Calibration of HEVAC HTC2 & 4 Analogue Series Controllers

The HTC2 & 4 series controllers produce an internal 0 to 10vDC deviation signal with a 5v output when the measured temperature is equal to the controller's set point. The internal on/ off relay stages react to this internal signal, with heating stages turning on below 5v & cooling stages above 5v. To drive slave modules & as a handy calibration measurement point this signal is also connected to terminal "13" via a diode which typically causes a 0.4 voltage drop when measured with a hi impedance volt meter. Therefore for calibration purposes 4.6Vdc is the output produced on terminal "13" when the connected temperature sensor value = the controllers set point. 1v deviation from this value = 1 degree celcius difference from set point in a direct acting manner ..ie 5.6v = the measured temperature is 1 degree above set point. A calibration potentiometer is accessible via a small hole in the controller's fascia to the right of the Cool Stage 1 deadband adjustment pot, and is covered by either a small white sticker or an Australian made sticker depending on the controller's generation. Push a small flat blade screw driver into this hole to locate the potentiometers adjustment slot. Please note the HTC series controllers are factory calibrated and should not drift with time but often wall or wiring conditions etc can have an influence on sensor calibration. Another known influence with increasing severity is AC interference particularly hi-frequency noise, so using twisted pair shielded cable (earthed at the controller end only) is highly recommended now for all brands of controllers connecting to remote sensors.

To calibrate HTC2 & 4 series controllers with Non Adjustable sensors (SRT-H, SRTA-H or SDT-H & other nonadjustable variations) follow the procedure below.

- Obtain the temperature at the sensor with your thermometer; allow time for thermometer to read accurate temperature.
- Adjust the set point on HTC controller to the temperature measured by thermometer.
- Connect a voltage meter set to the 20vDC scale between terminals "GO" (black lead) & "13" (red lead).
- Turn the calibration potentiometer until the volt meter reads 4.6Vdc.
- The HTC controller is now in calibration.
- Return the controller to its normal operating set point.

To calibrate HTC2 & 4 series controllers with Adjustable sensors (SRT-HSP) follow the procedure below. Please note when adjustable sensors are used, the HTC controller's set point is required to be set to 22 degrees celcius (so that the scale on the sensor set point operates as per its scale).

- Obtain the temperature at the sensor with your thermometer; allow time for thermometer to read accurate temperature. Adjust the sensors inbuilt set point pot to that measured temperature.
- Connect a voltage meter set to the 20vDC scale between terminals "GO" (black lead) & "13" (red lead).
- Turn the calibration potentiometer until the volt meter reads 4.6Vdc.
- The HTC controller is now in calibration.
- Return the sensor set point pot to its normal operating set point.