Using heat mats with AutoFlex Connect

This application note is an overview of how to install, configure, and program AutoFlex Connect to control heat mats.

- **Installing** below
- **Configuring** below
- **Programming** on page 2
- **Heat mat reference table** on page 4
- **Installation diagram** on page 5

Installing

Refer to the heat mat reference table and the diagram at the end of the document.

- ◇ The VAC-1 and slave units (PSU-20 or HMC-S) **must** be on the same phase.
- ◇ Do not exceed the electrical ratings of the control.

Electrical ratings

- 7 A at 120/230 VAC, general-purpose (resistive)
- 800 W @ 120 VAC, 1600 W @ 230 VAC

Configuring

1. Go to the Configuration screen.
2. Press the zone the heat mat be in.
3. Press the VAC-1 module the heat mat is connected to.
4. Press the output (1).
5. Beside *Name*, enter a name or description for the heat mat.
6. Select the heat mat function that has the correct temperature probe type: *1K* (IHT or Hog Hearth), *3K,* or *5K*.
7. Press **Save**.

Programming

1. Go to the Zones screen.
2. Press the zone the heat mat is in.
3. Press the heat mat widget.
4. Press the settings icon ( ).

Settings modes

There are two modes of heat mat control: **set point** or **growth curve**.

- In the **set point** method, the control maintains the temperature at the set point. The set point does not change until you change it.
- In the **growth curve** method, the control maintains the temperature at the set point, but it also adjusts the set point each day according to how you set up the curve.

Settings definitions

Set point

The set point is the target temperature for the surface of the mat. If you are using a growth curve, the set point is automatically adjusted each day.

Probe offset

Probe offset allows you to adjust the measured temperature when using an external heat mat probe. You might want to use probe offset if the temperature measured is higher or lower than the temperature of the mat surface.

The probe offset value is an offset from the measured temperature. A negative value subtracts from the measured temperature, a positive value adds to it. For example, if the measured temperature is 70°F and the offset value is 2.5°F, the control will use and display 72.5°F.

Growth curve

A growth curve automatically adjusts the heat mat set point over time, up to a maximum of 365 days. There are 7 steps in a growth curve; each step has a start day and a temperature. The control calculates the set point for each day between the steps, and then adjusts it each day at midnight.

Curve day

The curve day is the current day of the growth curve. You can adjust the day forward or backward to advance or "rewind" the curve.

Restart day

The restart day determines what happens at the end of the curve. If the restart day is 0, the curve continues to hold the set point from the step 7 day. If the restart day is greater than zero, the curve restarts on that day.

Change the set point or probe offset

1. Press the up or down arrows beside the setting you want to change.
2. Press the save icon ( ) to save your changes.

Change alarm settings

1. Press **Alarm Settings**.
2. Scroll down to view all the settings.
3. Make your changes:
   - To change a set point, press the up or down arrows beside the setting you want to change.
   - To enable or disable an alarm, press the box beside the alarm. There is a checkmark in the box when enabled.
4. Press **Save** to save any changes and return to the main settings.

Follow or stop following a growth curve

1. Press **Assign Growth Curve**.
2. Select the curve you want to use. If you are using a new curve, select *New Curve*.

NOTE: To stop following a growth curve and use a set point instead, select *Do not use growth curve*.

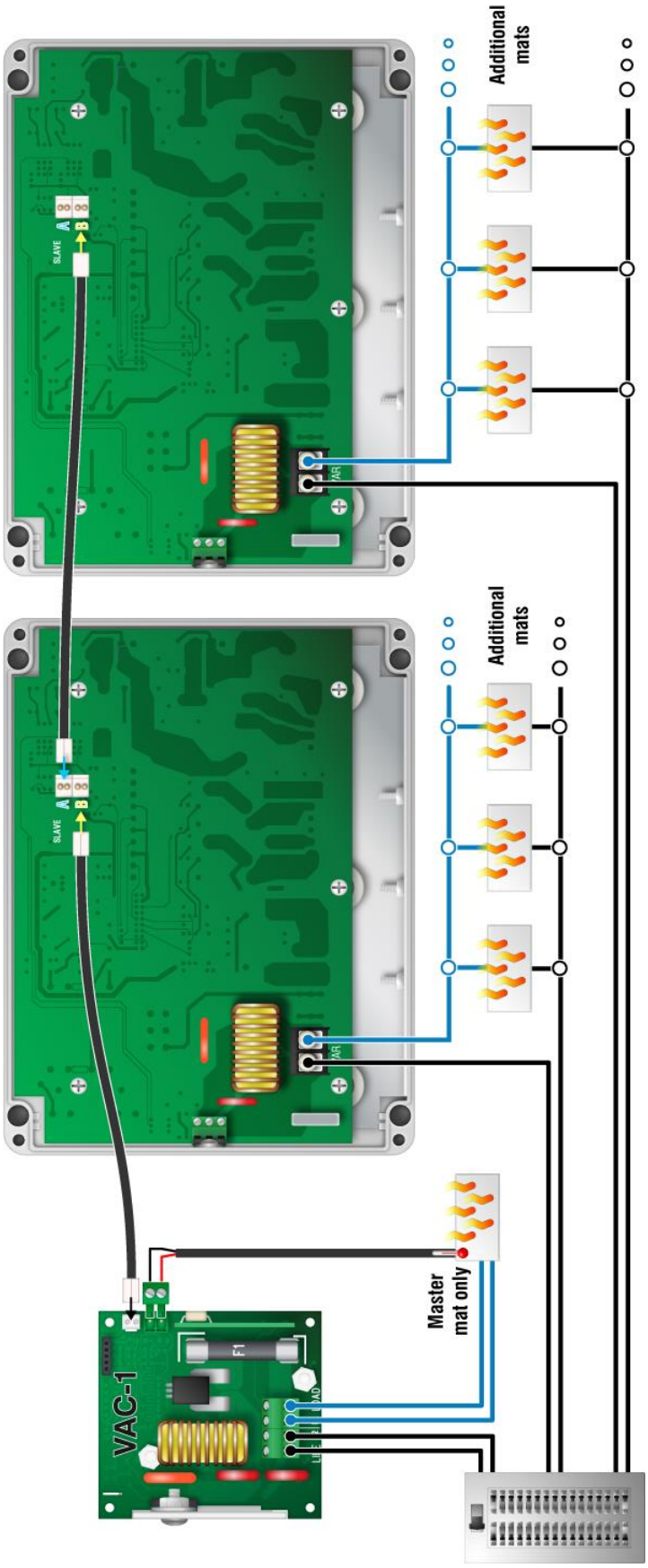
Edit a growth curve

1. If you have the curve assigned, press **Edit Curve**. If you do not have one assigned, assign a curve.
2. If you are editing set points or days of an existing curve, go to step 4.
3. Beside *Name*, enter a name or description for the curve.
4. Press the up or down arrows for the set points or days to adjust them.
5. Press the save icon ( ) to save your changes.

Heat mat reference table

The following table lists Hog Hearth® model numbers, dimensions, and specifications. The columns on the right list the maximum number of each specific heat mat model you can connect to a single AutoFlex VAC-1, PSU-20, or HMC-S.

Model	Watts	Volts	Amps	AutoFlex VAC-1	PSU-20 or HMC-S
Single 1 x 4, size: 14 x 48 x 1 in. (35.6 x 120 x 2.5 cm)					
HH-75-120T	75	120	0.66	10	30
HH-75-120B	75	120	0.66	10	30
HH-75-120S-MSU	75	120	0.66	10	30
HH-75-208T	75	208	0.38	18	52
HH-75-208B	75	208	0.38	18	52
HH-75-208S-MSU	75	208	0.38	18	52
HH-75-240T	75	240	0.33	21	60
HH-75-240B	75	240	0.33	21	60
HH-75-240S-MSU	75	240	0.33	21	60
Single 1 x 5, size: 14 x 60 x 1 in. (35.6 x 152 x 2.5 cm)					
HH-90-120T	90	120	0.79	8	25
HH-90-120B	90	120	0.79	8	25
HH-90-208T	90	208	0.46	15	43
HH-90-208B	90	208	0.46	15	43
HH-90-240T	90	240	0.39	17	50
HH-90-240B	90	240	0.39	17	50
Double 2 x 4, size: 24 x 48 x 1 in. (60 x 120 x 2.5 cm)					
HH-135-120T	135	120	1.17	5	17
HH-135-120B	135	120	1.17	5	17
HH-135-208T	135	208	0.67	10	29
HH-135-208B	135	208	0.67	10	29
HH-135-240T	135	240	0.58	12	34
HH-135-240B	135	240	0.58	12	34
Double 2 x 5, size: 24 x 60 x 1 in. (60 x 152 x 2.5 cm)					
HH-180-120T	180	120	1.54	4	13
HH-180-120B	180	120	1.54	4	13
HH-180-208T	180	208	0.89	7	22
HH-180-208B	180	208	0.89	7	22
HH-180-240T	180	240	0.77	9	25
HH-180-240B	180	240	0.77	9	25


Additional mats
Additional mats
Master mat only
VAC-1
SLAVE
A
B
AR
F1