



Innovative Air Systems

ABN 23 010 640 374

When Calling For Support Quote: .doc

1.0 User Guide

1.1 Normal Display

This displays the current time and date.

1.2 Condition On

Press the <On> button to turn on the air conditioning.

If the After Hours Timer is set then the air conditioning will turn off after the set time has elapsed. A setting of 00:00 (zero) will bypass this count down timer.

1.3 Condition Off

Press the <Off> button to turn the system off.

1.4 Temperature Set Points.

The B.E.A.S.T. Controller has individual heat and cool set points for each zone. These set points are termed the Low set point (heat) and the High set point (cool).

1.4.1 Setting the Low Set Point.

1. Press the <Down> button once. The display will show the setpoint number (S1^L_s or S2^L_s).
2. Use the <Up> and <Down> button to select which setpoint to edit.
3. Press the <On> button to edit the set temperature. Use the <Up> and <Down> button to change the set temperature.
4. Press the <Off> button to save and return to normal display.

1.4.2 Setting the High Set Point

Press the <Up> button once. Proceed as per the instructions detailed above - 'Setting the Low Set Point'.

1.5 Calibration

1. Press <DOWN> button for approx. 12 seconds (after 'After Hours' screen, described in section 1.9)
2. Use <UP> and <DOWN> buttons to select correct sensor
3. Press <On> button to edit. The cursor will move to the temperature field.
4. Use <UP> and <DOWN> buttons to alter the bracketed temperature correction factor until the correct temperature is displayed beside it.
5. Press <Off> to save and exit.

1.6 Setting the Clock Calendar.

1. Press the <Clock> button, select 'Time' from the menu and press <On> to edit the Current time and date.
2. Use the <On> button to move the edit field across the display i.e. move from Hours to Minutes to Day etc.
3. Use the <Up> and <Down> buttons to alter the settings of each field.
4. Press the <Off> to save the settings and return to normal display.



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1.7 Programming the Time Clock.

Each timer program can have 1 start and 1 stop time and may be active for any or all days of the week.

1. Press the <Clock> button, then select 'Progs' from the menu using the <arrows>.
2. Press <On> to access the timer program selection screen.
3. Use the <Up> and <Down> buttons to select the timer program to edit then press the <On> button.
4. To edit the fields listed below use the <On> button to move the edit field across the screen. Use the <Up> and <Down> buttons to alter the settings of each field.

Timeclock Channel

The first field is used to select the channel to operate for this program. The '_Off' selection will disable this program.

There are 3 channels '_Air', 'Aux1' and 'Aux2'.

'_Air' is used for timing all air condition systems. 'Aux1' and 'Aux2' are for auxiliary timer relays.

Program Type.

If 'STD' is set the timer program will operate on days that are not programmed as holidays.

If 'HOL' is set the timer program will operate ONLY on programmed holidays (See Section 1.8).

7 Day Block

Capitalize the letter indicating day of week that is required to operate in this program.

5. Press the <Off> button to set the 'On' and 'Off' times. Use the <On> button to move the edit field across the screen. Use the <Up> and <Down> buttons to alter the settings of each field.
6. Press the <Off> button to save the settings. The screen will revert to the timer program selection screen (Step 3) at the next timer program. Repeat for each timer program as required.
7. Press the <Off> button to exit timer programming and resume normal operation.

1.8 Holiday Settings

The BEAST can be programmed with up to 14 individual holidays (one day each).

1. Press the <Clock> button, select 'Hols' from the menu and press <On> to edit the Holiday Programs.
2. Use the <Up> and <Down> buttons to select the program to edit then press the <On> button.
'AC / NA' - This denotes active or not active.
3. Use the <On> button to move the edit field across the screen. Use the <Up> and <Down> buttons to alter the settings of each field.
4. Press the <Off> button to save and exit.

1.8.1 Setting Daylight Saving

Holiday programs 14 and 15 are for the start and end dates for daylight savings.

To disable select the same date for start and end.

See section 1.8 for details of adjustment.

1.9 After Hours Timer

After hours is activated by a remote push button or the <On> button. The system will run for the duration of the time set then, switch off.

1. Press <DOWN> button for approx. 3 seconds.



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2. Press <UP> and <DOWN> buttons to alter the time for air conditioning to run outside Timeclock periods.
3. Press <Off> button to save and exit.



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2 Setpoints Description

Setpoint	Description
1ls	
1us	
2ls	
2us	
3ls	
3us	
4ls	
4us	
5ls	
5us	
6ls	
6us	
7ls	
7us	
8ls	
8us	
9ls	
9us	
10ls	
10us	
11ls	
11us	
12ls	
12us	
13ls	
13us	
14ls	
14us	
15ls	
15us	
16s	
16us	

3 Mode of operation

List of inputs and outputs required:

How to read the following report:

Terminology:

The following terms are used “Summer” and “Winter”, these two names are used to help describe whether or not the controller is in heating mode (Winter) or cooling mode (Summer) and to also help with using reversing valves.

“**Sensor module**” outlines what type of sensor is to be connected to each sensor input. Type 55 is a virtual sensor which has no physical connection.

“**Relay zone module**” describes the operation of the relays under control of the module. Each relay module can only support maximum of 8 relays.

“**Relays owned**” is names of the relays that are controlled by the module.

“**Sensor**” is the input sensor which gives the module an input to reference itself to.

“**System Number**” this is the internal number that module is connected to and is used for on/off control.

“**Hss for cooling**” and “**Lss for heating**” this indicates whether or not the module can call another module for assistance in heat and/or cooling.



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"Stage Sx" where x is 0 through to a maximum of 10. These are the stages of "summer". The stage s0 is the zeroth stage of summer and this is where the module will remain if no heating or cooling is required and the module was cooling last. The comment after "Stage Sx" is the positive difference between the sensor and upper setpoint and indicates if the stage of summer is active.

"Relays" is the names of the relay that will be active when the stage of summer is active.

"Min time until S(x+1)=ss secs. Min time until (S(x-1))or W0)= ss secs" S(x+1) is ss seconds minimum from the current stage of summer (Sx) providing that the sensor is above the upper setpoint and difference is equal or greater than the difference for the next stage of summer. (S(x-1) or W0) is ss seconds from the current stage, which may be the zeroth stage of winter (W0). Both these values are the minimum stage times for going up and down respectively.

"Stage Wx" where x is 0 through to a maximum of 10. These are the stages of "winter". The stage w0 is the zeroth stage of winter and this is where the module will remain if no heating or cooling is required and the module was heating last. The comment after "Stage Wx" is the positive difference between the sensor and lower setpoint and indicates if the stage of winter is active.

"Relays" is the names of the relays that will be active when the stage of winter is active.

"Min time until W(x+1)=ss secs. Min time until (W(x-1))or s0)= ss secs" W(x+1) is ss seconds from the current stage of winter, providing that the sensor is below the lower setpoint and difference is equal or greater than the difference for the next stage of winter. (W(x-1) or s0) is ss seconds from the current stage, which may be the zeroth stage of summer (s0). Both these values are the minimum stage times for going up and down respectively.

"0-10v module" is used to control 0-10v outputs and has the following parameters

"Sensor" is the input that the 0-10v output changes according to.

"Vav Output" is the output number that is controlled.

"Latency time" is the time the output takes to respond to a change in the input.

"Full open when X units above/below upper/lower setpoint" is the value at which the output reaches 10 volts.

"Stays Closed when at or above/below upper/lower setpoint" means that the 0-10v output will remain at zero volts.

"HSS concentrator module" is used to do averaging of input sensors with result being sent to a type 55 sensor.

"Output Sensor" is directed to a sensor that is a type 55 sensor.

"Input Sensors" is the sensors that are averaged and sent to the output sensor.

Operation

4 Hardware Description

5 Wiring Diagram

See attached page