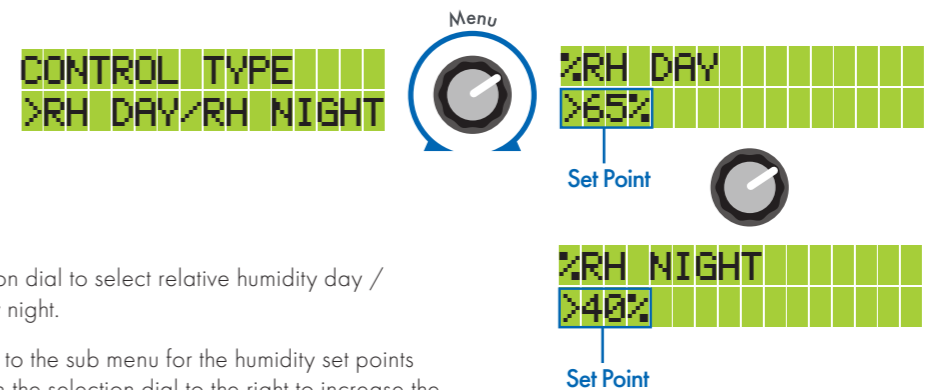
Press the selection dial to save and exit the menu.

You will then go to the sub menu. Turn the selection dial to the right to increase the humidity set point and turn to the left to decrease the humidity set point.

The controller will now maintain your desired humidity 24 hours a day.

RELATIVE HUMIDITY DAY / RELATIVE HUMIDITY NIGHT

Will allow you to set relative humidity for day (lights on) and a different humidity setting for night (lights off).



Press the selection dial to select relative humidity day / relative humidity night.

You will then go to the sub menu for the humidity set points you require. Turn the selection dial to the right to increase the day humidity set point and turn to the left to decrease the day humidity set point.

Press to save day humidity set point.

You can then change the night humidity set point.

Press the selection dial to save night humidity set point and exit.

The controller will now maintain your desired humidity settings for day and night.

UNDERSTANDING VPD

The Vapor Pressure Deficit or “VPD” can be thought of as the drying power of the air.

High VPD means the air is dry, and wants to suck the water out of plants leaves. Low VPD means the air has plenty of moisture and won't encourage water uptake through plants. VPD is a measurement of the difference of the water vapor pressure of the plant's leaves compared with the air. The smaller the difference, or the lower the VPD, the less your plant will transpire. Transpiration is a very important aspect of plant health, the rate the plant transpires has a direct effect on the amount of water your plant draws up through its roots. Young plants don't have many leaves or roots, so perform better in a low transpiration environment (low VPD). As the plant grows larger, with more roots and leaves, it can cope with higher transpiration rates. You can set the controller to a VPD range suitable for your plant's growth stage, we have categorised three ranges for different stages.

Early Veg - VPD 0.4-0.8 Kpa

This is for late propagation when your plants are young. They have few leaves and a small root system, so will perform best in this setting range when transpiration is limited.

Early Flower - VPD 0.8-1.2 Kpa

When your plants are entering vigorous growth in late veg and early flower, they have more leaves and roots, so can and take up more water and nutrients with this higher transpiration setting range.

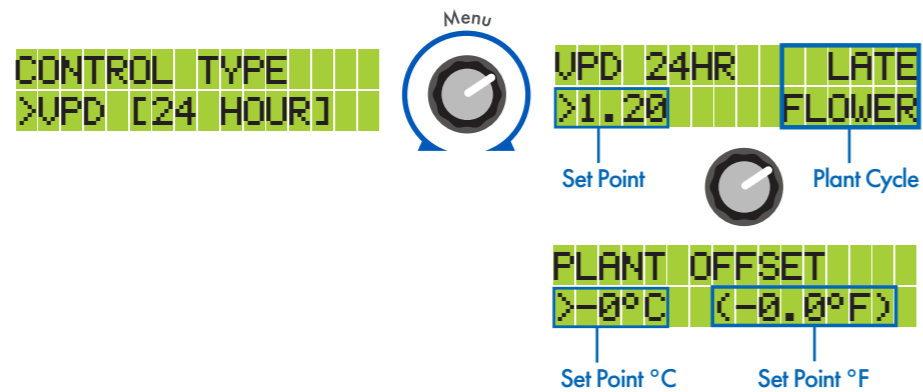
Late Flower - VPD 1.2-1.6 Kpa

When your plants have stopped vegetative growth and are maturing in the flowering stage, they have a well-established root system and leafy canopy to cope with a higher rate of transpiration. The increased water uptake is helpful at this setting range and the drier environment helps prevent pathogens.

When you have chosen a value the controller will change the humidity as the temperature changes to maintain the perfect humidity of your plants.

VPD 24 HOURS

This is an intelligent function that takes into account the air temperature, relative humidity and plant temperature to maintain the Vapor Pressure Deficit according to the plants growth stage. Set the controller at your plants growth stage and it will calculate and maintain the ideal relative humidity.



Press the selection dial to select Vapor Pressure Deficit 24 hours.

You will then go to the sub menu to set the VPD set point you require. Turn the selection dial to the right to increase the VPD set point and turn to the left to decrease the VPD set point.

Press to save VPD set point.

You can now set the plant offset temperature. Using an infrared thermometer measure your plants leaf temperature at the canopy and note how many degrees cooler they

are compared to the air temperature. This is your plant offset value. Typically, in a good grow room environment your plants leaves in direct light will be 1-3°C cooler than the air. In a grow room running too hot or too dry, the leaf temperature will be the same temperature as the air, or warmer, and in these conditions they are in serious trouble.

Turn the selection dial to the right to increase the plant offset temperature and to the left to decrease the plant offset temperature.

Press the selection dial to save and exit the menu.

VPD DAY / RELATIVE HUMIDITY NIGHT

This control type is an intelligent function that takes into account the air temperature, relative humidity and plant temperature to maintain the Vapor Pressure Deficit according to the plants growth stage. Set the controller at your plants growth stage and it will calculate and maintain the ideal relative humidity. You can also set a static night time relative humidity.



Press the selection dial to select Vapor Pressure Deficit day/relative humidity night.

You will then go to the sub menu to set the VPD set point you require. Turn the selection dial to the right to increase the VPD set point and turn to the left to decrease the VPD set point.

Press to save VPD set point.

You can now set the night relative humidity. Turn the selection dial to the right to increase the night relative humidity and to the left to decrease the night relative humidity. Press the selection dial to save night relative humidity.

You can now set the plant offset temperature. Using an infrared thermometer measure your plants leaf temperature at the canopy and note how many degrees cooler they are compared to the air temperature. This is your plant offset value. Typically, in a good grow room environment your plants leaves in direct light will be 1-3°C cooler than the air. In a grow room running too hot or too dry, the leaf temperature will be the same temperature as the air, or warmer, and in these conditions they are in serious trouble.

Turn the selection dial to the right to increase the plant offset temperature and to the left to decrease the plant offset temperature.

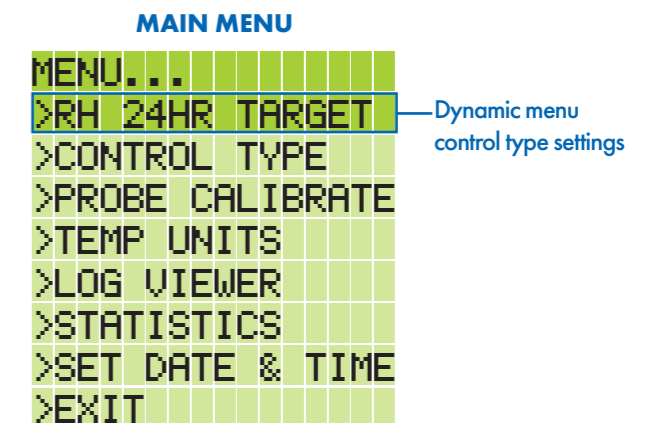
Press the selection dial to save and exit the menu.

CHANGE THE SET POINTS

Once you have selected a control type, you can change the set points at anytime using the top menu item.

The main menu is dynamic and changes depending on the control type you have selected. The top menu item is the setting for your control type.

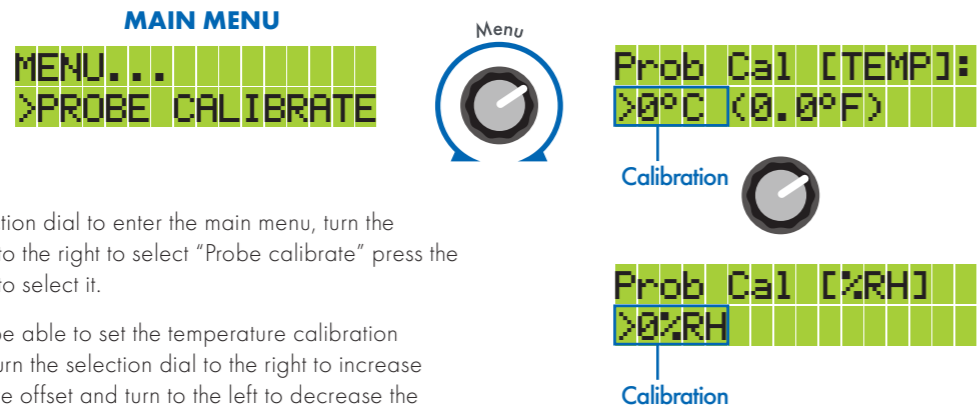
From the home screen press the selection dial to open the menu, press the selection dial again to enter the setting for your control type.



PROBE CALIBRATION

The probe monitors your grow room. It has a light sensor, thermometer and a humidity sensor.

The probe is calibrated in the factory and is accurate. However, if you have other equipment and you want the measurements to match you can change the temperature and humidity readings by calibrating the probe.



Press the selection dial to enter the main menu, turn the selection dial to the right to select "Probe calibrate" press the selection dial to select it.

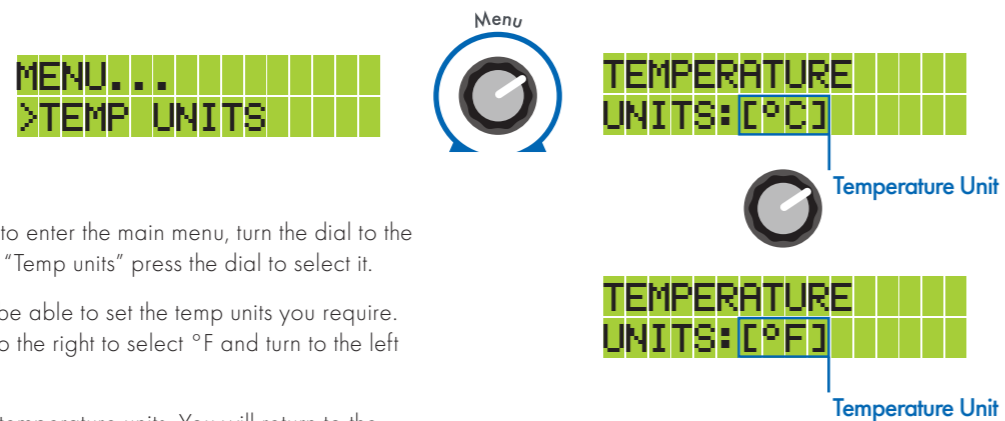
You will then be able to set the temperature calibration you require. Turn the selection dial to the right to increase the temperature offset and turn to the left to decrease the temperature offset.

Press to save temperature offset.

You can now set the relative humidity offset. Turn the selection dial to the right to increase the relative humidity offset and to the left to decrease the relative humidity offset. Press the selection dial to save relative humidity offset, you will return to the home screen.

TEMPERATURE UNITS

You can set the humidifier to work in degrees Celsius or degrees Fahrenheit.



Press the dial to enter the main menu, turn the dial to the right to select "Temp units" press the dial to select it.

You will then be able to set the temp units you require. Turn the dial to the right to select °F and turn to the left to select °C.

Press to save temperature units. You will return to the main menu.

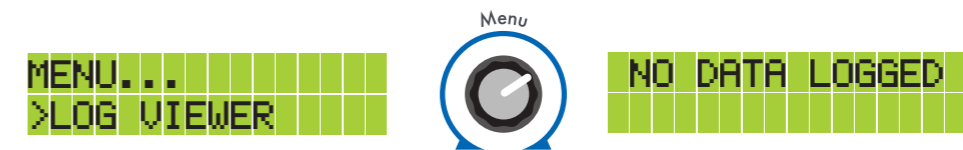
DATA LOGGER

A built in data logger, records the humidity and temperature every 15 minutes.

The data logger can store seven days of data. When the memory is full it will record over the oldest data so you can always see the last seven days of data.

DATA VIEWER

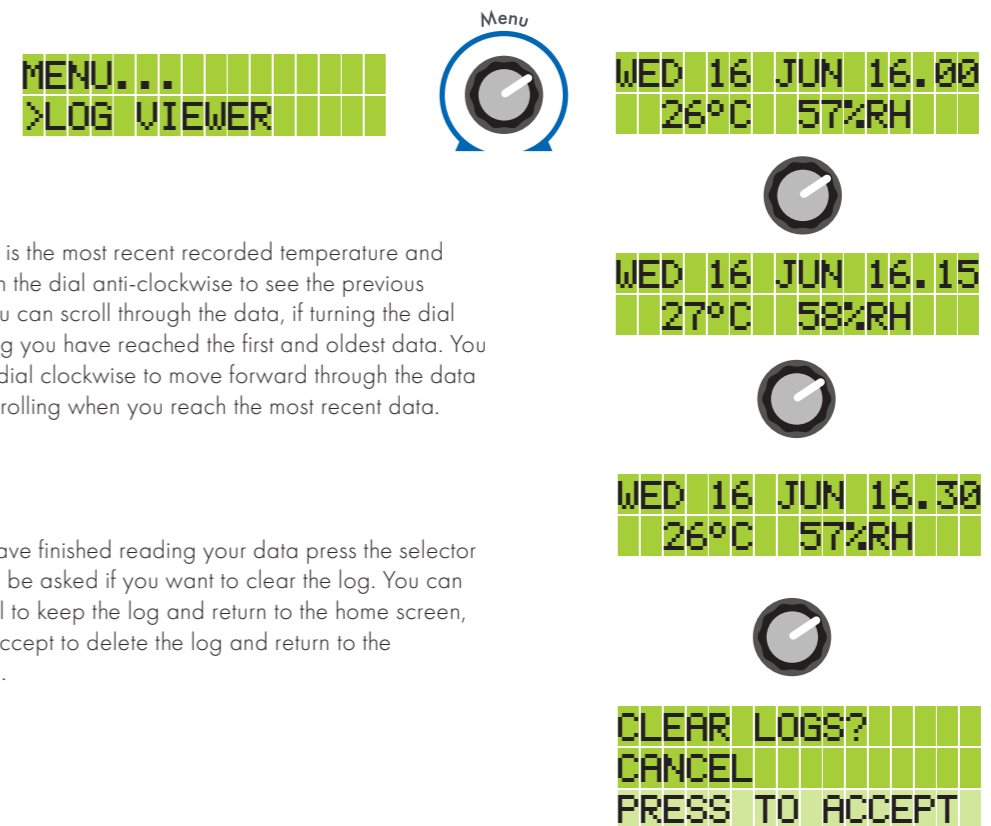
The data viewer allows you to see the temperature and the humidity over the last seven days.



Press the dial to enter the main menu, turn the dial right to select "Log viewer" press the dial to select it.

When you first start the unit or after you have cleared the data you will see "No data logged".

After 15 mins you will see the first data recorded.

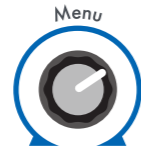
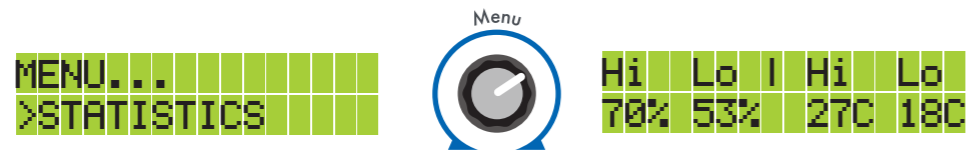


The first data is the most recent recorded temperature and humidity. Turn the dial anti-clockwise to see the previous readings. You can scroll through the data, if turning the dial stops scrolling you have reached the first and oldest data. You can turn the dial clockwise to move forward through the data it will stop scrolling when you reach the most recent data.

When you have finished reading your data press the selector dial. You will be asked if you want to clear the log. You can select cancel to keep the log and return to the home screen, or press to accept to delete the log and return to the home screen.

STATISTICS

The statistics gives you a quick view of the maximum and minimum temperatures and humidities. These are recorded from the time the unit powers up.



Hi Lo | Hi Lo
70% 53% 27C 18C



CLEAR STATS?
CANCEL
PRESS TO ACCEPT

Press the dial to enter the main menu, turn the dial to the right to select "Statistics" press the dial to select it.

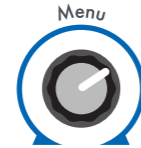
You will then see the highest and lowest temperatures and humidities.

Press to exit the statistics, you then have the option to clear the data or cancel which returns you back to the home screen.

SET DATE & TIME

A built in data logger needs the date and time to record data.

MENU...
>SET DATE & TIME



SET YEAR:
[2023]



SET YEAR:
[2023]
[2022]
[2021]
[2020]
[2019]

Press the dial to enter the main menu, turn the dial right to select "Set Date & Time" press the dial to select it.

You will then be able to select the year. Turn the dial until the correct year is shown.

Press to save the year. You will now have to select the month.

SET MONTH:
[JANUARY]



SET MONTH:
[FEBRUARY]
[MARCH]
[APRIL]
[MAY]
[JUNE]

You will then be able to select the month. Turn the dial until the correct month is shown.

Press to save the month. You will now have to select the date.

You will then be able to select the date. Turn the dial until the correct date is shown.

Press to save the date. You will now have to select the day.

SET DATE:
[01]



SET DATE:
[02]
[03]
[04]
[05]
[06]

You will then be able to select the day. Turn the dial until the correct day is shown.

Press to save the day. You will now have to select the time.

DAY OF WEEK:
[SUNDAY]



DAY OF WEEK:
[MONDAY]
[TUESDAY]
[WEDNESDAY]
[THURSDAY]
[FRIDAY]
[SATURDAY]

You will then be able to select the hour. Turn the dial until the correct hour is shown.

Press to save the hour. You will now have to select the minutes.

You will then be able to select the minutes. Turn the dial until the correct minute is shown.

Press to save the minutes. The date and time will be saved.

SET TIME:
[14]:32

Set Hour



SET TIME:
14:[32]

Set Minutes



SAVE & EXIT...

FACTORY RESET

The controller has a built-in memory that will store all of your settings. If you unplug the controller and plug it back in again, it will resume to whichever settings you have entered.

To factory reset the unit unplug from the SonicAir Pro, press & hold the selection dial and plug the unit back in. Keep the selection dial pressed until you see "Factory Reset Complete!"

VPD CHART WITH 2°C PLANT OFFSET

Low Transpiration / Propagation / Early Veg	VPD Kpa
Healthy Transpiration / Late Veg / Early Flower	0.4-0.8
High Transpiration / Late Flower	0.8-1.2
Danger Zone	1.2-1.6
	<0.4 / >1.6

Temperature °C	Relative Humidity %RH																														
	84%	82%	80%	78%	76%	74%	72%	70%	68%	66%	64%	62%	60%	58%	56%	54%	52%	50%	48%	46%	44%	42%	40%	38%	36%	34%	32%	30%	28%	26%	24%
11°C	0.05	0.07	0.10	0.12	0.15	0.18	0.20	0.23	0.26	0.28	0.31	0.33	0.36	0.39	0.41	0.44	0.47	0.49	0.52	0.54	0.57	0.60	0.62	0.65	0.68	0.70	0.73	0.75	0.78	0.81	0.83
12°C	0.05	0.08	0.11	0.13	0.16	0.19	0.22	0.25	0.27	0.30	0.33	0.36	0.39	0.41	0.44	0.47	0.50	0.53	0.55	0.58	0.61	0.64	0.67	0.69	0.72	0.75	0.78	0.81	0.84	0.86	0.89
13°C	0.05	0.08	0.11	0.14	0.17	0.20	0.23	0.26	0.29	0.32	0.35	0.38	0.41	0.44	0.47	0.50	0.53	0.56	0.59	0.62	0.65	0.68	0.71	0.74	0.77	0.80	0.83	0.86	0.89	0.92	0.95
14°C	0.06	0.09	0.12	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.38	0.41	0.44	0.48	0.51	0.54	0.57	0.60	0.64	0.67	0.70	0.73	0.76	0.80	0.83	0.86	0.89	0.92	0.95	0.99	1.02
15°C	0.07	0.10	0.13	0.17	0.20	0.24	0.27	0.30	0.34	0.37	0.41	0.44	0.47	0.51	0.54	0.58	0.61	0.64	0.68	0.71	0.75	0.78	0.82	0.85	0.88	0.92	0.95	0.99	1.02	1.05	1.09
16°C	0.07	0.11	0.14	0.18	0.22	0.25	0.29	0.33	0.36	0.40	0.43	0.47	0.51	0.54	0.58	0.62	0.65	0.69	0.73	0.76	0.80	0.83	0.87	0.91	0.94	0.98	1.02	1.05	1.09	1.13	1.16
17°C	0.08	0.12	0.16	0.19	0.23	0.27	0.31	0.35	0.39	0.43	0.47	0.50	0.54	0.58	0.62	0.66	0.70	0.74	0.78	0.81	0.85	0.89	0.93	0.97	1.01	1.05	1.09	1.12	1.16	1.20	1.24
18°C	0.08	0.13	0.17	0.21	0.25	0.29	0.33	0.37	0.41	0.46	0.50	0.54	0.58	0.62	0.66	0.70	0.74	0.79	0.83	0.87	0.91	0.95	0.99	1.03	1.07	1.12	1.16	1.20	1.24	1.28	1.32
19°C	0.09	0.14	0.18	0.22	0.27	0.31	0.36	0.40	0.44	0.49	0.53	0.58	0.62	0.66	0.71	0.75	0.79	0.84	0.88	0.93	0.97	1.01	1.06	1.10	1.15	1.19	1.23	1.28	1.32	1.37	1.41
20°C	0.10	0.15	0.19	0.24	0.29	0.33	0.38	0.43	0.47	0.52	0.57	0.61	0.66	0.71	0.75	0.80	0.85	0.89	0.94	0.99	1.03	1.08	1.13	1.18	1.22	1.27	1.32	1.36	1.41	1.46	1.50
21°C	0.11	0.16	0.21	0.26	0.31	0.36	0.41	0.46	0.51	0.56	0.61	0.66	0.71	0.76	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60
22°C	0.12	0.17	0.22	0.28	0.33	0.38	0.43	0.49	0.54	0.59	0.65	0.70	0.75	0.80	0.86	0.91	0.96	1.02	1.07	1.12	1.17	1.23	1.28	1.33	1.39	1.44	1.49	1.54	1.60	1.65	1.70
23°C	0.13	0.18	0.24	0.30	0.35	0.41	0.46	0.52	0.58	0.63	0.69	0.74	0.80	0.86	0.91	0.97	1.03	1.08	1.14	1.19	1.25	1.31	1.36	1.42	1.48	1.53	1.59	1.64	1.70	1.76	1.81
24°C	0.14	0.20	0.26	0.32	0.38	0.44	0.50	0.56	0.61	0.67	0.73	0.79	0.85	0.91	0.97	1.03	1.09	1.15	1.21	1.27	1.33	1.39	1.45	1.51	1.57	1.63	1.69	1.75	1.81	1.87	1.93
25°C	0.15	0.21	0.28	0.34	0.40	0.47	0.53	0.59	0.66	0.72	0.78	0.85	0.91	0.97	1.04	1.10	1.16	1.23	1.29	1.35	1.42	1.48	1.54	1.61	1.67	1.73	1.80	1.86	1.92	1.99	2.05
26°C	0.16	0.23	0.29	0.36	0.43	0.50	0.56	0.63	0.70	0.77	0.83	0.90	0.97	1.03	1.10	1.17	1.24	1.30	1.37	1.44	1.50	1.57	1.64	1.71	1.77	1.84	1.91	1.97	2.04	2.11	2.18
27°C	0.17	0.24	0.32	0.39	0.46	0.53	0.60	0.67	0.74	0.81	0.89	0.96	1.03	1.10	1.17	1.24	1.31	1.38	1.46	1.53	1.60	1.67	1.74	1.81	1.88	1.95	2.03	2.10	2.17	2.24	2.31
28°C	0.19	0.26	0.34	0.41	0.49	0.56	0.64	0.72	0.79	0.87	0.94	1.02	1.09	1.17	1.24	1.32	1.40	1.47	1.55	1.62	1.70	1.77	1.85	1.92	2.00	2.08	2.15	2.23	2.30	2.38	2.45
29°C	0.20	0.28	0.36	0.44	0.52	0.60	0.68	0.76	0.84	0.92	1.00	1.08	1.16	1.24	1.32	1.40	1.48	1.56	1.64	1.72	1.80	1.88	1.96	2.04	2.12	2.20	2.28	2.36	2.44	2.52	2.60
30°C	0.22	0.30	0.39	0.47	0.56	0.64	0.72	0.81	0.89	0.98	1.06	1.15	1.23	1.32	1.40	1.49	1.57	1.66	1.74	1.83	1.91	2.00	2.08	2.17	2.25	2.34	2.42	2.51	2.59	2.68	2.76
31°C	0.23	0.32	0.41	0.50	0.59	0.68	0.77	0.86	0.95	1.04	1.13	1.22	1.31	1.40	1.49	1.58	1.67	1.76	1.85	1.94	2.03	2.12	2.21	2.30	2.39	2.48	2.57	2.66	2.75	2.84	2.93
32°C	0.25	0.34	0.44	0.53	0.63	0.72	0.82	0.91	1.01	1.10	1.20	1.29	1.39	1.48	1.58	1.67	1.77	1.87	1.96	2.06	2.15	2.25	2.34	2.44	2.53	2.63	2.72	2.82	2.91	3.01	3.10
33°C	0.27	0.37	0.47	0.57	0.67	0.77	0.87	0.97	1.07	1.17	1.27	1.37	1.47	1.57	1.68	1.78	1.88	1.98	2.08	2.18	2.28	2.38	2.48	2.58	2.68	2.78	2.88	2.98	3.08	3.18	3.28
34°C	0.29	0.39	0.50	0.61	0.71	0.82	0.92	1.03	1.14	1.24	1.35	1.46	1.56	1.67	1.78	1.88	1.99	2.09	2.20	2.31	2.41	2.52	2.63	2.73	2.84	2.95	3.05	3.16	3.26	3.37	3.48
35°C	0.31	0.42	0.53	0.64	0.76	0.87	0.98	1.09	1.21	1.32	1.43	1.54	1.66	1.77	1.88	1.99	2.11	2.22	2.33	2.44	2.56	2.67	2.78	2.89	3.01	3.12	3.23	3.34	3.46	3.57	3.68
36°C	0.33	0.45	0.57	0.68	0.80	0.92	1.04	1.16	1.28	1.40	1.52	1.64	1.75	1.87	1.99	2.11	2.23	2.35	2.47	2.59	2.70	2.82	2.94	3.06	3.18	3.30	3.42	3.54	3.65	3.77	3.89