# ENVIRO CONTROLLER V2



# INSTRUCTION MANUAL

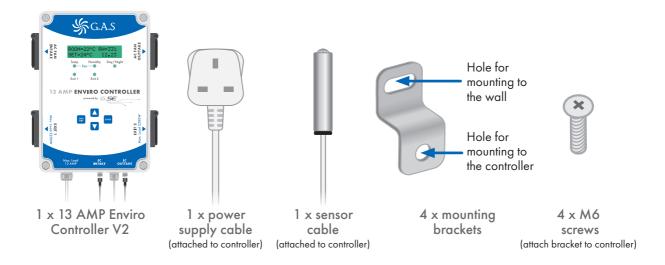




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## IN THE BOX



#### **TECHNICAL SPECIFICATION**

- Operating Voltage 230V / 50 Hz
- Max Amp 13
- Loading of the individual outputs

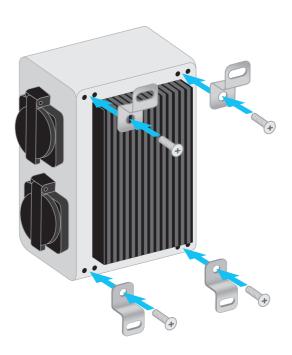
Intake Fan Max: 10A 2300W
 Outtake Fan Max: 10A 2300W
 Exit 1 Max: 10A 2300W
 Exit 2 Max: 10A 2300W

The total load on all the sockets MUST NOT exceed 2900W!

# **MOUNTING YOUR UNIT**

- Make sure the unit is unplugged.
- Screw the mounting brackets to the unit and screw the unit to the wall
- The unit is sealed to IP44, however to prevent any water ingress it is recommended that the unit is mounted outside of the grow room

PLEASE NOTE: The unit needs to be mounted on a non-flammable surface, in a well ventilated area, away from water and high humidity.



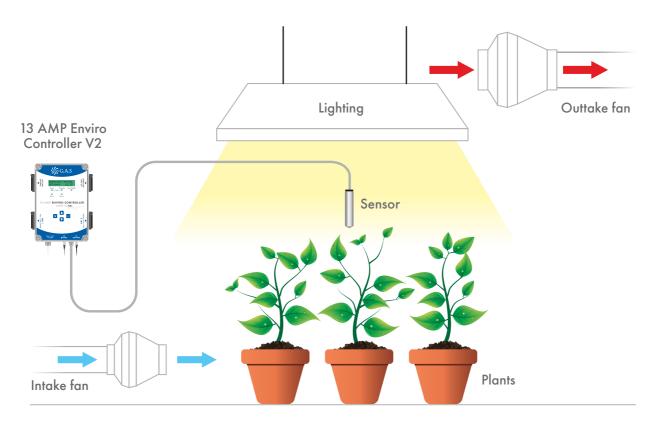
#### **SENSOR POSITIONING**

The best position for the sensor is the middle of the grow room, just above the canopy.

PLEASE NOTE: We advise that 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.



The sensor is a sensitive device. It is sensitive to moisture, do not put the sensor directly above your humidifier. Do not drop or hit the sensor. Damage to the sensor may not be covered by warranty. KEEP AWAY from water and aerosols.



# **CONNECTING YOUR FANS**

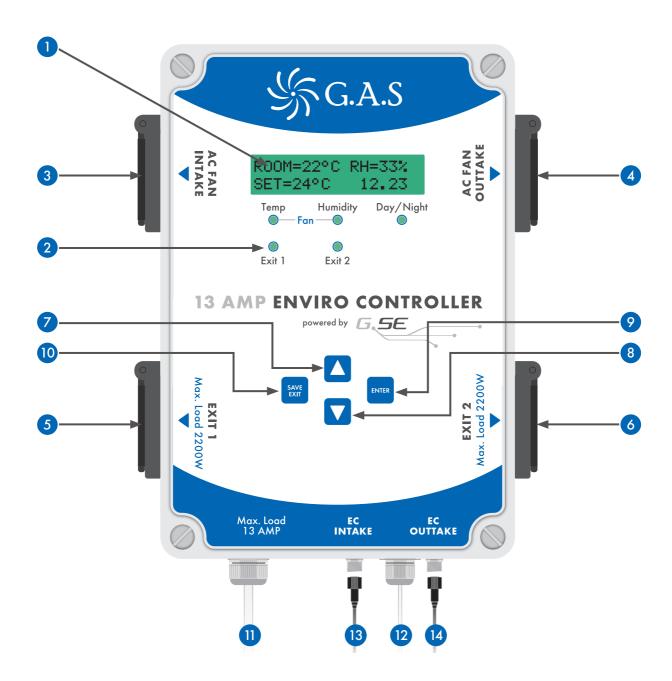
- The 13 AMP Enviro Controller V2 can be used with AC or EC Fans
- To connect AC fans, simply plug the fan into the top two plug sockets on the side of the controller AC FAN OUTTAKE connects to your outtake and your intake connects to AC FAN INTAKE
- To connect your EC fans, connect the EC signal cable to the controller and to the signal cable on your fans. EC INTAKE connects to your intake fan and EC OUTTAKE to your outtake fan



ALL FANS will turn on when the controller is plugged in/switched on.

PLEASE NOTE: Never connect the mains power lead from EC fans to the AC fan plug sockets. Serious damage will occur to your EC fans.

## USING YOUR 13 AMP ENVIRO CONTROLLER V2



#### **KEY**

- 1 LCD information display
- 2 LED indication lights
- 3 AC fan intake plug socket
- 4 AC fan outtake plug socket
- 5 Programmable Exit 1 plug socket
- 6 Programmable Exit 2 plug socket
- Menu up key

- 8 Menu down key
- Menu enter key
- 10 Menu save and exit key
- 11 Power supply
- 12 Sensor cable for the humidity, light and temperature sensor
- 13 EC intake signal cable (available separately)
- 14 EC outtake signal cable (available separately)

#### LED's

Five LED's on the front of the controller give you information about your grow room.

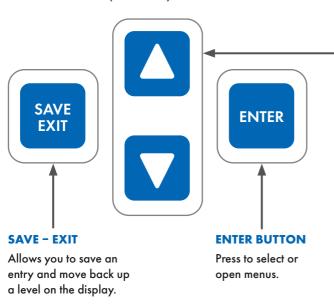
When the controller is turned on, all 5 LED's will briefly illuminate, then go off.



- Temp LED ON Grow room is above set temperature.
- Humidity LED ON
  Grow room is above set humidity.
- Day/Night LED
  LED off indicates night time or lights are off.
  Solid LED indicates day time or lights are on. In the transition between day/night & night/day, the LED will flash.
- Exit 1 LED ON
  Exit 1 power supply is on.
- Exit 2 LED ON
  Exit 2 power supply is on.

#### **CONTROL KEYS**

The controller is operated by four buttons.



#### **UP AND DOWN ARROWS**

Navigate up and down the menu display

To select a menu item press



Up and down keys also allow you to change values in the controller like temperature and humidity settings.

All values get stored in the internal memory and will be stored for 72 hours if there is a power failure.

#### **HOME SCREEN**

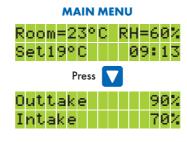
When the controller is turned on, the 'Home Screen' is displayed. This shows your room temperature, relative humidity, fan setting and the time.

Press the **DOWN** arrow to view your current outtake and intake speeds.

Press **ENTER** to access all the sub menus.

Menus will **flash** to highlight selection.

If viewing a different menu, you can go back to the 'Home Screen' by either leaving the controller for 2 minutes, or by pressing the SAVE EXIT button repeatedly to move backwards through any sub menus.





Press to select and access sub menus

This menu allows you to change the main settings of the controller such as:

- Set time
- Set language
- Set photosensor
- Calibration
- Set display
- Reset to factory settings
- EC fan signal

#### TO ACCESS THE GENERAL SETTINGS MENU

From the **Home Screen** press **ENTER** to access the sub menus.

'Set fan Speed' and 'Set exit 1' will be displayed. Press the **DOWN** arrow to scroll down to 'General settings'.

With 'General settings' flashing, press ENTER.

#### **ACCESSING GENERAL SETTINGS**

Start from the Home Screen

Room=23°C RH=60% Set19°C 09:13

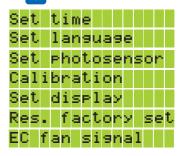
Press ENTER to access the first sub menu

Press to scroll down to General settings

Set fan Speed Set exit 1 Set exit 2 General settings

Press ENTER to access General settings

Press to scroll down the sub menus



#### **SETTING THE DATE/TIME**

From the 'General settings' menu (see above), with 'Set time' flashing, press **ENTER** to access the set date & time settings.

Use the **UP** and **DOWN** arrows to change the **Day**.

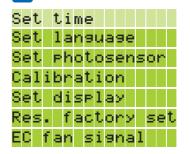
Pressing **ENTER** will subsequently select the **Month**, **Year** and then the **Time** values.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### **DATE/TIME SETTINGS MENU**

Select General settings as detailed above

Press ENTER to access Set date/time settings



#### TO SET THE DATE / TIME

The 'day' is initially selected and blinking

Press V to change value

Set date/time

01.01.2017 00:00

Pressing ENTER will select the next entry: Month, Year and Time

Set<sub>v</sub>date/time 01<del>,</del>01,2017 00:00

#### **SETTING THE LANGUAGE**

From the 'General settings' menu (see page 7), press **DOWN** and scroll down to 'Set language'.

With 'Set language' flashing, press **ENTER** to access the language settings.

Use the **UP** and **DOWN** arrows to select your chosen language.

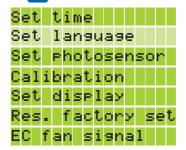
Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### **LANGUAGE MENU**

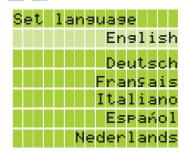
Select General settings as detailed on page 6

Press 🗸 to scroll down to Set language

Press ENTER to access Language settings



Press to scroll to your chosen language



Pressing SAVE will save your entry and go back to the previous menu

#### **SETTING THE PHOTOSENSOR**

This menu shows the current photosensor level at the top. You can adjust the value for the switch between day and night. The switch time is the delay before the controller changes mode from day to night, or night to day.

From the 'General settings' menu (see page 7), press **DOWN** and scroll down to 'Set photosensor'.

With 'Set photosensor' flashing, press **ENTER** to access the photosensor settings.

Press the **UP** or **DOWN** arrows to select 'Switch at:' or 'Switch time' and then press **ENTER** to select.

Press the **UP** or **DOWN** arrows to change the value and then press **SAVE EXIT** to save your information. Press again to go back to the previous sub menu.

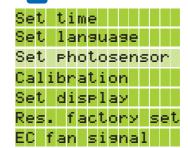
NOTE: Setting the switch level too low may mean the controller never switches depending on the amount of residual light in the grow room.

#### **PHOTOSENSOR MENU**

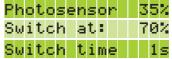
Select General settings as detailed on page 6

Press to scroll down to Set photosensor

Press ENTER to access Photosensor settings



Press to make your selection



Press to change value

#### **CALIBRATING THE SENSORS**

From the 'General settings' menu (see page 7), press **DOWN** and scroll down to 'Calibration'.

With 'Calibration' flashing, press **ENTER** to access the calibration settings.

The screen will display the current temperature on the top line.

**'Temperat.'** and the current offset will be flashing on the bottom line.

Press **ENTER** to adjust the offset using the **UP** and **DOWN** arrows.

When you press **SAVE EXIT** the current reading will be updated.

Use the **DOWN** arrow to repeat the process to change the humidity offset.

Press **SAVE EXIT** to save your information.

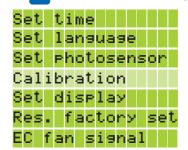
Press **SAVE EXIT** again to go back to the previous sub menu.

#### **CALIBRATION MENU**

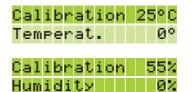
Select General settings as detailed on page 6

Press to scroll down to Calibration

Press ENTER to access Calibration settings



Press to scroll to your chosen setting



Pressing SAVE will save your entry and go back to the previous menu

#### **SETTING THE DISPLAY**

From the 'General settings' menu (see page 7), press **DOWN** and scroll down to 'Set display'.

With 'Set display' flashing, press **ENTER** to access the display settings.

Use the **UP** and **DOWN** arrows to select your chosen setting of 'automatic', 'on' or 'off'.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

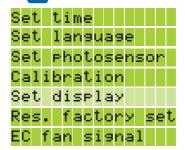
PLEASE NOTE: The LED's will also follow the display.

#### **DISPLAY MENU**

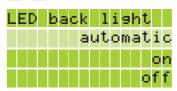
Select General settings as detailed on page 6

Press to scroll down to Set display

Press ENTER to access display settings



Press to scroll to your chosen setting



#### **RESET TO FACTORY DEFAULTS**

From the 'General settings' menu (see page 7), press **DOWN** and scroll down to 'Res. factory set'.

With 'Res. factory set' flashing, press **ENTER** to access the factory default settings.

Use the **UP** or **DOWN** arrows to select 'YES'.

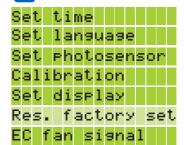
Press **ENTER** to confirm your choice and the controller will begin to reset. The display will count up to 100% and once the reset is complete, all 5 LED's will briefly illuminate, and the display will change to the **'Home Screen'**. Your controller has now been reset to factory defaults.

#### **RESET TO FACTORY DEFAULT MENU**

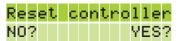
Select General settings as detailed on page 6

Press 🗸 to scroll down to Res. factory set

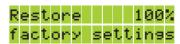
Press ENTER to access Factory default settings



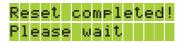
Press to scroll to select YES



Press ENTER to confirm your choice



The display will count up to 100% and then display



All 5 LED's will briefly illuminate, and the display will change to the Home Screen

#### **SETTING THE EC SIGNAL**

From the 'General settings' menu (see page 7), press **DOWN** and scroll down to 'EC fan signal'.

With 'EC fan signal' flashing, press **ENTER** to access the EC fan signal settings.

Use the **UP** and **DOWN** arrows to select the type of **EC fan** you are using.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

Make sure you get the correct signal type for your fan.

Hyperfan V2 should use the 0-10V revolution setting.

#### **EC SIGNAL MENU**

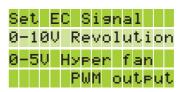
Select General settings as detailed on page 6

Press to scroll down to EC fan signal

Press ENTER to access EC signal settings



Press \(\textstyle \textstyle \te



This menu allows you to change your fan settings such as:

- Temperature
- Bandwidth
- Humidity settings
- Minimum & maximum fan speed
- Dump Override

#### TO ACCESS THE FAN SETTINGS MENU

From the 'Home Screen' press ENTER to access the sub menus.

'Set fan Speed' will be displayed and flashing.

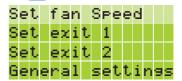
Press ENTER to access the 'Fan settings' menu.

#### **ACCESSING FAN SETTINGS**

Start from the Home Screen

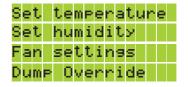
Roo	m=	23°	C I	RH=	60	12
Set	19	°C.		09	: 1	3

Press ENTER to access the first sub menu



Press ENTER to access the Fan settings menu

Press to scroll down the sub menus



#### **SETTING THE FAN TEMPERATURE**

From the 'Fan settings' menu (as detailed above), press **ENTER** and scroll down to 'Set temperature'.

With 'Set temperature' flashing, press **ENTER** to access the temperature settings.

Use the **UP** and **DOWN** arrows to select your chosen setting of 'Day', 'Night' or 'Bandwidth'.

With your chosen selection flashing press **ENTER** to highlight the corresponding value.

Use the **UP** and **DOWN** arrows to change the value.

Press **SAVE EXIT** to save your information, and press again to go back to the previous sub menu.

#### **FAN TEMPERATURE BANDWIDTH**

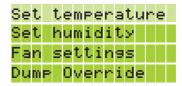
The bandwidth value is the difference in temperature from when the fans start up and when they are going at full speed.

The fans in the example to the right will start at  $24^{\circ}$ C and ramp up to full speed in  $3^{\circ}$ C. Therefore the fans will be at full speed at  $27^{\circ}$ C.

#### **FAN TEMPERATURE MENU**

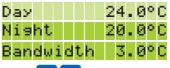
Select Fan settings as detailed above

Press ENTER to access temperature settings



Press to make your selection

Press to highlight the corresponding value



Press to change value



#### **SETTING THE FAN HUMIDITY**

From the 'Fan setting' menu (as detailed on page 11), press **DOWN** and scroll down to 'Set humidity'.

With 'Set humidity' flashing, press **ENTER** to access the humidity settings.

Use the **UP** and **DOWN** arrows to select your chosen setting of 'Day', 'Night' or 'Bandwidth'.

With your chosen selection flashing press **ENTER** to highlight the corresponding value.

Use the **UP** and **DOWN** arrows to change the value.

Press **SAVE EXIT** to save your information, and press again to go back to the previous sub menu.

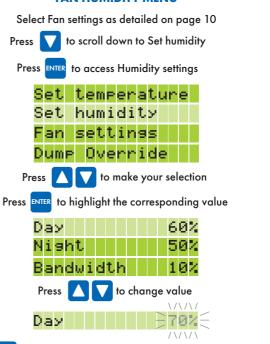
#### **FAN HUMIDITY BANDWIDTH**

The bandwidth value is the difference in humidity from when the fans start up and when they are going at full speed. In this example, the fans will start to speed up to remove humidity 10% below set point and will run at maximum speed at set point.

These humidity settings will set the ventilation system to remove humidity by extracting it.

ALSO NOTE: Particularly at night time, temperatures can drop if the ventilation system is removing humidity and replacing it with cold air.

#### **FAN HUMIDITY MENU**



#### **SETTING THE FAN SPEED**

From the 'Fan setting' menu (as detailed on page 11), press **DOWN** and scroll down to 'Fan speeds'.

With 'Fan speeds' flashing, press **ENTER** to access the fan speed settings.

Use the **UP** and **DOWN** arrows to select your chosen setting of Minimum speed day & night, Maximum speed day & night, Negative pressure or Stop intake fan.

With your chosen selection flashing press **ENTER** to highlight the corresponding value.

Use the **UP** and **DOWN** arrows to change the value.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### Minimum speed Outtake:

Use this to have your ventilation system operating all the time. This will keep the outtake fan running and keep negative pressure in your room at all times, to stop odours escaping the room. Different values can be set for day and night.

#### **Maximum speed Outtake:**

To be used if noise is an issue. You can lower the maximum speed and therefore the maximum noise. Different values can be set for day and night.

#### **Negative pressure Intake:**

This will set your intake fan speed below your outtake fan. If you set it at -10% when the outtake fan is at 50% the intake fan will be at 45%. This is to maintain negative pressure in your grow room.

#### Stop intake fan

This setting is set to 'YES' by default.

By setting this to 'NO' your intake fan will operate at all times.

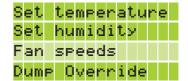
Be aware if using an AC fan, the intake fan will operate at minimum speed, minus the fan balancing as a percentage. If your minimum speed is 30% and you balance your fans -20% the intake fan will operate at 24% speed, which could damage the AC fan.

#### **FAN SPEED MENU**

Select Fan speeds as detailed on page 10

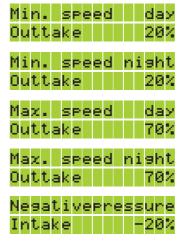
Press to scroll down to Stop intake fan

Press ENTER to access Fan speed settings

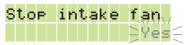


Press 🖊 🔽 to make your selection

Press to highlight the corresponding value



Press to change value



#### **DUMP OVERRIDE FUNCTION**

Allows you to programme your fans to dump the air out of your grow room. It takes your outlet fan up to the maximum set fan speed, and your inlet to the maximum fan speed, less the set negative pressure.

The timer works on a 24 hour clock and you can set 24 different times.

From the 'Fan settings' menu (as detailed on page 11), press **DOWN** and scroll down to 'Dump Override'.

With 'Dump Override' flashing, press **ENTER** to access the dump override settings.

Use the **UP** and **DOWN** arrows to select your chosen setting from 1 to 24.

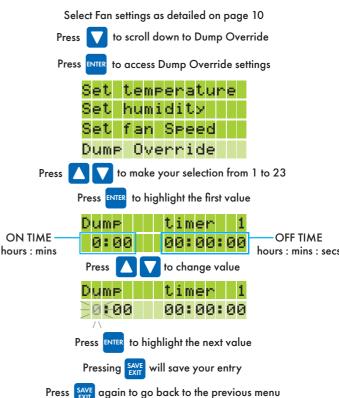
With your chosen selection flashing press **ENTER** to highlight the corresponding **ON TIME** value.

Use the **UP** and **DOWN** arrows to change the value, and press **ENTER** to highlight the next value.

Once you have your chosen **ON TIME** settings, press **ENTER** to highlight the **OFF TIME** value. This shows hours: mins: secs and can be changed in the same way.

Press **SAVE EXIT** to save your information. Press **SAVE EXIT** again to go back to the previous sub menu.

#### **DUMP OVERRIDE MENU**



#### **ENVIRO CONTROLLER CONFLICTS**

#### **ENVIRO CONTROLLER V2 CONFLICTS**

The Enviro Controller V2 fan controls should be carefully considered if you are using humidifiers or heaters in your environment.

#### **Heaters**

If you are using a heater on Exit 1 or Exit 2, make sure that the heater settings are below the fan temperature set points.

For example, if your day temperatures are set to 25°C and a heater setting is above 25°C, the fans will speed up and therefore remove the heat.

#### **Humidifiers**

If you are using a humidifier on Exit 1 or Exit 2, make sure that the humidity settings are below the fan humidity set points.

For example, if your day humidity is set to 60%, a humidifier setting above 60% will cause your fans to speed up to remove humidity.



Take care when using humidifiers or heaters in your environment.

This menu allows you to change the settings of items connected to Exits 1 and 2 such as:

- A heater
- A humidifier
- A dehumidifier

# TO ACCESS THE EXIT 1 OR EXIT 2 SETTINGS MENU

From the 'Home Screen' press **ENTER** to access the sub menus.

'Set fan speed' and 'Set exit 1' will be displayed.
Press the **DOWN** arrow to scroll down to **Set exit 1**or **Set exit 2**.

With 'Set exit 1 or Set exit 2' flashing, press ENTER

With 'Choose function' flashing, press **ENTER** to access the function that can be selected for the exit.

#### **ACCESSING EXIT 1 AND EXIT 2 SETTINGS**

Start from the Home Screen

Room=23°C RH=60% Set19°C 09:13

Press ENTER to access the first sub menu

Press to scroll down to Set exit 1 or Set exit 2

<mark>Set fan speed</mark> Set exit 1 Set exit 2 General settings

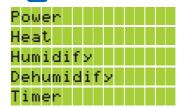
Press ENTER to access Exit 1 or Exit 2

Choose function

Choose function is displayed

Press ENTER to access functions

Press to scroll down the sub menus



#### **POWER ON / OFF SETTING**

From the 'Choose function' menu (as detailed above), press **DOWN** and scroll down to 'Power'.

With 'Power' flashing, press **ENTER** to access the power settings.

Use the **UP** and **DOWN** arrows to select **OFF** or **ON**.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### **EXIT 1 AND EXIT 2 POWER MENU**

Select Set exit 1 or Set exit 2 settings as detailed above

Press to scroll down to Power

Press ENTER to access Power settings

Power Heat Humidify Dehumidify Timer

Press 🛕 🔻 to make your selection

Ex1 off Ex1 on

#### **HEAT SETTING**

You can set the desired temperature of your room when a heater is connected to Exit 1 or Exit 2. The controller will turn on the heater whenever it is below these values.

From the 'Set exit 1' or 'Set exit 2' settings menu (as detailed on page 15), press **DOWN** and scroll down to 'Heat'.

With 'Heat' flashing, press ENTER to access the heat settings.

Use the **UP** and **DOWN** arrows to select 'Heat day', 'Heatnight' or 'Bandwidth'.

With your chosen selection flashing press **ENTER** to highlight the corresponding value.

Use the **UP** and **DOWN** arrows to change the value.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### **HEAT SETTING BANDWIDTH**

The controller can be programmed to turn the heater on whenever it drops below your set room temperature.

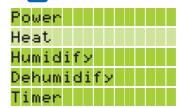
The bandwidth is how many °C the temperature can drop below the set room temperature before the heater is turned back on. In the example to the right, during the day the heater will turn off at 24°C and turn back on at  $22^{\circ}$ C (bandwidth set to  $-2^{\circ}$ C).

#### **EXIT 1 AND EXIT 2 HEAT MENU**

Select Set exit 1 or Set exit 2 settings as detailed on page 13

Press to scroll down to Heat

Press ENTER to access Heat settings



to make your selection

Press ENTER to highlight the corresponding value



#### **HUMIDIFY SETTING**

With a humidifier connected to Exit 1 or Exit 2:

From the 'Set exit 1' or 'Set exit 2' settings menu (as detailed on page 15), press **DOWN** and scroll down to 'Humidify'.

With 'Humidify' flashing, press **ENTER** to access the humidifier settings.

Use the **UP** and **DOWN** arrows to select 'Humidify day', 'Humidi night' or 'Bandwidth'.

With your chosen selection flashing press **ENTER** to highlight the corresponding value.

Use the **UP** and **DOWN** arrows to change the value.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### **HUMIDIFY SETTING BANDWIDTH**

The controller can be programmed to turn the humidifier on whenever it drops below your set value.

The bandwidth is the % the humidity can drop below the set humidity value before the humidifier is turned back on. In the example to the right, during the day the humidifier will turn off at 60% and turn back on at 55% (bandwidth set to -5%).

#### **EXIT 1 AND EXIT 2 HUMIDIFY MENU**

Select Set exit 1 or Set exit 2 settings as detailed on page 13

Press to scroll down to Humidify

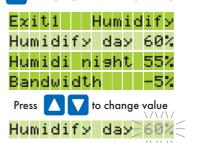
Press to access Humidify settings

Power Heat Humidify

Dehumidify

Timer to make your selection

Press ENTER to highlight the corresponding value



#### **DEHUMIDIFY SETTING**

With a dehumidifier connected to Exit 1 or Exit 2:

From the 'Set exit 1' or 'Set exit 2' settings menu (as detailed on page 15), press **DOWN** and scroll down to 'Dehumidify'.

With 'Dehumidify' flashing, press **ENTER** to access the dehumidifier settings.

Use the **UP** and **DOWN** arrows to select 'Dehumidi day', 'Dehumi night' or 'Bandwidth'.

With your chosen selection flashing press **ENTER** to highlight the corresponding value.

Use the **UP** and **DOWN** arrows to change the value.

Press **SAVE EXIT** to save your information, and to go back to the previous sub menu.

#### **DEHUMIDIFY SETTING BANDWIDTH**

The controller can be programmed to turn the dehumidifier on whenever the humidity goes above your set value.

The bandwidth is the % the humidity can drop below the set humidity value before the dehumidifier is turned off. In the example to the right, during the day the dehumidifier will turn on at 60% and turn back off at 50% (bandwidth set to 10%).

#### **EXIT 1 AND EXIT 2 DEHUMIDIFY MENU**

Press to access Dehumidify

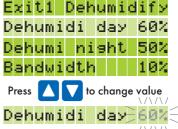
Press to access Dehumidify settings

Power Heat Humidify

Dehumidify

Press to make your selection

Press to highlight the corresponding value



#### **SET TIMER FUNCTION**

Allows you to programme Exit 1 or Exit 2 to turn off at a specific time.

The timer works on a 24 hour clock and you can set 24 different times.

From the 'Set exit 1' or 'Set exit 2' settings menu (as detailed on page 15), press **DOWN** and scroll down to 'Timer'

With 'Timer' flashing, press **ENTER** to access the timer settings.

Use the **UP** and **DOWN** arrows to select your chosen setting from '1' to '24'.

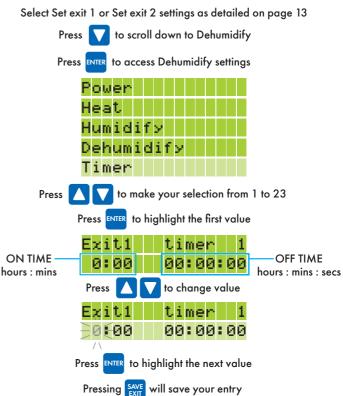
With your chosen selection flashing press **ENTER** to highlight the corresponding **ON TIME** value.

Use the **UP** and **DOWN** arrows to change the value.

Press **ENTER** to highlight the next value.

Press **SAVE EXIT** to save your information. Press **SAVE EXIT** again to go back to the previous sub menu.

# EXIT 1 AND EXIT 2 DEHUMIDIFY MENU



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