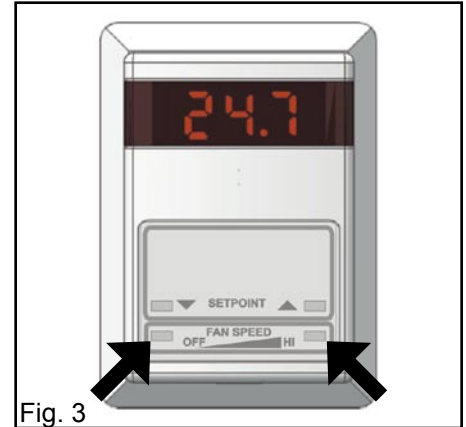
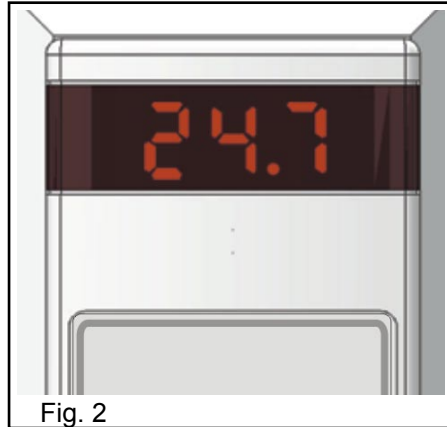
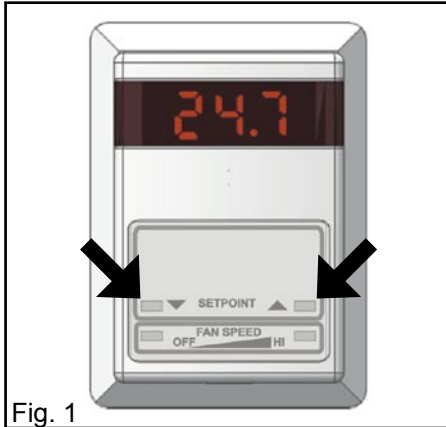


Standard Operation

During normal operation the display will show the current room temperature. The first hit on either of the upper pair of keys (Fig.1) will switch the display to showing the current setpoint. Subsequent hits will adjust the room setpoint up or down by 1 degree. The thermostat can be set to operate in degrees (Celsius or Fahrenheit) at setup time. After 10 seconds the keypad times out and the display switches back to showing the room temperature (Fig.2).

The lower pair of keys (Fig.3) allows adjustment of the off-on-auto mode and fan speed if applicable. There is flexibility in the modes that can be used. The modes are usually configured at time of installation. The current mode is shown with the first hit on the lower pair of keys and subsequent hits will adjust the mode of operation accordingly.



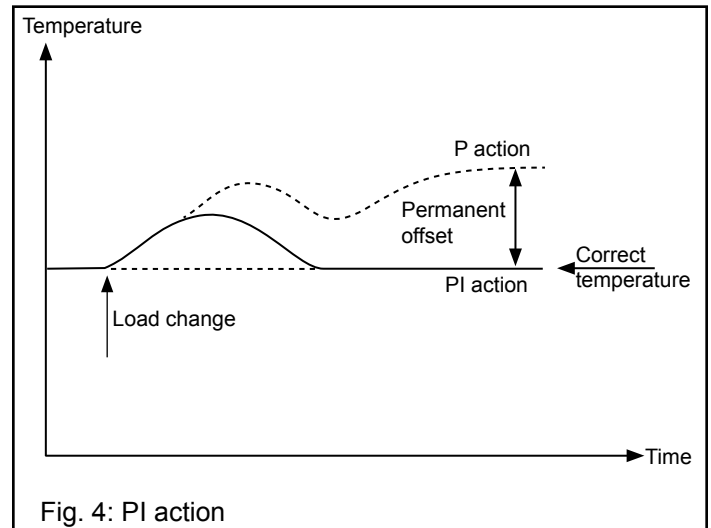
Control Functionality

The controller uses PI (proportional and integral) action, in order to achieve high control accuracy.

The P action takes care of coarse offset corrections. However, when only P control is used, there will be a permanent proportional offset in the room temperature, i.e. the temperature will be kept constant – but at a higher or lower value than the setpoint. This is corrected by the built-in integral action.

The I action senses both the magnitude and the duration of any offset and can, therefore, modulate the control signal, so that any permanent offset is completely eliminated (Figure 4).

The PI parameters (proportional gain and integration time) can be set in advanced menu.



Temperature Sensor

The controller monitors the temperature conditions in the room with its built-in sensor, which is located in the controller so as to not be affected by the temperature of the wall on which it is mounted.

It is possible to connect an external sensor for monitoring the temperature of different locations.

Changes in temperature are monitored continuously at the shortest time interval possible.