

Vision Thermostat Controller

Installation, Operation and Maintenance Instructions

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SPC

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1. General

The Vision thermostat is a digital controller specifically suited to the control of SPC's range of fan convector units fitted with EC motors. The image below gives relevant dimensions of the controller. The controller has an LCD display and is used to maintain room conditions in line with the setpoint selected by the user. The fan speed can be manually selected via the fan button which will automatically send the appropriate 0-10V signal to the fan motor's electronics. The controller allows on/off switching of the units via the power button in the centre.

The controller is usually supplied in conjunction with heating units and this document should be read as an appendix to the IOM for the heating units themselves.



The controller/heater may be used to control an on/off water valve, see wiring diagram(s). This valve will be arranged to close whenever the setpoint is reached. The valve actuator must be 230V.

Supply	230V/50Hz
Fan control	0-10V EC (factory set)
Valve control	On/off
Setpoint range	5 to 35°C
Colour	White

Table 1. General details

2. Installation

The controller should be wall mounted in a representative position and hard-wired back to the fan convector unit. The preferred position for the controller is approximately 1.5m from floor level and away from direct sunlight or other sources of heat. The controller needs to be fitted into a back box of the required size (see dimensions above).

Wiring needs to be made in line with the diagram supplied with the unit(s) as all applications and arrangements will be individual. The thermostat requires a power supply that may be taken from the fan convector/heater unit that it is controlling; this unit must be fully isolated before installation of the thermostat/controller or any other wiring is undertaken. Wiring must all be in line with the current legislation and undertaken by an experienced and suitably qualified practitioner.

3. Operation

Operation is via the buttons on the controller and settings are displayed on the LCD screen. Note that when changing settings there is a delay of a few seconds before the new setting is activated.

3.1 Setpoint

The controller allows the user to set the target room air temperature by using the up and down buttons. The LCD screen shows the setpoint as it is being changed and after a delay will flip to show the current air temperature.

3.2 Mode

The controller can be used for both heating and cooling equipment but when used with warm air heaters it should be set in heating mode. This is achieved by pressing the M (Mode) button until sun icon is displayed. The snowflake icon indicates that the controller is in cooling mode.

3.3 Fan Speed

The controller can be used to change the fan speed. It is intended only for control of fans coupled to EC motors which accept a 0-10V dc control signal. The controller has preset voltages which conform to low, medium and high fan speeds. Fan speed is adjusted by pressing the fan button and the speed is indicated on the LCD by the strength of the wind icon. If fan speed is set to AUTO then the fan speed will be automatically set depending on the difference between setpoint and actual air temperature. At approximately 2°C below setpoint the fan will run at low, at 4°C below setpoint it will run at medium speed and 4° and more below setpoint it will run at high speed.

3.4 On/off

The power button is available to switch the heating unit off.

4. Maintenance/Fault finding

The controller requires no special maintenance other than a periodic cleaning of its exposed face. Cleaning should be undertaken only with a dry cloth and liquids must not be used. If the LCD screen is not illuminated then check that there is power to the controller, if the controller does not appear to affect the operation of the heater then check the wiring against the wiring diagram supplied. The unit and controller MUST be isolated electrically before being worked on. For any other faults contact SPC.Z

5. Disposal

The Vision controller contains electronic components and, in isolation, should be considered as such and should not be disposed of with household waste.



6. Appendix 1 – Change from 2 pipe to 4 pipe operation

The controller is normally supplied set to suit the application and it's parameters should not be changed. Consult SPC before attempting to change any built-in parameters so as to understand the effect of the change. To change from 4 pipe set up to 2 pipe or vice versa the following steps are required.

Hold down the M and UP buttons for 5 seconds to enter parameter settings.

Press the M or fan icon to move between the parameters; parameter 1 (System type) needs to be selected.

Use the UP and DOWN keys to change the parameter value; 0 is 2 pipe, 1 is 4 pipe

Press the Power button to accept and exit or just wait for 30 seconds.

7. Appendix 2 – Speed change

The speeds selected correspond to a control voltage that is sent to the EC/DC. The signal varies between 0-10V and is represented on the controller by 0 to 100%. The three speeds are preset at defaults and should not be changed without consultation with SPC. To change speed the following procedure needs to be followed.

To enter fan speed setting parameters hold down the M and DOWN buttons for 5 seconds.

Use the M or fan button to move between the speeds and then the UP and DOWN bottoms to adjust the speed setting.

Press the power button to accept and exit or just wait for 30 seconds.

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